

Dear Michigan Independent Citizens Redistricting Commission:

HaystaqDNA and Q2 Data & Research are teaming up to apply to provide the ICRC with Line Drawing and Redistricting Technical Services. Haystaq was the mapping consultant for the Arizona Independent Redistricting Commission in 2011 and Q2 provided these services to the California Citizens Redistricting Commission that same cycle.

We believe our combined team has more experience with independent redistricting commissions than any other organization in the country. Our combined staff has decades of redistricting experience with the specific experience of drawing lines in open meetings, and has worked extensively with Census data, GIS mapping software, population projections, voterfile data and election results. We have done this type of work for all levels of government, and have both the experience and the technical infrastructure to handle the data processing, data security, mapping and analysis needs of this project. Redistricting can be a contentious process. We hope to minimize this by being timely, accurate and fully-transparent throughout.

In a normal year, redistricting is difficult but facing a pandemic and a major delay in the Census data, we feel we are ready for both. **We have presented a plan to solicit public input, draw maps and provide training in a safe and effective manner while adhering to Covid-19 protocols. As for adhering to a tight timeline, we have a plan to address delays in Census data by using Haystaq population projections layered on top of existing Census data that will be an adequate substitute for drafting plans until the final Census PL 94-171 data is available.**

The detailed criteria outlined in your statement of work provide a clear roadmap for how plans will be developed. However, many of the criteria are unavoidably subject to interpretation. We view our role as not advocating for any particular interpretation. That is the role of the Commission, with input from the public as they define their thoughts and their communities of interest. If selected we will serve as your technical consultants, while fulfilling the work put forth in the RFP. We understand that it is the Commission's decisions that will dictate what is done. We view our role as to provide you, as a Commission, with any information, analysis, or options that you deem necessary to achieve your stated objectives.

We will not simply hand over the maps, rather, we will work with the Commission, the communities of interest and the public to make sure they understand what was done and why. Whenever there are major subjective decisions to be made, we will present the alternate options and the supporting material to the Commission so that an informed decision can be made. Every step of the process will be documented.

Not everyone will be happy with the Commission's final plans. That is inevitable. However, with a skilled technical consultant, and an open, transparent and fully-documented process, dissatisfaction can be minimized, and to the extent that a member of the public feels dissatisfied with the map, they will know the reasons for each decision, and will not have any cause to question the process.

The proposal represents our best understanding and interpretation of the RFP. Any section of response can be tailored as necessary.

Again, we thank you for this opportunity and would be honored to be selected to assist you.

Sincerely,



Andrew Drechsler
President, HaystaqDNA

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Document 2 -- CONFIDENTIAL TREATMENT FORM

HaystaqDNA & Q2 Data & Research

INSTRUCTIONS. Complete either *Section 1* or *Section 2* of this CT Form and sign where indicated. This CT Form must be signed by the individual who signed the bidder's proposal. A completed CT Form must be submitted with your proposal, regardless of whether your proposal contains confidential information.

Failure to submit a completed CT Form with your bid is grounds for rejecting the proposal as non-responsive. See the **Confidential Treatment Form** and **The Freedom of Information Act (FOIA)** sections of the *Proposal Instructions* for additional information.

Section 1. CONFIDENTIAL TREATMENT IS NOT REQUESTED

This section must be completed, signed, and submitted with the proposal if the bidder does **not** request confidential treatment of any material contained in the proposal.

By signing below, the bidder affirms that confidential treatment of material contained in their proposal is not requested.

RFP Number RFP Title : **920, 210000000714**

Michigan Independent Citizens Redistricting Commission

Line Drawing and Redistricting Technical Services

Signature Date:



2/9/2021

Printed Name, Title, Company:

Andrew Drechsler
President
HaystaqDNA

Document 3 -- VENDOR QUESTIONS WORKSHEET

HaystaqDNA & Q2 Data & Research

Provide a detailed response to each question. "You" and "company" refers to the bidder.

1. Contact Information	
Bidder's sole contact person during the RFP process. Include name, title, address, email, and phone number.	Andrew Drechsler President HaystaqDNA 907 N ST NW Suite C1 Washington, DC 20001 andrew@haystaqdna.com Mobile: [REDACTED] Office: 202-546-4764
Person authorized to receive and sign a resulting contract. Include name, title, address, email, phone number. The awarded vendor will be required to establish an account in SIGMA Vendor Self-Service	Andrew Drechsler President HaystaqDNA 907 N ST NW Suite C1 Washington, DC 20001 andrew@haystaqdna.com Mobile: [REDACTED] Office: 202-546-4764
2. Company Background Information	
Legal business name and address. Include business entity designation, e.g., sole proprietor, Inc., LLC, or LLP.	HaystaqDNA, LLC
What State was the company formed in?	Formed in Delaware, currently registered in Wyoming
Phone number.	202-546-4764
Website address.	www.haystaqdna.com
Number of years in business and number of employees.	18 years (Haystaq is 100% owned by Strategic Telemetry which was founded in 2003, Strategic Telemetry branded as HaystaqDNA in 2013) We currently have 14 employees.
Legal business name and address of parent company, if	n/a

any.	
<p>Has there been a recent change in organizational structure (e.g., management team) or control (e.g., merger or acquisition) of your company? If the answer is yes: (a) explain why the change occurred and (b) how this change has affected your company.</p>	No
<p>Discuss your company's history. Has growth been organic, through mergers and acquisitions, or both?</p>	<p>HaystaqDNA was founded in 2003 to provide cutting-edge microtargeting, big data analytics and redistricting services.</p> <p>The Haystaq team that would be dedicated to this project has a combined 50 plus years of redistricting experience. In that time, we have collectively drawn thousands of maps, worked on four presidential campaigns, conducted projects on five continents and have served over 100 clients. Our close knit team has an understanding of working and supporting each other to ensure the client's needs are met. There are many complications associated with redistricting and we have a proven track record of working with our clients to make sure our deliverables are clearly understood.</p> <p>Haystaq's growth since its founding has been organic.</p> <p>In addition to its technical expertise, the Haystaq team has extensive real-world experience. We work closely with clients to ensure that our services are understood and properly utilized. The experience of Haystaq's staff and leadership allow us to bridge the gap between high-tech and practical usage.</p>
<p>Has bidder ever been debarred, suspended, or disqualified from bidding or contracting with any entity, including the State of Michigan? If yes, provide the date, the entity, and details about the situation.</p>	No

<p>Has your company been a party to litigation against the State of Michigan? If the answer is yes, then state the date of initial filing, case name and court number, and jurisdiction.</p>	<p>No</p>
<p>Within the last 5 years, has your company or any of its related business entities defaulted on a contract or had a contract terminated for cause? If yes, provide the date, contracting entity, type of contract, and details about the termination or default.</p>	<p>No</p>
<p>State your gross annual sales for each of the last 5 years.</p> <p>If receiving a contract under this RFP will increase your gross revenue by more than 25% from last year's sales, explain how the company will scale-up to manage this increase.</p>	<p>Our average sales over the last 5 years have been \$1,914,000 per year. We would be happy to provide individual years upon request (but choose not to share publicly).</p> <p>Because most redistricting work only occurs every ten years, every consulting firm in this space scales up in the years ending with zero and one. For this project, Haystaq will collaborate with the only other redistricting firm that has successfully worked with a statewide independent redistricting commission in 2011: Q2 Data & Research, LLC. Partnering with Q2 allows us to meet the staffing needs and skill sets that this project demands. Both Haystaq and Q2 have access to skilled associates that are vetted and capable to assist on our projects. These associates will be part of the plan as needed. At this time, we believe the team outlined is well positioned to complete the anticipated work.</p>
<p>Describe partnerships and strategic relationships you think will bring significant value to the Commission.</p>	<p>As discussed above, Haystaq will partner with Q2 Data & Research, LLC on this project. During the last redistricting cycle, Haystaq and Q2 were the only two redistricting firms in the country to successfully work with statewide Independent Redistricting Commissions. Haystaq worked with the Arizona Independent Redistricting Commission while Q2 worked with California. Our combined team has more experience working for Independent Commissions than any other organization in the country.</p>

	<p>The Q2 team has a long history of working with redistricting commissions, starting in 2001 with the City of San Diego Commission, followed by the 2002 City and County of San Francisco, and many others. There is no other firm in the country that has completed more redistricting projects working with commissions than Q2.</p> <p>Haystaq has helped with the creation of the Redistricting Data Hub (RDH). The RDH's goal is to provide individuals, civic organizations, and good government groups the data, tools, and knowledge to participate effectively in redistricting. Members of the Q2 team have served as Stakeholders and members of the Advisory Data Council for the Redistricting Data Hub, which have informed the direction of the data available on the Redistricting Data Hub's website.</p>
<p>For the bidder, primary contractor, principal(s) of the primary contractor, key personnel, any subcontractors, or employees provide disclosures regarding the following relative to their redistricting work with individuals, groups or any public or private entities for the same or substantially similar work described in this RFP: (1) list of past relationships and (2) identify any current relationships and (3) identify any anticipated or future relationships that will be sought by the bidder. For each of the 3 categories of relationships, please identify which could give rise to a potential, actual or apparent conflict of interest and provide measures that would be taken to avoid or address a conflict, should one currently exist or is likely to arise in the future.</p> <p>These disclosures and conflict requirements are ongoing and will be the responsibility of the successful bidder for the full contract term.</p>	<p>In regards to redistricting in the state of Michigan, we do not have any past relationships, nor do we have any current relationships. We do not foresee any anticipated or future relationships either.</p> <p>We wanted to fully disclose who we are and who our clients have been over the last three years, thus we listed everyone who we have worked with. Included in this proposal, we have attached Document 9 which lists our clients.</p> <p>We would be happy to answer any questions regarding our past work. Furthermore, if requested, we would forgo any direct political work in Michigan during the term of this contract.</p>

<p>State the physical address of the place of business that would have primary responsibility for this account if bidder is awarded a contract under this RFP.</p>	<p>907 N ST NW Suite C1 Washington, DC 20001</p>
<p>3. Participation in RFP Development or Evaluation</p>	
<p>Did your company, an employee, agent, or representative of your company, or any affiliated entity participate in developing any component of this solicitation? For purposes of this question, business concerns, organizations, or individuals are affiliates of each other if, directly or indirectly: (1) either one controls or has power to control the other or (2) a third-party controls or has the power to control both. Indicia of control include, but are not limited to, interlocking management or ownership, identity of interests among family members, shared facilities or equipment, and common use of employees.</p>	<p>No</p>
<p>If you are awarded a contract under this solicitation, in order to provide the goods or services required under a resulting contract, do you intend to partner or subcontract with a person or entity that assisted in the development of this solicitation?</p>	<p>No</p>
<p>Will your company, or an employee, agent, or representative of your company, participate in the evaluation of the proposals received in response to this RFP?</p>	<p>No</p>
<p>4. State of Michigan Experience and Prior Experience</p>	
<p>Does your company have experience working with the State of Michigan? If so, please provide a list (including the contract number) of the contracts you</p>	<p>No</p>

<p>hold or have held with the State for the last 10 years.</p>	
<p>Describe all relevant experiences from the last 20 years supporting your ability to successfully manage a contract of similar size and scope for the work described in this RFP. These experiences should include:</p> <ul style="list-style-type: none"> • Drawing district lines for state legislative, congressional, county commission, city council or other electoral districts • Drawing district lines during public, open meetings, taking direction from public officials, and responding to public testimony or other questions in public meetings. • Expert testimony related to districting or redistricting provided in the last 20 years. 	<p>Haystaq founder Ken Strasma served as the lead statistician for the Wisconsin Assembly Democrats' redistricting office in 1991. In 2000 and 2001, Strasma supervised a staff of 20+ data and GIS analysts supporting congressional and state legislative redistricting efforts in all 50 states. As the mapping lead for IMPAC 2000, the Democratic Congressional redistricting organization, Strasma met with dozens of members of congress and participated in hundreds of hours of interactive line drawing, often with Members of Congress themselves and / or other stakeholder organizations.</p> <p>Haystaq team members Ken Strasma, Andrew Drechsler, William Desmond, and John O'Neill have all testified or been deposed in multiple state and federal court cases regarding technical and process details of various redistricting plans. These included two successful U.S. Supreme Court cases.</p> <p>In 2011 Haystaq served as the mapping consultants to the Arizona Independent Redistricting Commission, helping the AIRC to create the first set of maps in Arizona's history to receive DOJ preclearance on the first try. As part of the AZ redistricting effort, Haystaq staff attended hundreds of hours of public hearings, traveling thousands of miles across the state of Arizona. In the first round of these public hearings, Haystaq compiled and catalogued public comments regarding redistricting criteria and communities of interest. In later hearings Haystaq team members would often conduct live map drawing at the direction of commission members with maps projected on screens in the hearing rooms. These live mapping sessions helped provide transparency to the redistricting process, and allowed members of the public to see the process live, rather than being presented with completed maps after the fact.</p> <p>Haystaq worked closely with Fair Districts Now in 2011 and 2015 to fight gerrymandering and redraw some of the illegal districts in the maps</p>

created by the Florida legislature. Elements of the current US House of Representatives and the entirety of the State Senate maps in Florida, which was selected by the Florida State Supreme Court, were drawn by a member of our team. In late 2017 and early 2018 we worked to help shape Pennsylvania's updated Congressional map by submitting alternatives to the court which were able to document the feasibility of fairer maps.

Q2 Data & Research, LLC has worked with re/districting commissions since 2001. All projects were transparent, in all projects the lines were drawn in public during open meetings while taking direction from commissioners. In each project, Q2 responded to public testimony as requested by the commission and answered questions during public meetings. Q2 specializes and is widely known for transparent, collaborative redistricting, and working with commissions in public.

Q2's redistricting projects with Independent Redistricting Commissions that are similar in scope are:

City of San Diego, 2001

City and County of San Francisco, 2002/2012

State of California, 2011

Both the work for the City of San Diego Redistricting and the State of California Redistricting received national awards.

Karin Mac Donald, Q2's principal consultant, has provided expert testimony related to redistricting as follows:

2005 - California Proposition 77 (move redistricting from legislature to commission) (California State Assembly hearing on Proposition 77);


2018 - California Assembly bill 2172 (inmate reallocation to last known residence to adjust census data for redistricting) - California State Assembly and Senate hearings;

2021 - Declaration in support of the Legislature's Emergency Petition for Writ of Mandate and Request for Immediate Relief; Legislature of the State of California v. Alex Padilla, Secretary of State (extending constitutional deadlines for redistricting prompted by delays in release of census data)

<p>Describe your company’s experience and knowledge with Geographic Information Systems redistricting solutions and the associated boundary, demographic and other data sources used for redistricting mapping.</p>	<p>The team that would be dedicated to this project has a combined 50 plus years redistricting experience.</p> <p>Our technical background for redistricting includes:</p> <ul style="list-style-type: none"> ● Tens of thousands of maps created using technologies such as: Maptitude, Esri, ArcGIS, Maptitude Online Redistricting, Google Maps, Google Earth, Mapbox, QGIS, Tableau (.shp, .map, .kmz, .kml, .doj, block equivalency files, etc.) ● Congressional, state senate, state assembly/house, city, county, special district, precinct maps ● Expertise in plan evaluation methodology: measures of compactness (including Reock, Polsby-Popper, Convex Hull, Perimeter, etc.), county and community splits, Communities of Interest, competitiveness (partisan voter makeup), racial and ethnic demographic makeup (Voting Age Population (VAP), Citizen Voting Age Population (CVAP), etc.) ● Extensive Experience obtaining, organizing and utilizing Census PL 94-171 data, Tiger data, Census ACS data, Precinct level election results, and state voter file data (census block, census tract, census block group, etc.) ● Building, maintaining public and transparent longitudinal redistricting databases (e.g. California Statewide Database) ● Racial bloc voting analysis ● Voting Rights Act: Sections 2 and 5, Department of Justice Preclearance ● Census Reapportionment and Redistricting ● Our team includes the California State Liaison to the Census Bureau’s Redistricting and Voting Rights Data office; the lead of two of the most important census geography updates programs: the Block Boundary Suggestion Project for the State of
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	<p>California (1998, 2008 and 2016); and the co-lead of the School District Review Program for the State of California (2018)</p>
<p>Describe your company’s experience working with commissions, public officials, and the general public in similar projects.</p>	<p>Our team worked with the only independent commissions in operation in 2011. We were the technical advisors to the Arizona Independent Redistricting Commission and the California Citizens Redistricting Commission. Our work with both commissions was transparent and collaborative: the commissions made the decisions and we implemented and supported their goals by giving technical advice, moving lines and producing reports.</p> <p>Q2 also has extensive experience working with local redistricting commissions in transparent public processes, including in highly visible and scrutinized redistrictings, such as the City of San Diego (2001), the City of Escondido (2013) and City of Chula Vista (2015) districtings, the County of Stanislaus (2011), and the City and County of San Francisco redistrictings in 2002 and 2012.</p> <p>Q2 has been the leader in collaborative, transparent and inclusive redistrictings in the U.S. We have been instrumental in moving redistricting from the “smoke filled back rooms” into the light by designing and implementing processes that maximize public input and help to create environments in which residents feel comfortable and are able to participate fully. We have done this by collaborating with the jurisdictions we work with to understand their approach and help to implement it. We have also done so by assisting jurisdictions in creating the tools they need to communicate with the public, by being available to provide trainings and materials that explain this intricate process fully, and by drafting maps in public so anyone can observe how the districts are drawn.</p> <p>In all of our projects, we worked extensively with members of the public in meetings and hearings, and set up redistricting access points and centers in which members of the public could work directly with the consultants outside of hearings to digitize their geographic input or</p>

	<p>work on testimony to the commission. Q2 has dozens of years of experience in designing and providing trainings for good government groups, advocates, and the general public on redistricting principles, data and processes.</p> <p>We provide more detail in Key Deliverable Two on how we propose to work with the ICRC.</p>
<p>Describe your company’s knowledge and experience with the necessary validation checks that need to be part of a redistricting plan (for example, checking population totals, contiguity, compactness, etc).</p>	<p>We discuss in greater detail our ability to produce reports in Key Deliverable Two but in short, we were creating multiple reports both in realtime and after public meetings. These reports included but were not limited to demographics, population totals, contiguity, communities of interest, compactness, municipality/county splits, and for Arizona only, competitiveness reports. In short, the Commissions usually start with one set of reports and additional information is often requested. In Arizona, split reports were not part of standard mapping software in 2011 and were created by our team. We have also provided examples of such reports as an attachment.</p>
<p>Experience 1</p>	<p>Arizona Independent Redistricting Commission</p>
<p>Company name. Contact name. Contact role at time of project. Contact phone. Contact email.</p>	<p>Arizona Independent Redistricting Commission Ray Bladine, Executive Director [REDACTED] Colleen Mathis, Chair of AIRC [REDACTED]</p>
<p>City. State. Zip.</p>	<p>Phoenix Arizona 85007</p>
<p>1. Project name and description of the scope of the project. Did the project include redistricting for electoral districts? Did it include drawing or presenting map lines in public meetings? 2. What role did your company play? Who was doing the line drawing, and who was giving direction to line drawers? If expert testimony only, what</p>	<p>In 2011 we served as the mapping consultants to the Arizona Independent Redistricting Commission (AIRC). Our role was to create the congressional and state legislative districts. All of the line drawing was done in open meetings that were broadcast online. During the public meetings and public hearings, we presented maps and reports on the maps.</p> <p>The commissioners gave directions as to where</p>

<p>was the testimony about?</p> <p>3. Whether any of the redistricting plans produced were subject to legal challenge based on Voting Rights Act compliance or other state law. If subject to legal challenge, did bidder's staff provide testimony or expertise in defense of a challenge?</p>	<p>the lines should be drawn.</p> <p>We helped the AIRC create the first set of maps in Arizona's history to receive DOJ preclearance on the first try. Additionally the commission's congressional and legislative maps will remain unchanged for the full ten-year cycle, including two cases brought before the US Supreme Court. Team members were called upon by the AIRC counsel to provide testimony during the various challenges.</p>
Dollar value.	\$750,000
Start and end date (mm/yy – mm/yy)	06/2011 - 06/2016
Status (completed, live, other – specify phase)	Completed
Results obtained.	Congressional and State Legislative Maps that have been in place the entire decade.
Experience 2	Q2 Data & Research staff - Karin Mac Donald
<p>Company name.</p> <p>Contact name.</p> <p>Contact role at time of project.</p> <p>Contact phone.</p> <p>Contact email.</p>	<p>2000 San Diego Redistricting Commission</p> <p>Prof. Leland Saito</p> <p>Commissioner</p> 
<p>City.</p> <p>State.</p> <p>Zip.</p>	<p>San Diego</p> <p>CA</p> <p>92101</p>
<p>1. Project name and description of the scope of the project.</p> <p>2. What role did your company play?</p> <p>3. How is this project experience relevant to the subject of this RFP?</p>	<p>1. 2000 San Diego Redistricting Commission</p> <p>2. Technical Consultant</p> <p>3. San Diego is the eight largest city in the United States. There are over one hundred formally named communities and neighborhoods in the city, and many more informal ones. After the 2000 Census, it was again determined that more than 10,000 of San Diego County's voting-age citizens were members of a single language minority group (Spanish heritage and Filipino, respectively) who did not speak or understand English well</p>

	<p>enough to participate in the English-language election process and had an illiteracy rate that is higher than the national illiteracy rate. This fact triggered Voting Rights Act Section 203 coverage which mandates the provision of translated voting and educational materials in those languages (Spanish and Tagalog). The Redistricting Commission hired Q2 staff as their technical consultant . Because the anticipated timeline the commission had planned its schedule on was cut short by 3 months due to the moving of a primary election, this consulting position required helping the commission operate on an extremely tight timeline. It meant that commission staff did not have the time to get fully trained on redistricting technology and that an extensive outreach campaign had to be cut short. The commission nevertheless was open to the consultants' suggestion that an unprecedentedly transparent open process would still be possible. The redistricting was subsequently conducted in public. All decisions were made in public and many lines were moved in public hearings. Q2 staff assisted the commission with any need that arose, which included software support for its technical staff member, the building of a database to conduct a racially polarized voting analysis (RPV) and the analysis itself, the integration of supplemental geographic data, hearing and meeting support, coordination with commission staff, consultations with legal counsel, research assistance, and collaboration with outreach consultants. These tasks were in addition to line drawing, documenting geographic changes and analyzing populations, preparing and presenting reports and maps.</p>
Dollar value.	~\$150,000
Start and end date (mm/yy – mm/yy)	03/01 - 09/01
Status (completed, live, other – specify phase)	completed
Results obtained.	The San Diego redistricting concluded successfully without any lawsuits and received a national award from Public Technology

	Solutions in the large city category for enhancing public service.
Experience 3	Q2 Data & Research, LLC
Company name. Contact name. Contact role at time of project. Contact phone. Contact email.	California Citizens Redistricting Commission Michelle DiGuilio Commissioner [REDACTED]
City. State. Zip.	Sacramento CA
1. Project name and description of the scope of the project. 2. What role did your company play? 3. How is this project experience relevant to the subject of this RFP?	<p>Redistricting of the State of California, Assembly, Senate, Board of Equalization and Congressional Districts; Redistricting Consultant</p> <p>With Q2's assistance, the newly formed Citizens Redistricting Commission implemented a transparent, inclusive, collaborative, accessible and public redistricting process. Just like the new Michigan IRC, this was a brand new commission who had to literally invent the wheel for the redistricting of the State of California by commission. The CA CRC faced many of the same challenges that this IRC will have to confront, including having to draw lines under intense public scrutiny, time pressure and conflicting demands.</p> <p>Q2 has extensive experience with facilitating, capturing, summarizing and using public engagement and input in the redistricting setting. We have, for example, designed and implemented public education tools to equip members of the public with needed information for the California statewide redistricting in 2011 – the first ever commission drawn redistricting for the State. This included drafting user-friendly explanatory materials, making presentations and training good government, voting rights and advocacy groups as well as the general public. We also designed, implemented and oversaw regional redistricting centers where members of the public could access sophisticated mapping software to investigate and draw districts. We</p>

	<p>are in the process of implementing an even more elaborate public access plan for the upcoming statewide redistricting.</p> <p>Q2 team members attended all of the California Redistricting Commission (CRC) public hearings in 2011, overseeing the capture of public testimony, and compiling and summarizing the geographic input for the CRC.</p>
Dollar value.	~\$570,000
Start and end date (mm/yy – mm/yy)	04/11 - 09/11
Status (completed, live, other – specify phase)	completed
Results obtained.	<p>The CRC was sued three times and in each case the California Supreme Court ruled unanimously that the Commission’s maps were in compliance with the U.S. Constitution and the California Constitution.</p> <p>The maps were also precleared by the U.S. Department of Justice under Section V of the Federal Voting Rights Act.</p> <p>The CRC was awarded the 2017 Roy and Lila Ash Innovation Award for Public Engagement in Government.</p>
5. Standard Contract Terms	
Bidder must affirm agreement with the attached Contract Terms. If not in agreement, written exceptions in accordance with the Evaluation Process section of the Proposal Instructions must be provided with Bidder’s proposal.	We will agree to the Contract Terms if awarded the project.
6. Michigan Economic Impact	
Number of employees currently employed at locations within the State of Michigan.	We currently have one team member based in Michigan.

Number of additional employees to be employed at locations within the State of Michigan if awarded this Contract (if any)	If needed, we have the potential to bring on one additional contractor from Michigan.
Minimum wage paid to employees employed at locations within the State of Michigan.	\$15.00
Average wage paid to employees employed at locations within the State of Michigan.	\$75,000 to \$150,000 is the range.
Percentage of employees employed at locations within the State of Michigan that are covered by employer-provided health insurance.	0
7. Other	
Abusive Labor Practices. The Contractor certifies that it will not furnish any Deliverable that was produced fully or partially by forced labor, forced or indentured child labor, or indentured servitude.	Yes, certified.
Certification of Michigan Business-Public Act 431 of 1984, Sec. 268. I certify that the company has, pursuant to the provisions of Sec 268 of Public Act 431 of 1984, filed a Michigan Business Tax Corporate Income Tax Return. I certify that the company has, pursuant to the provisions of Sec 268 of Public Act 431 of 1984, filed a Michigan Income Tax return showing income generated in, or attributed to the State of Michigan. I certify that the company has, pursuant to the provisions of Sec 268 of Public Act 431 of 1984, withheld Michigan Income Tax from compensation paid to the company's owners and remitted the tax to the Michigan Department of Treasury.	No, not applicable.
Iran Linked Business- Public Act 517 of 2012. I certify that the	Yes, certified.

<p>Company is not an Iran-Linked business as defined by Public Act 517 of 2012.</p>	
<p>Clean Corporate Citizen. I certify that the Company is a Clean Corporate Citizen as defined by the Environmental Protection Act, 1994 PA 451.</p>	<p>Yes, certified.</p>
<p>Convict Labor. The Contractor certifies that if using convict labor, it is complying with all applicable state and federal laws and policies.</p>	<p>Yes, certified.</p>
<p>SOM Debt/Tax Payment. I certify that all applicable State of Michigan taxes are paid, and that no outstanding debt is owed to the State of Michigan.</p>	<p>Yes, certified.</p>
<p>Authorization to Verify Information Provided by Vendor. I authorize the Commission to verify that all information provided in this registration, in bidding and contracting documents, and any attachments or supplement documents and processes are accurate.</p>	<p>Yes.</p>

Document 4 -- SCHEDULE A -- STATEMENT OF WORK CONTRACT ACTIVITIES

HaystaqDNA & Q2 Data & Research

Response To Request for Proposal (RFP) No.920,
210000000714

Line Drawing and Redistricting Technical Services

1.1 Key Deliverable One

1.1.a. Software

Please describe the software you intend to utilize, list the software's functional features, and other details on how you will meet these requirements. Please also describe how the software will be licensed (i.e. per user, per blocks of user, or one fee for unlimited users) and provide a copy of any applicable licensing agreements that will be required for the use of Software by the ICRC and any stakeholders, listed in the RFP. Also describe how the mapping data including the final maps and all versioning will be continually accessible and usable from when this commission expires until when the next ICRC convenes in 2030.

Haystaq/Q2 recommends buying five seat licenses from Caliper's Maptitude for Redistricting as well as a public license for Maptitude Online Redistricting.

Throughout this process, we see the Commissioners as directing the mapping process. This does not mean line drawers are mere technocrats. Redistricting is as much art as science. Successfully balancing complex tradeoffs requires years of experience. Just as experienced individuals can artificially limit choice, a lack of experience can also limit creative solutions. Thus our plan does not recommend commissioners individually use redistricting software to create their own plans. Instead, commissioners should provide direction to the line drawing team about the goals, maps or changes they would like to see. This will avoid a common bias of commissioners becoming attached to solutions because they were the ones who drew it. It will also avoid biasing the process towards more technically sophisticated commissioners and avoid conspiratorial theories about the "true" origins of a commissioner drawn map. Most importantly, it will ensure that the commission can collaborate on maps.

Our plan does recommend ensuring that commissioners have access to the publicly available GIS software. This will allow them to examine underlying demographic data, public submissions, and draft maps on their own. This recommendation is consistent with ensuring commissioners direct the process.

Maptitude -

Our recommendation would be to use Caliper's Maptitude for Redistricting. The functionality of Maptitude allows the real-time analysis the commission is seeking. At any time, we would be able to jump from mapping to analysis with the number of different report functions available whether it is for a particular district, county, city or the entire state, we would be able to offer instant analysis. Haystaq and Q2 used Maptitude for the California Citizens Redistricting Commission, Arizona Independent Redistricting Commission and Florida's Fair District Now projects last cycle. More details about the base product can be found here.

<https://www.caliper.com/mtredist.htm>

There are two Maptitude products: 1. Licenses for map drawers that are based on one license/seat per computer/laptop (licenses would be limited to the state of Michigan). 2. An Online Redistricting website that allows members of the commission to view and draw district maps or communities of interest and submit them. More information about Maptitude Online Redistricting can be found here:

https://www.caliper.com/redistricting/online_redistricting.htm

Maptitude Online Redistricting allows full access, but is sold for use over a specific period of time.

Haystaq/Q2's recommendation is that you purchase five individual seat Licenses of Maptitude. Four licenses will be used by Haystaq/Q2 map drawers and one License will reside with the ICRC. Additional licenses for the commission could be purchased at \$4000 per seat.

We also recommend that you license Maptitude Online Redistricting for Commission use through December 2021. As Maptitude does not provide its own hosting service, Haystaq/Q2 would instead host a Windows Server for you through Amazon Web Services (AWS) and the monthly costs of that server will be covered as a part of this line item in Schedule B.

Importing Data Types: Maptitude makes all of the Census and TIGER/Line data available as soon as it is released. It can also import data from all the common GIS formats including (but not limited to) Block Equivalency files, klm, klz, shp and dbf formats.

Exporting and Preserving Maps: Since we only recommend keeping the online software through December, it is important to make the maps viewable after they are approved. We recommend exporting them in a variety of formats including Block Equivalency, KMZs (can be viewed by google maps or google earth), pdfs and jpg. An example of our preserved maps can be found here:

<https://azredistricting.org/Maps/Final-Maps/default.asp>

Saving the Process: One great feature of Maptitude that we would employ is that every change made would be logged and documented. We would record hourly snapshots of the map in progress, summaries of the changes made, and the reason for each change. Any change to the initial map would be intended to meet one of the criteria set forth in the commissions directions. All changes would be documented as to which of the criteria they were designed to better meet, and the impact of the change. Often, these sorts of changes will require a process of trial and error. All the changes will be logged, not only the final districts.

An Example of Maptitude's License Agreement is included in our submission as Document 10_Maptitude for Redistricting License Agreement 2019.

1.1.b. Security

Detail how you will employ security measures, including data transmission, data storage, secure backup, and other standard considerations.

With thousands of variables, more than 329,885 Census Blocks in Michigan, and millions of potential scenarios, data monitoring and verification is critical to this project. The plan assumes maintaining robust security standards including a Virtual Private Cloud (VPC), shared work environments (which require VPN authorization, multi-factor authentication and anti-virus detection to access as well as intrusion detection and prevention systems, firewalls, and an industry-standard password system). Files, directories, database indices, and contents will be encrypted and associated to each log-in with secure file transfer protocols for data access permissions. Data files will be stored and backed-up to minimize impact of system failures or natural events. Personnel will be required to sign a data confidentiality policy.

Haystaq has considerable experience with data security. We have undergone security audits for global Fortune 500 companies, clients governed by European Union data privacy rules, for political clients facing hacking attempts by foreign governments, and for clients dealing with healthcare data covered by HIPAA security protocols. All our employees and contractors work behind a VPN. All access to our online AWS environment requires MFA and VPN access.

We will back up all files used for the ICRC's work to a dedicated encrypted AWS S3 bucket.

It is Haystaq/Q2's intention to be fully transparent on this project and make its work product public, but it is likely that we will have to move data that is not licensed to the public or may contain Personally Identifying Information (PII). For these types of data transmissions we'd recommend using an encrypted AWS SFTP server that we can host. These can be easily accessed by publicly available file programs like Filezilla. However, if requested, we could also do something that might be more familiar to the commission like MFA protected dropbox.

1.1.c. Geographic Database

Please describe how you will meet the requirements listed in the RFP. This is also an opportunity to highlight other data-related capabilities or innovations you are able to offer to the Commission.

By handling all technical details in a carefully documented and transparent way, we would free the commission to focus on answering the questions that are subject to interpretation. We have a great deal of experience in distilling highly technical statistical information into understandable language that gets decision makers the information they need.

The basic geographic building blocks for any redistricting project are the Census geography defined in TIGER 2020. This includes Census Blocks, Block Groups, Tracts, Municipalities, Counties, Native American reservations, and other administrative and geographic boundaries. There will no doubt be other geographies not defined in TIGER 2020 that we will need to load into the mapping system. For example, Communities of Interest that may not have traditional boundaries will no doubt want to be kept together. This will be an evolving process that takes into consideration the wide range of opinions

from the public comment period. Additionally, base geographic maps (often provided by TIGER) such as city boundaries, streets, highways, county lines, waterways and other elements are included in base layers in Maptitude. Updated files (like new municipal boundaries) can be imported in a variety of formats and overlaid.

The basic population data building blocks will come from the P.L. 94-171 Redistricting file delivered to the State of Michigan. This data will consist of overall population data, as well as Census race data tabulations, cross-tabulations by Hispanic and Non-Hispanic origin, and Voting Age Population data. We are very familiar working with these data sets, and have extensive experience integrating them with GIS mapping platforms, the redistricting database, and with our plan analysis software.

Throughout this process, we would be following the criteria set forth in the statement of work, and would leverage our considerable experience in drafting maps that meet the requirements of the Voting Rights Act.

Since the release of the Census P.L. 94-171 data has been delayed, it will not be possible to wait to start map drawing until the Census data is available. Instead, we recommend beginning to draw with a combination of 2010 population data, and Census-Block level population projections that Haystaq has built. These projections are based on extrapolating population estimates from the Census to the year 2020, then disaggregating these estimates to the Census Block level. While the projections will differ from the final Census, they will allow us to build draft plans that take population changes into account. Once the final Census population is available we would adjust the draft maps to achieve population equality using the official population.

One example of how we would deal with additional data is working with Precinct files and Election results:

Election results present a large challenge. Although precinct level results are available from the MI Secretary of State's office, matching these results to current geography may require a great deal of work, depending on the standardization of precinct names. Knowing that "precinct 14" voted a certain way in the past is not useful information on its own if the precinct's boundaries have changed. A common mistake is to assume that a precinct with the same name represents the same geography. In reality, absent information to the contrary, we have to assume that the historical "precinct 14" is different from the current "precinct 14".

Given that the Michigan Bureau of Elections has partnered with the Center for Shared Solutions to maintain state-wide precinct returns and precinct shapefiles going back to 2014, as stated in Vendor Question Responses, we will go through the following steps for the delivery of the necessary data to the Polarized Voting Analysis consultants:

1. Join the precinct shapefiles for every election year to the precinct election results, provided by the Michigan Bureau of Elections and the Center for Shared Solutions.
 - Based on our redistricting experiences in 2001 and 2011, it is possible that precinct maps will not be available for some years and areas. If this is the case in any precincts, we would create political geography at the smallest unit possible that would match election results. For example, a county might have ten precincts for which there are no maps. If the election results for those precincts are split into two State House districts, then political geography would be created based on the combination of

county and State House districts. The first priority would be to create exact precinct lines where possible, but where those lines are simply unavailable, the combination of other political geographies would be used to create geography at the most granular level possible that could be matched to the election results. Fortunately, most larger areas will have records of their precinct lines, so the number of voters that cannot be matched based on exact precinct lines is likely to be a very small percentage of the total statewide vote.

2. Create a Census Block to precinct file mapping for each year
3. Using the statewide precinct GIS files created using the steps described above, we would then assign each 2020 Census Block to a precinct.
4. Next, we would disaggregate election results to 2020 Census Blocks. This is the process of assigning the appropriate share of a precinct's votes to each Census Block, using the share of the precinct's voting age population from each Census Block.
 - Note: Various methods exist for estimating the partisan distribution of votes based on the racial composition of the voting age population in each Census Block. The most common method is to use past exit poll information to estimate the party share of the vote for each racial group, and disaggregate each party's vote separately using those support levels. We would not use any of these methods in constructing the main redistricting database of election results. This is because the vote information is likely to be used in racial block voting analysis to determine the plan's impact on racial and origin groups. With that in mind, we would not use a process that started with an assumption about racial block voting. Instead, the simplest and most straightforward disaggregation process would be used, based on total voting age population. The process would be documented at each step.
5. Reaggregate election results to the 2020 precincts and to proposed plans.
 - Once election results have been disaggregated to the 2020 Census Block level it will be a simple matter to reaggregate those results to current precinct lines, and to any proposed new districts.

With this final data set, after following these proposed steps, compliance with the Voting Rights Act of 1965 or partisan fairness as indicated in Michigan Constitution of 1963, Article IV, Section 6 (13) can be demonstrated by the Polarized Voting Analysis consultants. This is a process that we have experience completing in our previous redistricting work.

1.1.d. Training and Education

Haystaq/Q2 staff will be available to provide one-on-one mapping software training for Commissioners, staff and the legal team. These trainings would initially be conducted online, but we will happily provide in-person training when COVID restrictions permit.

In addition to the one-on-one trainings, we also suggest devoting part of a public meeting to training on the online mapping software. This training would be recorded and made available later to anyone who was not able to attend the meeting.

Beyond training on how to use the mapping software, we suggest devoting portions of future public meetings to other technical topics. For example, there are many different measures of compactness. We would provide a training describing each so that Commissioners and interested members of the

public would have a solid understanding of the different measures.

In addition to these trainings, we create “How-to Guides”, Redistricting 101 presentations and educational tutorials.

Examples of past trainings and training material presented before every public hearing in AZ - round one can be found here <https://azredistricting.org/Meeting-Info/Public-Hearing-R1.asp> and Round two can be found here: <https://azredistricting.o>

Q2 team members also conduct regular trainings in collaboration with organizations such as the California Association of Clerks and Elections Officials (CACEO), Common Cause, and the National Conference of State Legislatures. Two trainings done in the last three months include:

- Mapping Technology and Tools; at California Local Redistricting Training for City and County Officials <https://www.commoncause.org/california/page/local-redistricting-2021/>
- Anticipating the 2020 Census Data – A User Perspective; at National Conference of State Legislatures Census Data Updates Meeting <https://www.ncsl.org/research/redistricting/2020-census-updates.aspxrg/Meeting-Info/Public-Hearing-R2.asp>

1.1.e. Support for Litigation

Additional services may be required in the event of legal action related to redistricting plans in state or federal court. The contractor would be expected to provide consultation, line-drawing services, and testimony support for any litigation resulting from the determined maps during the contract term. In the event of such action, at the request of the ICRC, the contractor and the ICRC will determine a statement of work for the additional services and amend the contract via a change notice.

We have considerable experience with litigation support. Our map drawing and data team has successfully supported maps through the DOJ preclearance process, and through multiple U.S. Supreme Court challenges.

Our plan assumes that the line drawing team will work closely with ICRC counsel, starting before any maps are drafted to ensure there is a fundamental understanding of the objectives and legal guidelines. The line drawing team can identify where concentrations of protected minority groups may allow for Section II districts to be drawn, but counsel will need to provide the commission with its options for compliance. We will work within these guidelines, and will update maps as needed based on input from the Polarized Voting Analysis consultant. Once the commission has developed its recommendations for implementation, direction can be given to the line drawing team about the areas in which Voting Rights Act compliant districts should be constructed.

Challenges to the final maps should be assumed as this mechanism is built into the process. The supporting materials we describe elsewhere in this plan that were developed throughout the process will help insulate against challenges. Support from the line drawing team to create the mandated final report and work with on post-map litigation is not an afterthought but a critical part of the team’s job. This commitment is why the 2011 maps in Arizona and California withstood legal scrutiny when previous decades saw maps fail in both states.

1.2 Key Deliverable Two

1.2.a. Public Meeting Participation

- a) Document the ICRC's instructions and public testimony**
- b) Digitally store, produce and project redistricting plans, maps and line drawing on-screen (both live and remotely)**
- c) Between meetings provide the mapfiles, pdfs of maps and corresponding instructions from Commissioner or public testimony that led to a given map's creation**

Haystaq/Q2 staff will be in attendance at every meeting and we will go back through recordings of each meeting. We will document the commission's directions to the line drawing team. Our staff will work with the ICRC to categorize and catalog public testimony. Traditionally, the commission's legal council will determine system and process requirements around logging public input. We will assist in that decision making and help create categories for cataloging comments. Haystaq/Q2 can work with ICRC staff to log comments from the public meetings. Additionally, if desired, we could monitor social media feeds for public comments there. Our staff will display maps during meetings (simultaneously in-person and online), show changes, update population counts in real time, and produce supporting materials. We will conduct map drawing live during meetings under the commission's directions. After meetings, we will produce copies of the maps and all supporting materials as well as the summaries of the commission's directions and categorized logs of public comments.

Haystaq/Q2 acknowledges the importance of documenting the commission's directions to the line drawing team. Our plan assumes that the line drawing team will produce reports that summarize this direction for public feedback and ICRC review. Our plan recommends that during the pre-map public input hearing process, the schedule include time for commissioners to highlight testimony they believe to be particularly important and that needs to be communicated to the line drawing team. The goal would be to preserve those initial reactions for later consideration.

Our plan assumes that early line drawing will be an iterative process with the ICRC providing generalized direction. The team will be able to produce hypothetical maps to show how that direction could be implemented so that the ICRC can in turn identify preferred options. The team can then consolidate those preferences into a draft map. Many of these processes will be friendly to "live" during line drawing meetings while some work will necessarily need to be done between meetings. All iterations of all maps, and all instructions given to the line drawers will be provided to the commission.

Improve Data Management

As we have seen in the past, one challenge the ICRC will face is organizing the deluge of public comments. While a lot of testimony is great, being able to efficiently access and apply testimony will be something we will assist with. In 2021, our plan assumes that the ICRC's legal council will create process and system requirements around public comments. However, in ensuring the data is accessible, our plan recommends that the line drawing team provide advice as those systems are developed. For example, advice as simple as how to tag or geocode testimony to allow for the efficient recall of

testimony during the line drawing process will allow Commissioners to better consider such feedback. Haystaq/Q2 will assist with logging comments made during public meetings.

With the amount of data anticipated, the ICRC needs to avoid being overwhelmed, as we have seen other commissions become overwhelmed by written testimony. Our plan makes several recommendations. First, PDF representations of ICRC mapping submissions should be organized by the ICRC staff. This would ensure such submissions are given equal weight to other written testimony. This will also allow commissioners to easily identify and/or recall submissions for further discussion.

Integrating ICRC Mapping Tool Submissions into Line Drawing Meetings: As discussed previously, our plan recommends the public be able to identify submissions in advance of their testimony. Similarly, for line drawing meetings, the plan suggests that commissioners and counsel be able to submit a list of submissions they would like loaded for the meeting. This would allow the line drawing team to reduce load times during meetings. The team would retain access to all other submissions and would be able to pull these up as requested

1.2.b. Communication Skills and Strategies

A key role for the line drawer is being able to provide expertise and technical assistance at the direction of the ICRC, and to be able to explain and educate on both high-level and granular considerations in that process. Please use this space to provide insight into the communications strategies and approaches you will utilize to ensure both that expectations are met and the ICRC and the public broadly understand the rationale and complexities behind any given plan.

In public hearings, there is likely to be discussion of objective qualities of a map, such as the total population deviation, minority voting age population or various measures of compactness. There is also likely to be discussion of more subjective qualities, such as which measure of compactness should be used, or the appropriate trade-off between different criteria. An example of this sort of subjective debate might be whether it is better to preserve a compact district at the expense of splitting a Minor Civil Division, or whether it is better to sacrifice some amount of compactness in order to keep the Minor Civil Division entirely in one district.

Our goal is to provide rock-solid answers to the objective questions, so that the commission and members of the public can focus on the subjective questions.

We also understand the importance of tone in this sort of public hearing. Members of the public deserve to be heard respectfully and attentively. We have witnessed public hearings where concerns from the public are dismissed with an attitude of “this is complicated, you just don’t understand.” While this certainly is a complicated subject, members of the public who have taken the time to testify deserve to be heard, and have demonstrated that they are willing to take the time to understand the issue. We would provide the information needed for the public and members of the ICRC to have a substantive and respectful debate over the issues involved.

As noted in the RFP, we will need to be available outside of normal business hours. We understand that redistricting is unique in many ways but in particular, knowing that you can come to the line drawers

with questions, clarification, understanding is critical to the success of the project. We will have a point person that will be available to the commission and staff seven days a week. While the point person will be knowledgeable in the project and rules around redistricting, there will be times where other team members will be best to answer such questions. In those cases, we will ensure timely communication.

1.2.c. *Public Meeting Schedule and Setting*

Due to the COVID-19 pandemic, certain details about the meeting schedule and format for all ICRC meetings are yet to be determined. The contractor must be prepared to participate either remotely or in person to provide all services outlined in this RFP.

• The ICRC expects the contractor to be present at approximately 40 meetings between the spring and fall of 2021. The expected schedule will be set in advance, but may occasionally change at short notice given the high-priority deadlines of this Commission.

Haystaq/Q2 commit to having key staff at all 40 meetings either in-person or virtually as the evolving situation with the pandemic allows. We have a firm understanding of the importance of the public meetings. In 2011, between our work in CA and AZ, we had thousands of speakers, helped categorize over 30,000 public comments and participated in over 100 public hearings. We understand how critical these meetings are to hear the voices of the citizens of Michigan.

Given our joint experience in CA and AZ, Haystaq/Q2 present our thoughts on best practices on running public redistricting meetings in the section below.

I. Public Input

Public input presents a fundamental opportunity to gain insight into communities, but also challenges in how to elicit, manage and use it.

We would approach the public meetings and hearings in such a way that we can maximize the public input.

The present pandemic creates new challenges. While addressing these concerns, our proposed plan also embraces newly created opportunities. It is inevitable that something is lost by not being in the same room, let alone driving the same streets or sharing a meal. However, the ICRC might consider embracing creative solutions. Reduced travel time will allow for more public input hearings without increasing time demands on commissioners. Therefore, this plan assumes the 40 public input hearings will be a minimum and that the ICRC may benefit from additional public input hearings if the schedule allows. Census data delays may allow for more pre-district map input.

As time is precious for these meetings, we would want to attempt to pre-identify testimony geography. When people sign up they could be given the option to indicate what portion of the state they want to discuss, including providing information on any submission made using the online mapping tool. This would allow line drawing staff to quickly present the relevant map during the testimony in real-time. Our plan assumes that when possible line drawers will support the commission by visualizing the geography the speaker references. It can, however, be time-consuming to locate small geographies during the short time a speaker has to present their input. These challenges will be magnified by remote

meetings limiting such rudimentary options such as being able to physically point at a map. Therefore, when signing in to participate in a meeting, we might encourage (though not require) the public to take advantage of the opportunity to identify the “where” in advance, for example on a speaker card, so hearings can focus on the “what”, “who” and the “why.”

The current situation allows for the ability to increase the flexibility of scheduling meetings. Being virtual for some of the meetings could address the need to allow for a mix of weekday evening and weekend hearings outside of traditional business hours. Our 2011 in-person meetings made scheduling challenging. This Commission could take advantage of being less tied to physical locations. If the ICRC has multiple hearings in the same region, they could be scheduled to reflect a mix of different times to be convenient to different members of the public. If the first hearing in a respective region is on a weeknight, the next should be on a weekend.

The ICRC should consider the other needs when scheduling meetings as well. The ICRC could schedule hearings in areas likely to be impacted by the federal Voting Rights Act (VRA) earlier in its process so legal counsel would have the benefit of that input during their analysis. Hearings could also be distributed throughout the state rather than focusing on just one section at the time. Not being tied to a specific area presents other opportunities. Some hearings could have a broader focus. For example, some communities may be densely concentrated in small pockets, but are more homogeneously distributed across the state.

The above recommendations, while applicable to all public hearings, deliberately focus on pre-district map hearings as those would make up the majority of all hearings. However, other types of input hearings warrant additional discussion. The first are hearings to consider submitted district plans. In 2011 these were considered in two days of “Group Presentation Hearings.” We suggest that the ICRC include similar opportunities in its schedule. Explaining even a partial plan in two or three minutes is not practical, let alone statewide plans for multiple types of districts. Due to expanded redistricting software availability and access, the ICRC should anticipate receiving more public plans and consequently consider increasing the number of days for such presentations to three. Criteria should be developed for selecting groups to make presentations if more apply than time allows and line drawing staff should be provided relevant Geographic Information System (GIS) files to facilitate such presentations.

Once the plans are adopted, they need to be posted for 45 days before they can be voted on as final. We see this as an opportunity to present the plans and gather any feedback. Our plan assumes that line drawing staff will assist with preparing a short presentation of the proposed districts within a section of the state to facilitate public feedback. Based on experience some members of the public will not participate until maps are released. As a result, they will not know what or why certain decisions were made. A general overview will level the playing field and allow for a more constructive collaboration with the public.

Increase Participation Options

All of the above recommendations have a relatively simple goal: Maximize the number of people speaking at public meetings and hearings. Based on experience most written testimony will not be accompanied by maps. Such testimony often focuses on what defines a community, but the speaker will usually not have drawn the community. They may reference defined geographies like city boundaries that do not require a map. Our plan assumes that input with maps or geographic detail will be

forwarded to the line drawing team, to be digitized and combined with other GIS files as appropriate.

Targeted levels of feedback will likely not be reached through oral and written testimony alone. Rather the ICRC has additional and expanded modes not available to the last commission, the most groundbreaking of which is the public mapping tool. This tool will likely drastically increase the number of GIS files received by the commission. Free public access to redistricting software was previously limited to a handful of physical sites and this time, an online option will be available via the RFP in the form the ICRC's software. Our plan assumes the line drawing team will have expanded responsibility to deal with these data.

Communities of Interest

While Haystaq has a lot of experience with Communities of Interest (COI) with work with the Arizona Independent Redistricting Committee in 2011, it has been at the heart of Q2's work. Karin Mac Donald began her redistricting consulting career after realizing the importance of this criterion and recognizing that very little academic or applied work had been done on the topic. As a student in the Ph.D. program of the Political Science department at UC Berkeley, she conducted a year-long study and wrote her Master's Thesis in 1998 on Communities of Interest and the methodology to define them. With every re/districting project that she and Q2 have engaged with, she and her team have aimed to perfect the ways to engage with residents to explain the concept and encourage them to share their knowledge about their communities.

During the 2011 redistricting of the State of California, thousands of communities participated and shared their geographies along with information about the areas. The Citizens Redistricting Commission incorporated this testimony into their maps, allowing them to create lines that benefited the people that live in them.

Most recently, Mac Donald and colleague Jaime Clark have collaborated with a team of GIS experts and applications programmers to design a COI application that allows residents of the State of California to draw their COIs using a very simple, low-barrier, web application that will be available in 14 languages. This app has been embraced by the new redistricting commission, good government and advocacy groups, and is anticipated to be widely used throughout California.

In short, we understand the importance of COIs and will be an active partner with the ICRC to ensure COIs are identified and taken into account in any map plans.

II. LINE DRAWING

Statewide Commissions are Different- Most redistricting firms offer the basic services requested by the RFP. The ability to utilize redistricting software, import and export data, display maps, show changes, update population counts in real time, and produce supporting materials. Our team is exceptionally well qualified in applying these skills to the unique challenges of the ICRC. The transparency demands of commissions differ radically from incumbent drawn plans. The complexity of drawing five city council districts differs radically from drawing hundreds of districts statewide. The tools are the same. But the talents and skillsets are not.

The timeline reflected in the RFP is in question due to the uncertainty of when the data will be released by the census. If the data is released on July 31, 2021 there would be a sprint to get the final maps on September 17. While not impossible, we would want to have one of our first conversations with the

ICRC be around what flexibility there is in timing and if any, how our plans may change.

Overall, our approach would have a team of line drawers that would be familiar with the entire state but break down the tasks between the three maps we are helping to create. The federal Voting Right Act (FVRA) may force a community to be split in one plan. However, this approach would allow the team to flag for the ICRC whether it may want to give additional weight to preserving that community in another plan. It also allows team members to become experts in how the law may apply differently.

In-Person Line Drawing Meetings (if Possible)- No matter the pandemic circumstance, the plan recommends maintaining remote options for both the public and commissioners throughout the process. However, the plan recommends whenever possible commissioners meet in-person during line drawing meetings.

The plan assumes a collaborative process among thirteen individuals. As commissioners have experienced it is difficult to review a dynamic document and listen to others at the same time. Does one pin the document or the faces of their other commissioners? Experience suggests these challenges will be exponentially harder when working with real-time maps. There is simply no substitute for a commissioner being able to look at their colleagues as a change is being presented to see if there is joy, concern, or horror on their face at its impacts.

Earlier formation and census delays mean this ICRC will have more time overall. However, this does not extend to the time to draw the lines. Public input hearings may start earlier, but the ICRC will still likely have under two months between the release of data and the adoption deadline. Arizona, with far fewer districts, did not adopt lines until January of 2012.

Our plan recommends focusing on developing the best possible draft maps after you have the initial 10 public hearings even though we won't have the 2020 census data. While moving quickly will be important, it should not come at the cost of being transparent and deliberate. The proposed goal is to create draft maps that are significantly closer to the final maps, which would refine, not replace the work that has already been done.

Document ICRC Notes & Direction- The previous recommendation does not mean the public would have nothing to react to until draft maps are released. It is important that the commission regularly document general direction to the line drawing team. As noted above in response to Key Deliverable Two, our plan assumes that the line drawing team will produce reports that summarize this direction for public feedback and ICRC review. Direction to prioritize a community of interest or avoid crossing a specific geographic boundary does not require the availability of the redistricting database. Our plan recommends that during the pre-map public input hearing process, the schedule include time for commissioners to highlight testimony they believe to be particularly important, to be communicated to the line drawing team. The goal would be to preserve those initial reactions for later consideration.

Utilize "Visualizations" & "What-ifs"- Our plan's recommendation to spend more time preparing draft maps does not mean providing no district boundaries until late in the process. Experience shows this would run counter to maximizing public participation as some need visual cues to provide input.

Based on our past experience, after the release of draft maps the 2010 California CRC began using "visualizations" to show various scenarios to resolve competing commission directions. Arizona's commission released similar "what-ifs" before draft maps were adopted. Our plan recommends following the Arizona model and creating hypothetical maps earlier in the process. We recommend that

the ICRC determine its own plain language terminology to describe this process.

Take Advantage of Public Plans- While our plan suggests beginning the development of hypothetical scenarios before the group presentations, it also assumes waiting until after those presentations to consider any draft map. The presentations could highlight challenges or solutions the Commission had not yet considered. In turn, the best elements of both the work of the ICRC's team and the public may possibly be integrated to create the draft maps for adoption.

Line Drawing Live and in Public – Our plan assumes that early line drawing will be an iterative process with the ICRC providing generalized direction. The team will be able to produce hypothetical maps to show how that direction could be implemented so that the ICRC can in turn identify preferred options. The team can then consolidate those preferences into a draft map. Many of these processes will be friendly to “live” during line drawing meetings while some work will necessarily need to be done between meetings.

After the post-map public input hearings, our plan assumes moving to making more refined changes. As the size of changes are reduced, so too will be the time and complexity required to implement. This will allow the ICRC to utilize more live drawing during later meetings, particularly after the release of the draft maps. Allowing for this process may require multiple line drawing meetings envisioned by the RFP. However, this extra time will allow the public to participate and observe while the commissioners continue to control the process as the critical final vote to adopt plans approaches.

Post Adoption Responsibilities- Challenges to the final maps should be assumed as this mechanism is built into the process. The supporting materials we describe elsewhere in this plan that were developed throughout the process will help insulate against challenges. Support from the line drawing team to create the mandated final report and work with counsel on post-map litigation is not an afterthought but a critical part of the team's job. This commitment is why the 2011 maps in Arizona and California withstood legal scrutiny when previous decades saw maps fail in both states.

1.3 Key Deliverable Three

1.3.a. Professionalism and Support

Non-Partisanship:

Haystaq and Q2 commit to being totally non-partisan map drawers and technical consultants for the ICRC.

The Q2 team is strictly non-partisan and our mission has been to provide affordable, balanced, non-partisan services to our clients. Both Jaime Clark and Karin Mac Donald are registered as ‘no party preference’ voters and have never engaged in any partisan work. Mac Donald has been the director of the non-partisan Statewide Database (SWDB), the redistricting database for the State of California, since 1995. Clark joined the project in 2019. The SWDB provides data to anyone interested no matter their political affiliation or leanings. We have worked successfully with people from all walks of life, races, ethnicities, nationalities, languages and political parties while preserving the non-partisan spirit of the projects we've engaged with. Throughout our work with the 2011 California Citizens Redistricting Commission, a bi-partisan commission that includes 5 members each from the two major parties and four that are not

affiliated with those parties, we collaborated successfully with all commissioners. Partisanship has simply never been an issue in any of our projects.

Susan Ranochak worked with Q2 since 2016, when she still served as the Assessor, Clerk-Recorder and Registrar of Voters of the small rural county of Mendocino, California. Ranochak is a registered Republican but has successfully conducted non-partisan work and held a non-partisan office, throughout her career. She was responsible for administering elections in a fair and unbiased way and has by all accounts achieved exactly that. She also collaborated with all of her colleagues at the California Association of Clerks and Elections officials, no matter their partisan affiliation, in a non-partisan way, holding leadership positions and receiving much acclaim for her work on the highly complex Election Cost Project.

In its non-redistricting work Haystaq does work with Democratic politicians. Haystaq also has a history of working with organizations such as L2 Political, a non-partisan, national, voterfile vendor that makes Haystaq data available to Republicans, Democrats and Independents. In its 2011 work with the Arizona Independent Redistricting Commission, Haystaq brought on Republican staff and worked in a completely transparent and non-partisan way. Since 2019, Haystaq and members of Q2 have advised the Redistricting Data Hub, a non-partisan effort to provide individuals, civic organizations, and good government groups the data, tools, and knowledge to participate effectively in redistricting processes. As a joint entity, Haystaq and Q2 will work solely at the direction of the commission in a fully transparent and non-partisan way.

Professionalism:

During public meetings around redistricting, citizens can become very emotionally charged and passionate. We have seen commenters question the character and motives of commissioners, map drawers and commission staff. We understand that this passion comes from voters wanting their viewpoints to be heard and represented. Haystaq and Q2 have both been in these situations before. We will always work to reduce tensions, respond professionally and kindly and we believe our commitment to transparency will always allow us to engage with these members of the public in constructive ways.

Staffing:

We have listed Nine staffers, the majority of whom have line drawing experience, as available for this project. It is unlikely that we would ever be using all nine staff members at 100% capacity, so we should always have slack capacity.

1.3.b. Reporting

Haystaq/Q2 will provide Project Management and deliverable tracking for this project. We will provide weekly status updates and gantt charts showing the progress towards all deliverables and subtasks. We will produce all maps, all map iterations and mapping related support material after any and all public map drawing meetings.

1.3.c. Final Redistricting Plan Reports

The Commission will select plans based on the criteria set forth in the Michigan Constitution. To assist the Commissioners in making informed decisions, we will generate reports that detail how well each plan meets each of the criteria.

Some measures like equal population are unambiguous. Others such as compactness are subject to interpretation. For measures such as compactness, we will work with the commissioners to develop a standard set of measures to be used, and will generate reports showing all of those measures, along with aggregate statistics showing how well a plan does under all the measures being considered.

Respecting Communities of Interest is another measure that is subject to interpretation. We expect that there will be considerable public input regarding Communities of Interest. This public input can be loaded into the mapping software, and we will create custom reports showing how many of these designated Communities of Interest are split. This would be reported in the same custom-written splits reports that we will use to measure respect for county, city and township lines. Samples of these reports are shown in appendix 8.

While all GIS mapping programs provide basic reporting functionality, such as population deviation, we will provide custom reports as needed to meet Michigan's specific needs. For example, the constitution lists contiguity as a criterion, but also notes that islands will be considered as being contiguous to the county of which they are a part. We will program this into a custom report so that these districts will be marked as contiguous.

For adopted plans, we will generate industry standard plan descriptions. These will include GIS shape files, metes and bounds descriptions, Block equivalency files, and plan component reports. Haystaq has extensive experience in generating and correctly formatting these reports for the multiple stakeholders who will need them. These will likely include the Secretary of State's office, the Department of Justice, and the Census Bureau.

1.4 Training

The Contractor must explain its training capabilities and any training that is included in its proposal.

The Contractor must provide documentation and training materials.

<input checked="" type="checkbox"/>	I have reviewed the above requirement and agree with no exception.
<input type="checkbox"/>	I have reviewed the above requirement and have noted all exception(s) below.
List all exception(s):	
Bidder must explain its training capabilities and any training that is included in its proposal:	
As noted in Key Deliverable One in response to training, we will be heavily involved in training	

for both the ICRC and the public. Our team members have many years of experience conducting training and creating training materials.

In all of our re/districting projects, we have taken the primary responsibility for creating training materials for the redistricting body, staff, counsel and the general public, to level the playing field and ensure everyone can fully participate. Examples of past trainings and training material we presented before every public hearing in AZ - round one can be found here <https://azredistricting.org/Meeting-Info/Public-Hearing-R1.asp> and Round two can be found here: <https://azredistricting.org/Meeting-Info/Public-Hearing-R2.asp>

Furthermore, we were asked to present during the public meetings as well. An example of this can be found in one of our first presentations to the commission where we talked through the step by step process in developing the redistricting maps. A presentation of this can be found here: https://youtu.be/_upKnlejbrM

Q2 team members also conduct regular training in collaboration with organizations such as the California Association of Clerks and Elections Officials (CACEO), Common Cause, and the National Conference of State Legislatures.

Below is a list of our most recent trainings:

1/2021 Training: Mapping Technology and Tools; at California Local Redistricting Training for City and County Officials

<https://www.commoncause.org/california/page/local-redistricting-2021/>

1/2021 Lecture: The Census and your Dataset; at National Conference of State Legislatures "Making the Maps" Seminar

12/2020 Talk: Anticipating the 2020 Census Data – A User Perspective; at National Conference of State Legislatures Census Data Updates Meeting

<https://www.ncsl.org/research/redistricting/2020-census-updates.aspx>

9/2020 Training: Redistricting Data and the Process of Map-Drawing; California Citizens Redistricting Commission hearing

8/2020 Training: CVAP Data and Voting Rights Act Compliance; with Angelo Ancheta; California Citizens Redistricting Commission hearing

8/2019 Training: Redistricting Data & Processes to Aid the Evaluation of Applicants; California Citizens Redistricting Commission Applicant Review Panel

4/2019 Presentation: Reallocation of Inmate Data for Census 2020; California Citizens Redistricting Commission hearing

12/2018 Design and Teach Certification Course: Re/districting – An Overview of Criteria, Data & Processes; for California Association of Clerks and Elections Officials

2.0 Service Requirements

2.1 Timeframes

All Contract Activities must be delivered pursuant to work plans and internal deadlines set by the Commission. The receipt of order date is pursuant to the **Notices** section of the *Standard Contract Terms*.

<input checked="" type="checkbox"/>	I have reviewed the above requirement and agree with no exception.
<input type="checkbox"/>	I have reviewed the above requirement and have noted all exception(s) below.
List all exception(s):	
<p>Bidder must describe how they comply with the above requirement(s): Below in section 5.10, under Project Management we have provided a preliminary Project Plan. The Plan has been requested to be finalized within two weeks of contract, working with the ICRC Project Manager with input from the ICRC. Using this as a basis, we would breakout the tasks into subtasks. The team described in 4.12 Key Personnel will be assigned each of the tasks and subtasks. The overall Project Manager from Haystaq will be Andrew Drechsler who will be responsible to the ICRC, ICRC staff, specifically the ICRC Project Manager. We envision regular communication between the two Project Managers throughout the process (Slack, email, texting, etc.) to ensure tasks are being accomplished in a satisfactory and timely manner.</p>	

3 Acceptance

3.1 Final Acceptance

Final Acceptance is determined once the project data is successfully submitted and accepted on December 31, 2021. Any intermediate acceptance of sub-deliverables does not complete the requirement of Final Acceptance.

<input checked="" type="checkbox"/>	I have reviewed the above requirement and agree with no exception.
<input type="checkbox"/>	I have reviewed the above requirement and have noted all exception(s) below.
List all exception(s):	

4 Staffing

4.10 Contractor Representative

The Contractor must appoint one (1) contract administrator specifically assigned to the Commission account(s), who will respond to Commission inquiries regarding the Contract Activities, answer questions related to ordering and delivery, etc. (the "Contractor Representative").

The Contractor must notify the Contract Administrator at least 14 calendar days before removing or assigning a new Contractor Representative.

<input checked="" type="checkbox"/>	I have reviewed the above requirement and agree with no exception.
<input type="checkbox"/>	I have reviewed the above requirement and have noted all exception(s) below.
List all exception(s):	
Bidder must identify its Contract Administrator : Andrew Drechsler President HaystaqDNA andrew@haystaqdna.com 907 N ST NW Suite C1 Washington, DC 20001 Mobile: [REDACTED] Office: 202-546-4764	

4.11 Work Hours

The Contractor must provide Contract Activities during the Commission's normal working hours Monday – Friday, 7:00 a.m. to 6:00 p.m. EST and possible night and weekend hours depending on the requirements of the project.

<input type="checkbox"/>	I have reviewed the above requirement and agree with no exception.
<input type="checkbox"/>	I have reviewed the above requirement and have noted all exception(s) below.
List all exception(s):	
Our team is spread across three time zones and we can accommodate as needed. Furthermore, we understand the task at hand for the ICRC and the time constraints so we expect there will be requests and needs outside the hours and days stated.	

4.12 Key Personnel

The Contractor must identify all Key Personnel who will be directly responsible for the day-to-day operations of carrying out the key deliverables of the Contract ("Key Personnel"). Key Personnel must be specifically assigned to the Commission account, be knowledgeable on the contractual requirements, and respond to Commission inquiries within 24 hours.

Contractor's Key Personnel are expected to be available to participate in all ICRC meetings virtual or in person.

The Commission has the right to recommend and approve in writing the initial assignment, as well as any proposed reassignment or replacement, of any Key Personnel. Before assigning an individual to any Key Personnel position, Contractor will notify the Commission of the proposed assignment, introduce the individual to the Commission's Project Manager, and provide the Commission with a resume and any other information about the individual reasonably requested by the Commission. The Commission reserves the right to interview the individual before granting written approval. In the event the Commission finds a proposed individual unacceptable, the Commission will provide a written explanation including reasonable detail outlining the reasons for the rejection. The Commission may require a 30-calendar day training period for replacement personnel.

Contractor will not remove any Key Personnel from their assigned roles on this Contract without the prior written consent of the Commission. The Contractor's removal of Key Personnel without the prior written consent of the Commission is an unauthorized removal ("Unauthorized Removal"). An Unauthorized Removal does not include replacing Key Personnel for reasons beyond the reasonable control of Contractor, including illness, disability, leave of absence, personal emergency circumstances, resignation, or for cause termination of the Key Personnel's employment. Any Unauthorized Removal may be considered by the Commission to be a material breach of this Contract, in respect of which the Commission may elect to terminate this Contract for cause under the **Termination for Cause** section of the Standard Contract Terms. It is further acknowledged that an Unauthorized Removal will interfere with the timely and proper completion of this Contract, to the loss and damage of the Commission, and that it would be impracticable and extremely difficult to fix the actual damage sustained by the Commission as a result of any Unauthorized Removal. Therefore, Contractor and the Commission agree that in the case of any Unauthorized Removal in respect of which the Commission does not elect to exercise its rights under Termination for Cause, Contractor will issue to the Commission the corresponding credits set forth below (each, an "Unauthorized Removal Credit"):

i. For the Unauthorized Removal of any Key Personnel designated in the applicable Statement of Work, the credit amount will be \$25,000.00 per individual if Contractor identifies a replacement approved by the Commission and assigns the replacement to shadow the Key Personnel who is leaving for a period of at least 30-calendar days before the Key Personnel's removal.

ii. If Contractor fails to assign a replacement to shadow the removed Key Personnel for at least 30-calendar days, in addition to the \$25,000.00 credit specified above, Contractor will credit the Commission \$833.33 per calendar day for each day of the 30-calendar day shadow period that the replacement Key Personnel does not shadow the removed Key Personnel, up to \$25,000.00 maximum per individual. The total Unauthorized Removal Credits that may be assessed per Unauthorized Removal and failure to provide 30-calendar days of shadowing will not exceed \$50,000.00 per individual.

Contractor acknowledges and agrees that each of the Unauthorized Removal Credits assessed above: (i) is a reasonable estimate of and compensation for the anticipated or actual harm to the Commission that may arise from the Unauthorized Removal, which would be impossible or very difficult to accurately estimate; and (ii) may, at the Commission's option, be credited or set off

against any fees or other charges payable to Contractor under this Contract.

The Contractor must identify the Key Personnel, indicate where they will be physically located, describe the functions they will perform, and provide current chronological résumés.

<input checked="" type="checkbox"/>	I have reviewed the above requirement and agree with no exception.
<input type="checkbox"/>	I have reviewed the above requirement and have noted all exception(s) below.
List all exception(s):	

1. The Contractor must identify all Key Personnel that will be assigned to this contract in the table below which includes the following: Name and title of staff that will be designated as Key Personnel.
2. Key Personnel years of experience in the current classification.
3. Identify which of the required key personnel positions they are fulfilling.
4. Key Personnel's roles and responsibilities, as they relate to this RFP, if the Contractor is successful in being awarded the Contract. Descriptions of roles should be functional and not just by title.
5. Identify if each Key Personnel is a direct, subcontract, or contract employee.
6. Identify if each Key Personnel staff member is employed full-time (FT), part-time (PT) or temporary (T), including consultants used for the purpose of providing information for the proposal.
7. List each Key Personnel staff member's length of employment or affiliation with the Contractor's organization.
8. Identify each Key Personnel's percentage of work time devoted to this Contract.
9. Identify where each Key Personnel staff member will be physically located (city and Commission) during the Contract performance.

Key Personnel's roles and responsibilities

Andrew Drechsler, Haystaq - Project Manager

Andrew has worked with Haystaq for 13 years. He would be the Project Manager. Working closely with all members of the team to ensure tasks are completed. Furthermore, he would be the primary point of contact between the ICRC and Haystaq/Q2 Team

Karin Mac Donald, Q2 - Project Leader

Karin would be responsible for the overall management of the project. The map drawers and analysts working on plans on behalf of the ICRC would be supervised by Karin. Karin has been involved in redistricting projects for 23 years.

Ken Strasma, Haystaq - Redistricting Specialist and Technical Expert

Ken is Founder and CEO of Haystaq. Ken will bring his three cycles of redistricting experience to the team and provide assistance regarding the redistricting process and would be directly responsible for some of the analysis.

Jaime Clark, Q2 - GIS Specialist

Jaime has worked with Q2 for thirteen years and has worked on over a dozen redistricting projects including commissions. She will serve as a senior GIS analyst, and would be part of the team directly responsible for the majority of plan drawing.

Willie Desmond, Haystaq - GIS Specialist and Public Input Leader

Willie has worked with Haystaq for fifteen years in a variety of projects. He will serve as a senior GIS analyst, and would be part of the team directly responsible for the majority of plan drawing. Willie would be responsible for overseeing the collection, cataloging and analysis of public input. This would include testimony at public hearings, submissions directly to the CRC, and indirect comments gathered from social media.

John O'Neill, Haystaq - GIS Specialist

John has worked with Haystaq for ten years in a variety of projects. He will serve as a senior GIS analyst, and would be part of the team directly responsible for the majority of plan drawing. John would also be the person primarily responsible for training individuals on the use of the redistricting software selected.

Brad Wieneke, Haystaq - GIS Specialist

Brad has worked with Haystaq for twelve years. He will serve as a senior GIS analyst, and would be part of the team directly responsible for the majority of plan drawing.

Sue Ranochak, Q2 - Project Support

Sue has worked with Q2 for 4 years. She will help on the public input, project management updates and administrative tasks.

Adriana Rogers, Haystaq - Project Specialist

Adriana has worked with Haystaq for two years and will serve as a support role. Given her background and experiences, Adriana will be able to assist on any of the tasks.

1. Name	2. Years of Experience in current classification	3. Role(s) Responsibilities	4. Direct / Subcontractor	5. Fulltime (FT) Part-time (PT) Temporary (T)	5. % of Work Time	6. Physical Location
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Andrew Drechsler, Haystaq	20	Project Manager	Direct	FT	Up to 60%	Washington, DC
Karin Mac Donald, Q2	23	Project Leader	Subcontractor	FT	Up to 20%	Oakland, CA
Ken Strasma, Haystaq	31	Redistricting Specialist and Technical Expert	Direct	FT	Up to 30%	Middleton, WI
Jaime Clark, Q2	13	GIS Specialist	Subcontractor	FT	Up to 50%	Philo, CA
Willie Desmond, Haystaq	15	GIS Specialist	Direct	FT	Up to 50%	Warren, VT
John O'Neill, Haystaq	10	GIS Specialist	Direct	FT	Up to 40%	Grand Haven, MI
Brad Wieneke, Haystaq	20	GIS Specialist	Direct	FT	Up to 50%	Middleton, WI
Sue Ranochak, Q2	4	Project Support	Subcontractor	T	Up to 25%	Ukiah, CA
Adriana Rogers, Haystaq	2	Project Specialist	Direct	FT	Up to 50%	Portland, OR

A. The Contractor must provide **detailed, chronological resumes** of all proposed Key Personnel, including a description of their work experience relevant to their purposed role as it relates to the RFP utilizing the required resume template labeled as Appendix A

Qualifications will be measured by education and experience with particular reference to experience on projects similar to that described in the RFP.

Bidder must provide the resumes and information as required above –as an attachment to this RFP labelled as Contractor-Resume.

Attached as **Document 6_Contractor_Resumes_HaystaqDNA**

4.13 Organizational Chart

The Contractor must provide an overall organizational chart that details staff members, by name and title, and subcontractors.

Bidder must provide detailed information as required above – as an attachment to this RFP labelled as Contractor- Org. chart
Attached as Document 7_Contractor-Org_chart_HaystaqDNA

4.14 Disclosure of Subcontractors

If the Contractor intends to utilize subcontractors, the Contractor must disclose the following:

- The legal business name; address; telephone number; a description of subcontractor’s organization and the services it will provide; and information concerning subcontractor’s ability to provide the Contract Activities.
- The relationship of the subcontractor to the Contractor.
- Whether the Contractor has a previous working experience with the subcontractor. If yes, provide the details of that previous relationship.
- A complete description of the Contract Activities that will be performed or provided by the subcontractor.

Bidder must provide detailed information as requested in the above requirement(s).	
The legal business name, address, telephone number of the subcontractor(s).	Q2 Data & Research LLC 1225 Peralta Street Oakland, CA 94607 510-839-2546
A description of subcontractor’s organization and the services it will provide and information concerning subcontractor’s ability to provide the Contract Activities.	Q2 Data & Research is a certified small business located in Oakland, California. We bring a diverse team of professional women to our projects which includes political scientists, attorneys, and data specialists. Q2 specializes in commission and task force-led redistrictings that are transparent and maximize public access.
The relationship of the subcontractor to the Bidder.	Q2 is a separate entity from Haystaq but will be working collaboratively. As needed, Q2 will report to Haystaq.

Whether the Bidder has a previous working experience with the subcontractor. If yes, provide the details of that previous relationship.	The principles of each firm have been working together for two years on the Redistricting Data Hub, a nonpartisan effort to have redistricting data for all 50 states available at no cost.
A complete description of the Contract Activities that will be performed or provided by the subcontractor.	Q2 will be integrally involved with the Haystaq team in every aspect of the project from training to map drawing.
Of the total bid, the price of the subcontractor's work.	We anticipate Q2 to be 38% of the professional fee or about \$317,000.

4.15 Security

The Contractor may be subject to the following security procedures: Background Checks

The Commission may require the Contractor's personnel to wear Commission issued identification badges for in person meetings.

<input checked="" type="checkbox"/>	I have reviewed the above requirement and agree with no exception.
<input type="checkbox"/>	I have reviewed the above requirement and have noted all exception(s) below.
List all exception(s):	
Bidder must explain any additional security measures in place to ensure the security of the Commission and its facilities:	

5 Project Management

5.10 Project Plan

The Contractor will carry out this project under the direction and control of the Program Manager. Within 14 calendar days of the Effective Date, the Contractor must submit a final project plan to the Program Manager for approval. The plan must include: (a) the Contractor's organizational chart with names and title of personnel assigned to the project, which must align with the staffing stated in accepted proposals; and (b) the project breakdown showing sub projects, tasks, timeline, and resources required.

<input checked="" type="checkbox"/>	I have reviewed the above requirement and agree with no exception.
-------------------------------------	--

<input type="checkbox"/>	I have reviewed the above requirement and have noted all exception(s) below.
List all exception(s):	
Bidder must submit its project plan as described above: While the final plan will be presented within two weeks, we have included a schedule and plan below of what a project like this would look like.	

5.11 Meetings

The Contractor must be available to attend all ICRC meetings through December 31, 2021 either virtually or in person. The ICRC will give the vendor as much notice as practical however in no circumstances less than 18 hours of when they will be required to participate.

<input checked="" type="checkbox"/>	I have reviewed the above requirement and agree with no exception.
<input type="checkbox"/>	I have reviewed the above requirement and have noted all exception(s) below.
List all exception(s):	

5.12 Reporting

In addition to submitting weekly status reports to the Executive Director of the Commission the Contractor should also identify other reports that would be helpful in accomplishing the Key Deliverables.

<input checked="" type="checkbox"/>	I have reviewed the above requirement and agree with no exception.
<input type="checkbox"/>	I have reviewed the above requirement and have noted all exception(s) below.
List all exception(s):	
<p>Bidder must explain its reporting capabilities and any reporting that is included in its proposal:</p> <p>We see there being two main areas of reporting: 1) Project management, and 2) Map analysis.</p> <p>For 1) Project Management, we would provide the commission with updates at each meeting as to where we are compared to where we hope to be based on the project plan. With a project of this size, we do not expect every sub-task to be completed in exactly the time initially estimated. We will highlight any external factors that are causing delays to components of the work plan, and provide an analysis of the likely downstream impact of those delays. A slightly delayed stand-alone task is less of a concern than a task that is a critical dependency for a larger task. With this type of regular project management reporting, we will be able to keep the commission up-to-date on progress toward meeting the overall deadlines.</p> <p>2) Map analysis is an area with which Haystaq/Q2 has decades of experience. We are familiar with the basic reporting functionality of the major commercial GIS packages. In addition to running the standard report, we will often provide customized reports, For example, there are numerous measures of compactness. We will generally provide summary reports that show aggregate measures of compactness across all districts using all measures.</p>	

We also write code for custom reports like split geography reports shown below.

**Bidder must provide samples of required reports as attachments to this RFP.
List file names here.**

Attached As **Document 8_Example_Reoport_HaystaqDNA**

6 Pricing

6.10 Price Term

Pricing is firm for the entire length of the Contract.

<input type="checkbox"/>	I have reviewed the above requirement and agree with no exception.
<input checked="" type="checkbox"/>	I have reviewed the above requirement and have noted all exception(s) below.
List all exception(s): If the project extends beyond December 2021, we will revert to hourly billing.	

6.11 Price Changes

Adjustments will be based on changes in actual Contractor costs. Any request must be supported by written evidence documenting the change in costs. The Commission may consider sources, such as the Consumer Price Index; Producer Price Index; other pricing indices as needed; economic and industry data; manufacturer or supplier letters noting the increase in pricing; and any other data the Commission deems relevant.

Following the presentation of supporting documentation, both parties will have 30 days to review the information and prepare a written response. If the review reveals no need for modifications, pricing will remain unchanged unless mutually agreed to by the parties. If the review reveals that changes are needed, both parties will negotiate such changes, for no longer than 30 days, unless extended by mutual agreement.

The Contractor remains responsible for Contract Activities at the current price for all orders received before the mutual execution of a Change Notice indicating the start date of the new Pricing Period.

<input checked="" type="checkbox"/>	I have reviewed the above requirement and agree with no exception.
<input type="checkbox"/>	I have reviewed the above requirement and have noted all exception(s) below.

List all exception(s):

7 Ordering

7.10 Authorizing Document

The appropriate authorizing document for the Contract will be a Delivery Order

<input checked="" type="checkbox"/>	I have reviewed the above requirement and agree with no exception.
<input type="checkbox"/>	I have reviewed the above requirement and have noted all exception(s) below.
List all exception(s):	

8 Invoice and Payment

8.10 Invoice Requirements

All invoices submitted to the Commission must include: (a) date; (b) delivery order; (c) quantity; (d) description of the Contract Activities; (e) unit price; (f) shipping cost (if any); and (g) total price. Overtime, holiday pay, and travel expenses will not be paid.

<input checked="" type="checkbox"/>	I have reviewed the above requirement and agree with no exception.
<input type="checkbox"/>	I have reviewed the above requirement and have noted all exception(s) below.
List all exception(s):	

8.11 Payment Methods

The Commission will make payment for Contract Activities via EFT to the banking information established in your vendor account within SIGMA-Vendor Self-Service.

<input checked="" type="checkbox"/>	I have reviewed the above requirement and agree with no exception.
<input type="checkbox"/>	I have reviewed the above requirement and have noted all exception(s) below.
List all exception(s):	

8.12 Procedure

Invoices must be submitted to: [Suann Hammersmith, the Executive Director of the ICRC](#)

<input checked="" type="checkbox"/>	I have reviewed the above requirement and agree with no exception.
<input type="checkbox"/>	I have reviewed the above requirement and have noted all exception(s) below.
List all exception(s):	

9 Liquidated Damages

Late or improper completion of the Contract Activities will cause loss and damage to the Commission and it would be impracticable and extremely difficult to fix the actual damage sustained by the Commission. Therefore, if there is late or improper completion of the Contract Activities the Commission is entitled to collect liquidated damages in the amount of \$50,000 and an additional \$1,000 per day for each day Contractor fails to remedy the late or improper completion of the Work.

<input checked="" type="checkbox"/>	I have reviewed the above requirement and agree with no exception.
<input type="checkbox"/>	I have reviewed the above requirement and have noted all exception(s) below.
List all exception(s):	

Document 6 -- Contractor Resumes

HaystaqDNA & Q2 Data & Research

Note: Due to the number of clients that HaystaqDNA has had over the last three years it is not practical for each consultant to list all clients/projects they have worked with. We instead include a list of all of our clients in Document 9 -- HaystaqDNA and Q2 Clients from the Past Three Years

Andrew Drechsler

Proposed Resource Name:	Andrew Drechsler
Proposed Classification:	<i>Project Manager</i>
Key Personnel:	Yes
If resource is associated with a subcontractor provide name of company:	
Percentage of time resource will be allocated to project:	<i>Up to 60%</i>

The experience requirements detailed in the RFP are restated as follows:

Required Skills	Bidder's Response
Describe your experience and knowledge with Geographic Information Systems redistricting solutions and the associated boundary, demographic and other data sources used for redistricting mapping.	<p>Does resource have this required skill: <i>Yes</i></p> <p>Description of skills and experience: <i>Used Maptitude to draw hundreds of iterations of Arizona, Florida congressional, state house and state senate maps. Converted maps of all different formats into Maptitude and Google Earth (KML) maps. Have used Esri products to display map related data.</i></p> <p>Name of project(s) and year(s) experience was obtained: <i>Florida Fair Districts Now(FDN) Project – 2011-2014</i> <i>Arizona Independent Redistricting Commission (AIRC) -- 2011</i></p>
Describe your experience working with commissions, public officials, and the general public in similar projects.	<p>Does resource have this required skill: <i>Yes, significant experience</i></p> <p>Description of skills and experience: <i>Attended hundreds of hours of public hearings on behalf of the Arizona Independent Redistricting Commission in 2011. Co-Founded Redistricting Data Hub, provided trainings to good government organizations on increasing participation of communities of interest and increased the accessibility of redistricting data in all 50 states</i></p> <p>Name of project(s) and year(s) experience was</p>

	obtained: <i>AIRC, 2011</i> <i>Redistricting Data Hub, 2019 to present</i>
Describe your knowledge and experience with the necessary validation checks that need to be part of a redistricting plan (for example, checking population totals, continuity, compactness, etc).	Does resource have this required skill: Yes Description of skills and experience: <i>Ran hundreds of summary level statistics checking for competitiveness, county line breaks, and compactness. Ran custom analysis such as racial block voting on request</i> Name of project(s) and year(s) experience was obtained: <i>Florida Fair Districts Now(FDN) Project – 2011</i> <i>Arizona Independent Redistricting Commission (AIRC) -- 2011</i>

List client references for work performed to meet the requirements stated above, and all projects the proposed resource has worked on in the last three (3) years. A minimum of three (3) references are required. By submission of this information, the bidder and identified key person authorize the State of Michigan to contact references and previous employers provided to verify the accuracy of the information. Provide the identified information for each:

Start Date: <i>January 2019</i>	End Date: <i>Ongoing</i>
Client/Project: <i>Redistricting Data Hub</i> <ul style="list-style-type: none"> • <i>Contact and reference: Cathy Duvall, Advisor and Co-Founder of the RDH, [REDACTED]</i> Employer: <i>HaystaqDNA</i> Title/Percentage of time: <i>Co-Founder and Senior Consultant, 25% of time since January 2019</i> Description: <i>Co-founded nonpartisan organization to make all the data and knowledge necessary to effectively participate in the redistricting process widely available. Built and managed team of 10 Data Analysts and Support staff. Held calls with dozens of experts from civil rights and good government groups to identify common data needs. Established Stakeholder Group involving over 30 good government national organizations. Established an Advisory Data Council of leading academic voices in redistricting. Presented regular updates to foundation funders, manage budget, oversee quality control process on trainings</i>	

Start Date: <i>April 2019</i>	End Date: <i>May 2020</i>
Client/Project: <i>Sanders for President</i> <ul style="list-style-type: none"> • <i>Contact and reference: Jeff Weaver, [REDACTED]</i> Employer: <i>HaystaqDNA</i> Title/Percentage of time: <i>President, HaystaqDNA, 50-75% of time</i> Description: <i>Haystaq provided predictive analytics, data processing and targeting services for the Sanders campaign. Served as in-house campaign liaison between Haystaq and senior management. Work closely with the campaign on strategy and priorities. Project included extensive thematic mapping, analysis of population density for door-to-door contacts, and targets by geography for broadcast television targeting.</i>	

Start Date: 2014	End Date: Current
Client/Project: <i>l2political.com</i> • Contact and reference: Paul Wescott, [REDACTED]	
Employer: <i>HaystaqDNA</i>	
Title/Percentage of time: 20%	
Description: <i>Partnered to develop and designed a series of Political and Consumer Issue models to sell on the L2 votermapping platform. Oversaw the budget and marketing of the program which included running surveys yearly and update the program every year to make sure the models reflect current events. The models are used by over a thousand clients, including nearly 300 members of congress for constituent outreach.</i>	

EDUCATION

Education		
Degree (i.e. PhD, Master's, Bachelors)	MBA	Year Completed: 2006
Program	<i>Johns Hopkins Carey Business School</i>	
University	<i>Johns Hopkins University Baltimore, MD</i>	

Additional Education		
Degree (i.e. PhD, Master's, Bachelors)	<i>Bachelors of Arts</i>	Year Completed: 1997
Program	Major(s) area of study: <i>Politics & Government Economics Global Studies</i>	Minor area of study: <i>History</i>
University	<i>Ripon College Ripon, Wisconsin</i>	

TRAINING

Technical or Professional Training	
Course Name	<i>Various trainings over the years on Maptitude, ArcGIS, Redistricting topics from Differential Privacy to Voting Rights Act</i>
Topic	<i>(include credit hours if applicable)</i>
Date taken	

Karin Mac Donald

Proposed Resource Name:	Karin Mac Donald
Proposed Classification:	<i>Project Leader</i>
Key Personnel:	Yes
If resource is associated with a subcontractor provide name of company:	Q2 Data & Research, LLC
Percentage of time resource will be allocated to project:	<i>Up to 20%</i>

The experience requirements detailed in the RFP are restated as follows:

Required Skills	Bidder's Response
Describe your experience and knowledge with Geographic Information Systems redistricting solutions and the associated boundary, demographic and other data sources used for redistricting mapping.	<p>Does resource have this required skill: Yes Description of skills and experience: <i>Mac Donald has over 25 years of experience with redistricting GIS and the associated data, including other data sources used for redistricting mapping. She has served as the Director of the Statewide Database, California's redistricting database, since 1996. Under her direction, the database became the first transparent, public, free-of-charge, longitudinal database in the U.S., serving all relevant redistricting data along with GIS files. Mac Donald has also worked as a redistricting consultant to many jurisdictions, overseeing the building of local datasets, assessing boundary lines against the census TIGER line file and integrating Community of Interest data that were collected from the public. Mac Donald served as a board member for the public mapping project leading up to the 2010 redistricting, and has evaluated redistricting software for the last 3 cycles of redistricting. She has also served as the State of California liaison to the Redistricting and Voting Rights Data office, and has collaborated with that office on boundary projects such as the Census Block Boundary Suggestion Project in '98, '08 and '16</i></p> <p>Name of project(s) and year(s) experience was obtained: <i>California Statewide Database; 1996 – present Q2 Data & Research; 2004 – present Karin Mac Donald, Data Consulting; 1998 - 2004</i></p>
Describe you experience working with commissions, public officials, and the general public in similar projects.	<p>Does resource have this required skill: Yes Description of skills and experience: <i>Mac Donald, in her capacity as Principal Consultant with Q2 (and previous to that as a sole proprietor), began her work with redistricting commissions in 2001 in her work with the San Diego Redistricting Commission. This project was completely transparent and inclusive, and included features such as redistricting assistance sites where members of the public could draw their own lines and work on their testimony to the commission. The districts were drawn in public and the meetings were broadcast over local public TV. The</i></p>

	<p><i>redistricting hearings that year had the highest viewership of all government TV programs in San Diego, and the participation of the public was unheard of! This redistricting was rewarded with a national award.</i></p> <p><i>The same methodology that was implemented in San Diego, was implemented in Mac Donald's next project: for the City and County of San Francisco's Election Task Force on Redistricting. This project included multiple public meetings in each supervisorial district where consultants worked with the commission and members of the public on leveling the playing field by providing training on data and processes, and setting the stage for an inclusive, friendly environment that allowed everyone interested to participate.</i></p> <p><i>Even in districtings that did not have commissions, Mac Donald has set up community meetings where members of the public could come together to deliberate on district lines that would work for their areas, to then propose to the Council.</i></p> <p><i>Mac Donald, in her capacity as Director of the Statewide Database, has over 25 years of experience working with public elected and appointed officials. She regularly works with California Registrars of Voters, has testified on redistricting related bills in the State Legislature and has worked with local public officials on various projects.</i></p> <p>Name of project(s) and year(s) experience was obtained: 2001 – City of San Diego Redistricting Commission 2002/2012 – City and County of San Francisco Election Task Force on Redistricting 1996-present – Director of the Statewide Database</p>
<p>Describe your knowledge and experience with the necessary validation checks that need to be part of a redistricting plan (for example, checking population totals, continuity, compactness, etc).</p>	<p>Does resource have this required skill: Yes</p> <p>Description of skills and experience: <i>As described above, Mac Donald has many years of experience working with redistricting data, which necessarily involves verifying population numbers. In all of her local and statewide redistricting projects, Mac Donald implemented validation checks such as assignment and contiguity checks. Depending on the project, compactness measures were also run on the district to ensure compliance with the legal criterion. Running validation checks is a regular process that, for an experienced redistricting consultant like Mac Donald, is second nature.</i></p> <p>Name of project(s) and year(s) experience was obtained: Q2 - All projects since 2001 Statewide Database – normal procedure since 1996</p>

List client references for work performed to meet the requirements stated above, and all projects the proposed resource has worked on in the last three (3) years. A minimum of three (3) references are required. By submission of this information, the bidder and identified key person authorize the State of Michigan to contact references and previous employers provided to verify the accuracy of the information. Provide the identified information for each:

Start Date: April 2011	End Date: October 2011
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Client/Project: *California Citizens Redistricting Commission; Redrawing the California State Assembly, Senate, Board of Equalization and Congressional Districts.*

Employer: *California Citizens Redistricting Commission; Commissioner Michelle DiGuilio; 1 (209) 471-2486*

Title/Percentage of time: *Principal Consultant; 90%*

Description: *Mac Donald was responsible for all aspects of this project including staff management and assignments and the overall implementation of the technical line drawing operation. Mac Donald served as the primary contact to the commission, the executive director, legal counsel and commission personnel. She attended most input hearings and commission meetings and assisted the commission with any questions or requests that arose.*

Start Date: <i>1996</i>	End Date: <i>Ongoing</i>
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Client/Project: *Statewide Database*

Employer: *Prof. Bruce E. Cain; UC Berkeley; [REDACTED]*

Title/Percentage of time: *100%*

Description: *Mac Donald is responsible for every aspect of this redistricting database, from collecting the data to publishing it. This includes the implementation of census data adjustments to reallocate inmates to their last known residential address.*

Start Date: <i>2001</i>	End Date: <i>2001</i>
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Client/Project: *San Diego Redistricting Commission*

Employer: *San Diego Redistricting Commission; Prof. Leland Saito, Commissioner; [REDACTED]*

Title/Percentage of time: *30%*

Description: *Principal Consultant to the Commission, responsible for collaborating with the commission to implement all aspects of an open and transparent redistricting process including the technical line drawing operation.*

EDUCATION

Education		
Degree (i.e. PhD, Master's, Bachelors)	Master in Political Science	Year Completed: 1998
Program	Department of Political Science; Ph.D program	
University	University of California, Berkeley; Berkeley, CA	

Additional Education		
Degree (i.e. PhD, Master's, Bachelors)	<i>B.A.</i>	Year Completed: <i>1994</i>
Program	<i>Political Science</i>	
University	<i>University of California, Berkeley; Berkeley, CA</i>	

Ken Strasma

Proposed Resource Name:	Ken Strasma
Proposed Classification:	<i>Redistricting Specialist and Technical Expert</i>
Key Personnel:	Yes
If resource is associated with a subcontractor provide name of company:	
Percentage of time resource will be allocated to project:	<i>Up to 30%</i>

The experience requirements detailed in the RFP are restated as follows:

Required Skills	Bidder's Response
Describe your experience and knowledge with Geographic Information Systems redistricting solutions and the associated boundary, demographic and other data sources used for redistricting mapping.	Does resource have this required skill: Yes Description of skills and experience, projects and years obtained: <i>Have used Geographic Information Systems including ArcView, Maptitude, Manifold and custom programmed GIS tools for redistricting projects in every decennial redistricting since 1990. Between redistricting cycles, have used GIS for data analysis and thematic data display in numerous commercial, marketing and public interest projects.</i>
Describe your experience working with commissions, public officials, and the general public in similar projects.	Does resource have this required skill: Yes Description of skills and experience, projects and years obtained: <i>Attended numerous public input hearings for WI redistricting in role as lead statistician for the WI Assembly Democratic redistricting office in 1990. Worked with dozens Members of Congress and public interest groups in support of nationwide congressional and state legislative redistricting operations in the 2001 redistricting cycle. Attended hundreds of hours of public hearings on behalf of the Arizona Independent Redistricting Commission in 2011.</i>
Describe your knowledge and experience with the necessary validation checks that need to be part of a redistricting plan (for example, checking population totals, continuity, compactness, etc).	Does resource have this required skill: Yes Description of skills and experience, projects and years obtained: <i>Familiar with all validation reports in industry standard redistricting packages. Has presented extensively on measures of compactness and racial block voting analysis in trainings and redistricting workshops. Developed custom reports as needed when redistricting clients have needed reports not included on commercial redistricting software. This work has been done for hundreds of maps in every redistricting cycle since 1990.</i>

List client references for work performed to meet the requirements stated above, and all projects the proposed resource has worked on in the last three (3) years. A minimum of three (3) references are required. By submission of this information, the bidder and identified key person authorize the State of Michigan to contact references and previous employers provided to verify the accuracy of the information. Provide the identified information for each:

Start Date: <i>date started on project</i>	End Date: <i>Ongoing</i>
<p>Client/Project: <i>Allium Health</i></p> <ul style="list-style-type: none"> Contact and reference: <i>Nick Reding, [REDACTED]</i> <p>Employer: <i>HaystaqDNA</i></p> <p>Title/Percentage of time: <i>CEO of Haystaq. Supervised data science efforts. Between 20% and 80% of time.</i></p> <p>Description: <i>Provided predicting modeling for a number of healthcare projects. Projects have included geo-spatial analysis components, such as drive time or commute time to nearest urgent care clinics, and concentrations of potential patients for use in siting new healthcare practices.</i></p>	

Start Date: <i>April 2019</i>	End Date: <i>May 2020</i>
<p>Client/Project: <i>Sanders for President</i></p> <ul style="list-style-type: none"> Contact and reference: <i>Jeff Weaver, [REDACTED]</i> <p>Employer: <i>HaystaqDNA</i></p> <p>Title/Percentage of time: <i>CEO HaystaqDNA. Between 30% and 90% of time.</i></p> <p>Description: <i>Haystaq provided predictive analytics, data processing and targeting services for the Sanders campaign. Project included extensive thematic mapping, analysis of population density for door-to-door contacts, and targets by geography for broadcast television targeting.</i></p>	

Start Date: <i>8/1/2020</i>	End Date: <i>Ongoing</i>
<p>Client/Project: <i>Advisory Board for the Arts.</i></p> <ul style="list-style-type: none"> Contact and reference: <i>Pope Ward, [REDACTED]</i> <p>Employer: <i>HaystaqDNA</i></p> <p>Title/Percentage of time: <i>Consultant. Between 5% and 30% of time.</i></p> <p>Description: <i>Provided analysis of donors, patrons and ticket buyers for performing arts organizations.</i></p>	

EDUCATION

Education		
Degree (i.e. PhD, Master's, Bachelors)	<i>Bachelor's degree</i>	<i>Year Completed: 1992</i>
Program	<i>Major(s) area of study: Political Science</i>	
University	<i>University of Wisconsin, Madison</i>	

TRAINING

Technical or Professional Training	
Course Name	<i>Various</i>
Topic	<i>GIS, including ArcView and Maptitude. Statistics and machine learning, including R, python and SPSS</i>
Date taken	<i>Ongoing. Frequently contracted for numerous on-site and remote trainings for Haystaq staff so as to remain current with the state of the art in statistics, machine learning and GIS.</i>

Jaime Clark

Proposed Resource Name:	Jaime Clark
Proposed Classification:	GIS Specialist
Key Personnel:	Yes
If resource is associated with a subcontractor provide name of company:	Q2 Data & Research, LLC
Percentage of time resource will be allocated to project:	Up to 50%

The experience requirements detailed in the RFP are restated as follows:

Required Skills	Bidder's Response
Describe your experience and knowledge with Geographic Information Systems redistricting solutions and the associated boundary, demographic and other data sources used for redistricting mapping.	<p>Does resource have this required skill: Yes</p> <p>Description of skills and experience: <i>Over the past 11 years, Clark has worked with Commissions and Elected officials as the GIS consultant in districtings and redistrictings in jurisdictions throughout the State of California. In 2011, Clark was responsible for drawing the northern California and Central Coast and Central Valley Assembly, Senate, Congressional and Board of Equalization Districts, working with the California's Citizens Redistricting Commission (CRC). Clark is extremely familiar with Census and other datasets as they apply to mapping. In 2011, Clark mapped each of California's Federal Voting Rights Act Section V districts, and have used the Citizen Voting Age Population (CVAP) data merged to census geography to create numerous Section II districts under the California Voting Rights Act for local jurisdictions as well. Clark has worked extensively with census geography and data in compiling redistricting datasets for local jurisdictions as well as verifying administrative boundaries of jurisdictions against census geography.</i></p> <p><i>In her current role at the Statewide Database, the redistricting Database for the State of California, Clark conceptualized the design and oversaw development of the State of California's Community of Interest (COI) Tool, through which members of the public can develop Community of Interest testimony, draw their COIs using census geography including census blocks, and submit their COI input directly to the CRC. In this capacity Clark has additionally tested every Community of Interest creation and redistricting software known to her, assessing each for suitability for facilitating public access to participation in California's 2021 statewide redistricting process.</i></p> <p>Name of project(s) and year(s) experience was obtained: <i>Redistricting Consultant – 2011 to present; Redistricting Data & Access Coordinator, The CA Statewide Database – 2019 to</i></p>

	<i>present</i>
Describe your experience working with commissions, public officials, and the general public in similar projects.	<p>Does resource have this required skill: Yes</p> <p>Description of skills and experience: <i>Throughout her career as a redistricting consultant, Clark has worked closely with commissions and public officials to create re/districting plans based on the direction of the redistricting body. In this role she has developed materials and conducted trainings for redistricting commissions, public officials, and community members on general redistricting policy and the unique circumstances of each project. As a redistricting consultant, Clark has exclusively worked on transparent processes with a focus on public input. Clark has led round table-style discussions to construct districts with the public and has worked with numerous community groups and individuals in developing their input and proposals in districting projects. She has hosted numerous Community of Interest workshops where members of the public could capture their COIs on local census geography and submit their testimony to the redistricting process.</i></p> <p>Name of project(s) and year(s) experience was obtained: <i>Redistricting Consultant – 2011 to present</i></p>
Describe your knowledge and experience with the necessary validation checks that need to be part of a redistricting plan (for example, checking population totals, continuity, compactness, etc).	<p>Does resource have this required skill: Yes</p> <p>Description of skills and experience: <i>Clark has over a decade of hands-on experience with redistricting plan verification checks and reports. As previously noted, Clark has constructed redistricting datasets for local jurisdictions, an inherent part of that process is checking population totals. In every re/districting process in which Clark has acted as a mapping consultant, the necessary checks and reports, such as contiguity checks, were run as a necessary step in verifying and finalizing redistricting plans.</i></p> <p>Name of project(s) and year(s) experience was obtained: <i>Redistricting Consultant – 2011 to present</i></p>

Start Date: <i>01/2019</i>	End Date: <i>Ongoing</i>
<p>Client/Project: <i>The Statewide Database at Berkeley Law; Karin Mac Donald</i> XXXXXXXXXX</p> <p>Employer: <i>The Statewide Database at Berkeley Law</i></p> <p>Title/Percentage of time: <i>Redistricting Data & Access Manager; 100%</i></p> <p>Description: <i>Overseeing development of tools designed to facilitate public access to California's upcoming statewide redistricting process. Researching and testing redistricting GIS softwares; assessing functionality and suitability as public access tools to the redistricting process for the State of California. Collaborating with advocacy groups and community-based organizations throughout California to support public education and</i></p>	

engagement in statewide and local redistricting processes.

Start Date: April 2011	End Date: October 2011
Client/Project: California Citizens Redistricting Commission; Redrawing the California State Assembly, Senate, Board of Equalization and Congressional Districts.	
Employer: California Citizens Redistricting Commission; Commissioner Michelle DiGuilio [REDACTED]	
Title/Percentage of time: Line Drawer; 100%	
Description: In the 2011 redistricting cycle, Clark was responsible for redrawing California's State Senate, State Assembly, Congressional, and Board of Equalization districts for northern California and the Central Coast and Central Valley regions. In this role, Clark mapped all of California's Section V districts under the Federal Voting Rights Act. She attended all public input hearings in these areas and digitized hundreds of Communities of Interests received during and outside of these hearings for consideration in the California Citizens Redistricting Commission's line drawing process.	

EDUCATION

Education		
Degree (i.e. PhD, Master's, Bachelors)	Bachelor's Degree in Anthropology	Year Completed: 2006
Program	Major(s) area of study: Medical Anthropology; Primatology	
University	University of California Santa Cruz -- Santa Cruz, CA	

William Desmond

Proposed Resource Name:	William Desmond
Proposed Classification:	GIS Specialist
Key Personnel:	Yes
If resource is associated with a subcontractor provide name of company:	
Percentage of time resource will be allocated to project:	up to 50%

The experience requirements detailed in the RFP are restated as follows:

Required Skills	Bidder's Response
Describe your experience and knowledge with Geographic Information Systems redistricting solutions and the associated boundary, demographic and other data sources used for redistricting mapping.	<p>Does resource have this required skill: Yes</p> <p>Description of skills and experience: Personally drew, at the direction of the Arizona Independent Redistricting Commission, the Congressional and Legislative maps for use during the 2012-2020 elections. Has produced hundreds of iterations of congressional and state legislative maps. 15+ years experience using products like Maptitude and Arcview</p> <p>Name of project(s) and year(s) experience was obtained: Redistricting Consultant – 2011 Arizona Independent Redistricting Commission</p>
Describe your experience working with commissions, public officials, and the general public in similar projects.	<p>Does resource have this required skill: Yes</p> <p>Description of skills and experience: Provided advice and analysis to the Commission pertaining to Arizona's Constitutional Criteria, the Voting Rights Act, and proposed district boundaries. Presented information about Arizona's redistricting process, law, and history to members of the public at dozens of public hearings held around the state. Worked with Commission staff to answer public and press inquiries about proposed and final maps.</p> <p>Name of project(s) and year(s) experience was obtained: Redistricting Consultant – 2011 Arizona Independent Redistricting Commission</p>
Describe your knowledge and experience with the necessary validation checks that need to be part of a redistricting plan (for example, checking population totals, continuity, compactness, etc).	<p>Does resource have this required skill: Yes</p> <p>Description of skills and experience: Produced custom research and reports for the commission's redistricting preclearance application to the United States Department of Justice. For the first time in Arizona history both the Legislative and Congressional maps achieved preclearance for sections two and five of the Voting Rights Act on the first try.</p> <p>Name of project(s) and year(s) experience was obtained: Redistricting Consultant – 2011 Arizona Independent Redistricting Commission</p>

List client references for work performed to meet the requirements stated above, and all projects the proposed resource has worked on in the last three (3) years. A minimum of three (3) references are

required. By submission of this information, the bidder and identified key person authorize the State of Michigan to contact references and previous employers provided to verify the accuracy of the information. Provide the identified information for each:

Start Date: <i>July 2020</i>	End Date: <i>Oct 2020</i>
<p>Client/Project: <i>California Legislative Modeling</i></p> <ul style="list-style-type: none"> Contact and reference: <i>Tulchin Research, Ben Tulchin,</i> [REDACTED] <p>Employer: <i>HaystaqDNA</i></p> <p>Title/Percentage of time: <i>Vice President/Client Relations Manager/75%</i></p> <p>Description: <i>Served as client manager. Worked with Tulchin Research to create and administer surveys. Wrote dependent variables to be modeled by staff. Presented the results and advised the end clients on how to use the models.</i></p>	

Start Date: <i>April 2020</i>	End Date: <i>May 2020</i>
<p>Client/Project: <i>Sanders for President</i></p> <ul style="list-style-type: none"> Contact and reference: <i>Jeff Weaver,</i> [REDACTED] <p>Employer: <i>HaystaqDNA</i></p> <p>Title/Percentage of time: <i>50-100%</i></p> <p>Description: <i>Analyst/Researcher for Bernie Sanders Presidential Run. Did deep dives correlating the results of phone calls to constituents to modeled reports. Recommended to the campaign the best combinations of models to use for contact and donor universes.</i></p>	

Start Date: <i>August 2020</i>	End Date: <i>Ongoing</i>
<p>Client/Project: <i>Advisory Board for the Arts</i></p> <ul style="list-style-type: none"> Contact and reference: <i>Pope Ward,</i> [REDACTED] <p>Employer: <i>HaystaqDNA</i></p> <p>Title/Percentage of time: <i>Client Manager/Consultant. Up to 50% of time.</i></p> <p>Description: <i>Client Manager. Worked with clients to ingest CRM data from 10 discreet Arts/Performance organizations. Matched data with commercially available data. Wrote dependent variables for modeling by the staff. Presented the results and recommended use case for clients. Managed a very successful SMS based fundraising operation for one of the end clients.</i></p>	

EDUCATION

Education		
Degree (i.e. PhD, Master's, Bachelors)	<i>MBA</i>	<i>Year Completed: 2015</i>
Program	<i>MBA</i>	
University	<i>Arizona State University</i>	

Additional Education		
Degree (i.e. PhD, Master's, Bachelors)	<i>Bachelor of Arts</i>	Year Completed: 2006
Program	Major(s) area of study: <i>Political Communication</i>	
University	<i>The George Washington University</i>	

TRAINING – Provide any relevant technical or professional training related to the role resource will be providing on this project.

Technical or Professional Training	
Course Name	
Topic	<i>Various Trainings in GIS software and modeling</i>
Date taken	

John O'Neill

Proposed Resource Name:	John O'Neill
Proposed Classification:	GIS Specialist
Key Personnel:	Yes
If resource is associated with a subcontractor provide name of company:	
Percentage of time resource will be allocated to project:	Up to 40%

The experience requirements detailed in the RFP are restated as follows:

Required Skills	Bidder's Response
Describe your experience and knowledge with Geographic Information Systems redistricting solutions and the associated boundary, demographic and other data sources used for redistricting mapping.	<p>Does resource have this required skill: Yes</p> <p>Description of skills and experience: <i>Extremely familiar with all the tools and data necessary for redistricting. Personally used GIS software to create the nonpartisan remedial State Senate and Congressional districts currently used in Florida, and gathered and processed the relevant boundary, demographic and other data for expert witnesses to perform RPV and other analyses for the court. Recognized that precinct boundaries would be a key dataset for the 2021 redistricting cycle, and set up precinct boundary collection projects at the Princeton Gerrymandering Project and the MIT/Tufts Metric Geometry and Gerrymandering Group in 2018 to make sure those datasets would be publicly available nationwide. Subsequently, as Director of the Redistricting Data Hub, have worked to coordinate the collection of all other data necessary for redistricting (ACS CVAP data, national voterfile information, boundary data, etc). Have worked with these different data sets to make maps, as well as worked to make them widely available and easily accessible to others.</i></p> <p>Name of project(s) and year(s) experience was obtained: <i>Florida Fair Districts, 2015. Princeton University, 2018. MIT/Tufts MGGG VRDI, 2018. Redistricting Data Hub, 2019-present.</i></p>
Describe your experience working with commissions, public officials, and the general public in similar projects.	<p>Does resource have this required skill: Yes</p> <p>Description of skills and experience: <i>Was responsible for reviewing and "coding" public testimony for mapdrawers and the 2011 Arizona Independent Redistricting Commission. Worked as a Policy Fellow for Los Angeles Unified School District Board Member Steve Zimmer, attending public sessions, preparing reports and meeting with other LAUSD Board Members. Served as a member of the Boyle Heights Planning and Land Use Commission in 2015-2016, engaging with members of the public through meetings, hearings and privately. As a Computational Research Specialist at Princeton University and as an Instructor at the MIT/Tufts MGGG Voting Rights Data Institute, trained a dozen staff and volunteers to contact county level election officials to</i></p>

	<p><i>respectfully and effectively gather essential precinct boundary data needed for redistricting.</i></p> <p>Name of project(s) and year(s) experience was obtained: <i>AIRC, 2011. LAUSD, 2014. Boyle Heights Planning and Land Use Commission, 2015-2016. Princeton University, 2018. MIT/Tufts MGGG VRDI, 2018. Redistricting Data Hub, 2019-present.</i></p>
<p>Describe your knowledge and experience with the necessary validation checks that need to be part of a redistricting plan (for example, checking population totals, continuity, compactness, etc).</p>	<p>Does resource have this required skill: Yes</p> <p>Description of skills and experience: <i>Extremely experienced with running all the validation checks for redistricting. As the sole mapdrawer in 2015 for the Florida Fair Districts Now lawsuits was responsible for running thousands of checks to assess compliance of my own or other maps with the equal population, contiguity, compactness, city & county splits, and all other criteria. As Director of the Redistricting Data Hub have designed and run trainings that include how to check whether maps comply with these criteria on a wide range of redistricting software.</i></p> <p>Name of project(s) and year(s) experience was obtained: <i>Fair Districts, 2015. Redistricting Data Hub, 2019-present.</i></p>

List client references for work performed to meet the requirements stated above, and all projects the proposed resource has worked on in the last three (3) years. A minimum of three (3) references are required. By submission of this information, the bidder and identified key person authorize the State of Michigan to contact references and previous employers provided to verify the accuracy of the information. Provide the identified information for each:

Start Date: <i>April 2019</i>	End Date: <i>Ongoing</i>
<p>Client/Project: <i>Redistricting Data Hub</i></p> <ul style="list-style-type: none"> • <i>Contact and reference: Cathy Duvall, Co-Founder & Advisor to the Redistricting Data Hub, [REDACTED]</i> <p>Employer: <i>Redistricting Data Hub</i></p> <p>Title/Percentage of time: <i>Co-Founder & Executive Director, 40-90%</i></p> <p>Description: <i>Co-founded nonpartisan organization to make all the data and knowledge necessary to effectively participate in the redistricting process widely available. Manage team of ~10 Data Analysts and Support staff. Held calls with dozens of experts from civil rights and good government groups to identify common data needs. Designed and ran trainings using Representable, Districtr, Dave's Redistricting App 2020 and Maptitude for Redistricting Online & Desktop.</i></p>	

Start Date: <i>January 2019</i>	End Date: <i>Ongoing</i>
<p>Client/Project: <i>Allium Health</i></p> <ul style="list-style-type: none"> • <i>Contact and reference: Nick Reding, Founder, nick@alliumhealth.com</i> <p>Employer: <i>Allium Health</i></p> <p>Title/Percentage of time: <i>Director of Analytics, 10-60%</i></p>	

Description: *Processed large datasets of sensitive PHI and PII in a secure environment. Used Census geographies, Python and GIS software to create map reports about communities for clients.*

Start Date: *June 2020*

End Date: *November 2020*

Client/Project: *KBZW Law*

- *Contact and reference: Fritz Wermuth, Attorney*

Employer: *King, Blackwell, Zehnder & Wermuth, P.A.*

Title/Percentage of time: *Freelance Data Analyst, 5-15%*

Description: *Cleaned and analyzed datasets to support ongoing litigation.*

Start Date: *November 2019*

End Date: *March 2020*

Client/Project: *PredictHealth*

- *Contact and reference: Shub Debgupta, Founder,*

Employer: *PredictHealth*

Title/Percentage of time: *Freelance Data Analyst, 10-40%*

Description: *Automated daily reports for regularly updated client datasets. Cleaned, processed and merged multiple datasets for light cluster analysis.*

Start Date: *June 2018*

End Date: *August 2018*

Client/Project: *Princeton Gerrymandering Project*

- *Contact and reference: Brian Remlinger, Lead Analyst*

Employer: *Princeton University*

Title/Percentage of time: *Computational Research Specialist, 100%*

Description: *Managed a team of two python developers & a GIS expert to develop a national precinct shapefile database, establishing data standards and developing large-scale collection and automation tools for public use. Drew legally admissible demonstrative statewide redistricting maps. Trained and supervised students for statewide Ohio precinct data collection as an Instructor at MIT/Tufts's Metric Geometry and Gerrymandering Group's summer Voting Rights Data Institute.*

Start Date: *March 2015*

End Date: *February 2016*

Client/Project: *Boyle Heights Planning and Land Use Commission*

Employer: *N/A*

Title/Percentage of time: *Member, 5-10%*

Description: *Supported affordable, transit oriented housing projects in a community of 100k.*

Analyzed proposed developments and voted to recommend approval or denial of permits.

Start Date: <i>March 2015</i>	End Date: <i>December 2015</i>
Client/Project: <i>Florida Fair Districts Now lawsuits</i>	
Employer: <i>King, Blackwell, Zehnder & Wermuth, P.A.</i>	
Title/Percentage of time: <i>Data & Redistricting Expert, 90-100%</i>	
<p>Description: <i>Drew nonpartisan State Senate and Congressional district maps for plaintiffs. Processed large demographic and election datasets for maps and analysis. Used GIS to generate datasets for RPV functional analysis by academic expert witness. Testified multiple times in court, leading to adoption of my maps by the court over Republican and Democratic preferred alternatives—the first time a congressional map was ever successfully challenged as a partisan gerrymander, struck down, and replaced by a nonpartisan alternative. “I found him to be straightforward in his testimony, logical in his approach to drawing the districts, and persuasive in his conclusions.” Judge Terry Lewis, quoted by FL Supreme Court in majority decision.</i></p>	

Start Date: <i>January 2014</i>	End Date: <i>May 2014</i>
Client/Project: <i>Los Angeles Unified School District School Board</i>	
Employer: <i>LAUSD Board Member Steve Zimmer</i>	
Title/Percentage of time: <i>Policy Fellow, 40%</i>	
<p>Description: <i>Accompanied the board member to meet with students and others to solicit community input on policies. Drafted and advocated for a bill to create a student position on the LAUSD board. Amended and passed.</i></p>	

Start Date: <i>June 2011</i>	End Date: <i>February 2012</i>
Client/Project: <i>Arizona Independent Redistricting Commission & Florida Fair Districts Now</i>	
Employer: <i>Strategic Telemetry</i>	
Title/Percentage of time: <i>Data & Redistricting Intern, 70-100%</i>	
<p>Description: <i>Prepared illustrative maps for commissioners to demonstrate demographic shifts in AZ. Gathered datasets for academic expert to use in conducting VRA RPV analysis in AZ. Reviewed and tagged testimony/comments from public hearings for use by map drawer in AZ. Balanced population of districts and ran compactness/other reports for lead map drawer in FL.</i></p>	

EDUCATION

Education		
Degree (i.e. PhD, Master's, Bachelors)	<i>Bachelor of Arts</i>	Year Completed: <i>2014</i>

Program	<i>Politics</i>	
University	<i>Occidental College — Los Angeles, CA</i>	

Education		
Degree (i.e. PhD, Master's, Bachelors)	<i>Undergraduate coursework</i>	Year Completed: <i>2009-2011</i>
Program	<i>Political Science</i>	
University	<i>Carleton College — Northfield, MN</i>	

TRAINING

Technical or Professional Training	
Course Name	<i>Various</i>
Topic	<i>Maptitude for Redistricting; QGIS; ArcGIS; Python; Voting Rights Act analysis; Racially Polarized Voting analysis</i>
Date taken	<i>Various</i>

Brad Wieneke

Proposed Resource Name:	Bradley J Wieneke
Proposed Classification:	<i>GIS Specialist</i>
Key Personnel:	Yes
If resource is associated with a subcontractor provide name of company:	
Percentage of time resource will be allocated to project:	<i>Up to 50%</i>

The experience requirements detailed in the RFP are restated as follows:

Required Skills	Bidder's Response
Describe your experience and knowledge with Geographic Information Systems redistricting solutions and the associated boundary, demographic and other data sources used for redistricting mapping.	<p>Does resource have this required skill: Yes</p> <p>Description of skills and experience: <i>Used Maptitude to draw hundreds of iterations of Florida congressional, state house and state senate maps. Converted maps of all different formats into Maptitude and Google Earth (KML) maps. Have used Esri products to display map related data.</i></p> <p>Name of project(s) and year(s) experience was obtained: <i>Florida Fair Districts Now(FDN) Project – 2011-2014</i> <i>Arizona Independent Redistricting Commission(AIRC) -- 2011</i> <i>Product Manager -- ALK Technologies for Copilot Truck product 2008</i></p>
Describe you experience working with commissions, public officials, and the general public in similar projects.	<p>Does resource have this required skill: <i>Some</i></p> <p>Description of skills and experience: <i>Took instructions from the AIRC for the conversion and archival of public maps both submitted manually and through the Maptitude online portal</i></p> <p>Name of project(s) and year(s) experience was obtained: <i>Arizona Independent Redistricting Commission(AIRC) -- 2011</i></p>
Describe your knowledge and experience with the necessary validation checks that need to be part of a redistricting plan (for example, checking population totals, continuity, compactness, etc).	<p>Does resource have this required skill: Yes</p> <p>Description of skills and experience: <i>Ran hundreds of summary level statistics checking for competitiveness, county line breaks, and compactness. Ran custom analysis such as racial block voting on request</i></p> <p>Name of project(s) and year(s) experience was obtained: <i>Florida Fair Districts Now(FDN) Project – 2011</i></p>

List client references for work performed to meet the requirements stated above, and all projects the proposed resource has worked on in the last three (3) years. A minimum of three (3) references are


required. By submission of this information, the bidder and identified key person authorize the State of Michigan to contact references and previous employers provided to verify the accuracy of the information. Provide the identified information for each:

Start Date: <i>September 2020</i>	End Date: <i>October 2020</i>
Client/Project: <i>Honolulu Modeling</i> <i>Ben Tulchin</i> [REDACTED] <i>Tulchin Research</i> <i>220 Sansome St</i> <i>San Francisco, CA 94104</i>	
Employer: <i>HaystaqDNA</i>	
Title/Percentage of time: <i>Sr. Vice President/Lead Data Modeler/75%</i>	
Description: <i>Created python based voter models predicting voter support for different candidates and issues and the likelihood of voters turning out.</i>	

Start Date: <i>January 2019</i>	End Date: <i>September 2019</i>
Client/Project: <i>Jared Girmscheid</i> <i>RepRanger</i> <i>329 E Pleasant St.</i> <i>Oconomowoc, Wisconsin 53066</i> <i>Project: Insinkerator</i> [REDACTED]	
Employer: <i>HaystaqDNA</i>	
Title/Percentage of time: <i>Survey Writer/Lead Modeler/50%</i>	
Description: <i>Merged client CRM data with commercial data file. Surveyed public on garbage disposal purchase and use behavior. Wrote python based models to predict individuals most likely to buy Insinkerator disposals.</i>	

Start Date: <i>April 2019</i>	End Date: <i>May 2020</i>
Client/Project: <i>Sanders for President</i> <i>Jeff Weaver</i> [REDACTED]	
Employer: <i>HaystaqDNA</i>	
Title/Percentage of time: <i>50-100%</i>	
Description: <i>Lead Data Modeler for Bernie Sanders Presidential Run. Created and ran surveys in all early states. Wrote python based models predicting voters likelihood of support Sanders, likelihood of voting, likelihood of</i>	

caring about a variety of issues and likelihood of donating to the campaign.

Start Date: 2014	End Date: Ongoing
Client/Project: <i>l2political.com</i> <i>Paul Wescott</i> 	
Employer: <i>HaystaqDNA</i>	
Title/Percentage of time: 30%	
Description: <i>Created and designed a series of Political Issue models to sell on the L2 votermapping platform. Ran Surveys over multiple years and update the program every year to make sure the models reflect current events. Models run in python. The models predict the likelihood that voters care about a given political issue.</i>	

EDUCATION

Education		
Degree (i.e. PhD, Master's, Bachelors)	<i>MBA</i>	Year Completed: 2006
Program		
University	<i>UCLA Anderson School of Management 110 Westwood Plaza Los Angeles, CA 90095</i>	

Additional Education		
Degree (i.e. PhD, Master's, Bachelors)	<i>Bachelors of Arts</i>	Year Completed: 1996
Program	Major(s) area of study: <i>Computer Science</i>	Minor area of study: <i>German</i>
University	<i>Middlebury College 14 Old Chapel Rd Middlebury, VT 05753</i>	

TRAINING

Technical or Professional Training	
Course Name	<i>Various trainings over the years on Maptitude, R, Python, Redshift, etc</i>
Topic	<i>(include credit hours if applicable)</i>

Susan Ranochak

Proposed Resource Name:	Susan M. Ranochak
Proposed Classification:	<i>Project Support</i>
Key Personnel:	Yes
If resource is associated with a subcontractor provide name of company:	<i>Q2 Data & Research, LLC</i>
Percentage of time resource will be allocated to project:	<i>Up to 25%</i>

The experience requirements detailed in the RFP are restated as follows:

Required Skills	Bidder's Response
Describe your experience and knowledge with Geographic Information Systems redistricting solutions and the associated boundary, demographic and other data sources used for redistricting mapping.	<p>Does resource have this required skill: Yes Description of skills and experience: <i>I have 11 years of experience as the Assessor Clerk-Recorder for Mendocino County in California. In that time, I additionally served as staff to the 2010 Mendocino County Citizens Redistricting Commission.</i></p> <p><i>In this role I analyzed our countywide Census data and geography and identified existing district boundaries that would be affected by each redistricting plan developed by the commission, assessing how the Commission would need to balance population amongst each district and how each change would impact the plan as a whole.</i></p> <p><i>Additionally, in my 11 years as Registrar of Voters I was responsible for the preliminary outlining and reprecincting for districts based on their annexation and deannexations for our GIS mapper.</i></p> <p>Name of project(s) and year(s) experience was obtained: <i>Mendocino County Citizens Redistricting Commission. 2011</i> <i>Mendocino County Assessor Clerk- Recorder Registrar of Voters January 1, 2008 - January 7, 2019</i></p>

<p>Describe your experience working with commissions, public officials, and the general public in similar projects.</p>	<p>Does resource have this required skill: Yes</p> <p>Description of skills and experience:</p> <p><i>As Mendocino County Assessor Clerk-Recorder, I served as staff to the Mendocino County Citizens Redistricting Commission. In this capacity, I scheduled hearings at which the Commission received public input regarding the redrawing of the county's Supervisorial district boundaries, developed redistricting criteria for this process, and provided the data gathered to the local redistricting commission for their review. I developed presentations to the Board of Supervisors on behalf of the redistricting commission during the redistricting process and final adoption of districts.</i></p> <p><i>As Assessor Clerk-Recorder Registrar of Voters I was part of a committee to revise the county's policies and procedures for agricultural land use in Mendocino County for both restricted and unrestricted agricultural land. I was responsible for setting up public meetings, accepting public comment from various locations within Mendocino County, leading discussions at these meetings and addressing topics brought up by constituents.</i></p> <p><i>As Assessor Clerk-Recorder Registrar of Voters I was the Co-lead of the California Association of Clerks and Election Officials election cost project. Approximately 10 years have been spent on this project gathering election billing data to be used by the state legislature, academics, California counties and other interested parties. We hold four meetings a year that consist of round table discussions with county officials and fiscal employees to gather data to analyze the methods used for election billing in California. was part of the redistricting of supervisorial districts by the county's 2010 Redistricting Commission. Additionally, I completed financial reports detailing expenditures against the grant, which was provided by the James Irvine Foundation.</i></p> <p>Name of project(s) and year(s) experience was obtained:</p> <p><i>Mendocino County Citizens Redistricting Commission. 2011</i></p> <p><i>Mendocino County Assessor Clerk- Recorder Registrar of Voters January 1, 2008 - January 7, 2019</i></p>
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<p>Describe your knowledge and experience with the necessary validation checks that need to be part of a redistricting plan (for example, checking population totals, continuity, compactness, etc).</p>	<p>Does resource have this required skill: Yes</p> <p>Description of skills and experience: <i>As staff to the Mendocino County Citizens Redistricting Commission I was responsible for determining which existing districts would need to be redrawn to balance population between the districts while adhering to traditional redistricting criteria.</i></p> <p><i>In my 11 years as Registrar of Voters, I was responsible for maintaining and redrawing precinct boundaries for each election. This process is, in some ways, similar to the redistricting process. It requires checking voter population totals for each precinct and ensuring that people are assigned to the proper geography while adhering to California's rigid precincting law.</i></p> <p><i>Name of project(s) and year(s) experience was obtained: Mendocino County Citizens Redistricting Commission 2011</i></p> <p><i>Mendocino County Assessor Clerk- Recorder Registrar of Voters January 1, 2008 - January 7, 2019</i></p>
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List client references for work performed to meet the requirements stated above, and all projects the proposed resource has worked on in the last three (3) years. A minimum of three (3) references are required. By submission of this information, the bidder and identified key person authorize the State of Michigan to contact references and previous employers provided to verify the accuracy of the information. Provide the identified information for each:

Start Date: <i>May 2011</i>	End Date: <i>July 2011</i>
<p>Client/Project: <i>County of Mendocino</i> <i>501 Low Gap Rd., Room 1010</i> <i>Ukiah, CA 95482</i> [REDACTED]</p> <p>Employer: <i>County of Mendocino</i></p> <p>Title/Percentage of time: <i>Assessor Clerk-Recorder Registrar of Voters; 30%</i></p> <p>Description: <i>Staff to Mendocino County Citizens Redistricting Committee</i></p>	

Start Date: <i>January 2009</i>	End Date: <i>May 2017</i>
<p>Client/Project: <i>County of Mendocino; Barry R Little --</i> [REDACTED]</p>	

Employer: <i>County of Mendocino</i>
Title/Percentage of time: <i>Assessor Clerk-Recorder Registrar of Voters, 10%</i>
Description: <i>Member, Rural Lands Protection Committee</i>

Start Date: <i>2014</i>	End Date: <i>Ongoing</i>
Client/Project: <i>California Association of Clerks and Election Officials; Gail Pellerin – [REDACTED]</i>	
Employer: <i>County of Mendocino</i>	
Title/Percentage of time: <i>Assessor Clerk- Recorder Registrar of Voters, 5%</i>	
Description: <i>Held the offices of Vice-President, Secretary and Treasurer while assigned to the Election Billing Project. Collected, compiled, and compared statewide election costs across all counties in California. Assessed and compared election cost billing methodologies.</i>	

EDUCATION

Education		
Degree (i.e. PhD, Master's, Bachelors)	<i>Bachelor of Science</i>	Completed: 1984
Program	<i>Business Administration, Accounting</i>	
University	<i>California State University, Chico 400 West First St Chico, CA. 9592</i>	

Adriana Rogers

Proposed Resource Name:	Adriana Rogers
Proposed Classification:	<i>Project Specialist</i>
Key Personnel:	Yes
If resource is associated with a subcontractor provide name of company:	
Percentage of time resource will be allocated to project:	<i>up to 50%</i>

The experience requirements detailed in the RFP are restated as follows:

Required Skills	Bidder's Response
Describe your experience and knowledge with Geographic Information Systems redistricting solutions and the associated boundary, demographic and other data sources used for redistricting mapping.	<p>Does resource have this required skill: Yes</p> <p>Description of skills and experience: <i>Currently leading a data validation project through the Redistricting Data Hub, working with precinct-level election results and shapefiles being made publicly available. Key role in the development of the Redistricting Data Hub website, working with Census PL 94-171, demographic, and CVAP data, TIGER/Line Census geographic boundary data, ACS estimates data, national voter file data, and geographic legislative boundary data. Calculated national Census Block level demographic projections for 2021-2030, available publicly on the Redistricting Data Hub website. Experience surveying the various mapping platforms available for redistricting, as of 2021, and involved in conversations between mapping platforms to make them compatible with each other.</i></p> <p>Name of project(s) and year(s) experience was obtained: <i>HaystaqDNA Data Analyst, 2020-2021. Contracting Data Analyst with the Redistricting Data Hub, 2019-2021. Voting Rights Data Institute Fellow, through the Metric Geometry and Gerrymandering Group at Tufts/MIT, 2018.</i></p>
Describe your experience working with commissions, public officials, and the general public in similar projects.	<p>Does resource have this required skill: Some</p> <p>Description of skills and experience: <i>Experience working with the general public in building the Redistricting Data Hub website, as we surveyed academic groups, mapping platforms, and other "stakeholders", or non-profits working with community groups on redistricting, to determine what data resources should be made publicly available. Furthermore, we now work with the general public as we collect feedback and answer users' questions through the Redistricting Data Hub website. Experience working with public officials in a precinct shapefile collection effort for the State of Ohio, as part of the Voting Rights Data Institute of the Metric Geometry and</i></p>

	<p><i>Gerrymandering Group.</i> <i>No direct experience working with commissions on redistricting projects.</i></p> <p>Name of project(s) and year(s) experience was obtained: <i>Data Analyst with the Redistricting Data Hub, 2019-2021.</i></p>
<p>Describe your knowledge and experience with the necessary validation checks that need to be part of a redistricting plan (for example, checking population totals, continuity, compactness, etc).</p>	<p>Does resource have this required skill: Yes</p> <p>Description of skills and experience: <i>Studied redistricting criteria, including compactness measures, contiguity, population equality, preserving communities of interest, and preserving political subdivisions, in an academic setting. Analyzed previous redistricting plans on a variety of criteria, and researched new emerging measures of compactness. Understanding of how these validation checks work in cohesion with one another.</i></p> <p>Name of project(s) and year(s) experience was obtained: <i>Voting Rights Data Institute Fellow, through the Metric Geometry and Gerrymandering Group at Tufts/MIT, 2018.</i></p>

List client references for work performed to meet the requirements stated above, and all projects the proposed resource has worked on in the last three (3) years. A minimum of three (3) references are required. By submission of this information, the bidder and identified key person authorize the State of Michigan to contact references and previous employers provided to verify the accuracy of the information. Provide the identified information for each:

Start Date: 8/12/2019	End Date: Continuing to date
Client/Project: <i>Various projects, listed in attached appendix of HaystaqDNA clients.</i>	
Employer: HaystaqDNA	
Title/Percentage of time: <i>Data Analyst, 100% (with 50% of time going to the Redistricting Data Hub, since 8/2020, and 20% of time going to Allium since 9/2020, listed below).</i>	
Description: <i>Completing projects on an as needed basis, including using predictive modeling using voter file, commercial, and publicly available data. Maintaining data ingestion, cleaning, and transformation on a continual basis for large data sets used for predictive modeling and micro-targeting. Providing data support and analysis to clients, including for political campaigns and commercial businesses. Creating national population projections for 2021-2030 at the Census Block level, available publicly on the Redistricting Data Hub website.</i>	

Start Date: <i>September 2020</i>	End Date: <i>Ongoing</i>
Client/Project: <i>Allium Health</i> <ul style="list-style-type: none"> <i>Contact and reference: 3910 18th St NW, Washington, DC 20011, Nick Reding,</i> <div style="background-color: black; width: 150px; height: 15px; display: inline-block;"></div> 	

Employer: <i>HaystaqDNA</i>
Title/Percentage of time: <i>Data Analyst, 20%</i>
Description: <i>Using predictive modeling to predict likelihood of someone to be a patient of urgent care clinics, and the frequency of likely visits. Maintaining data ingestion of patient data in a secure HIPAA environment.</i>

Start Date: <i>August 2019</i>	End Date: <i>May 2020</i>
Client/Project: <i>Sanders for President</i> <ul style="list-style-type: none"> • <i>Contact and reference: Jeff Weaver, [REDACTED]</i> 	
Employer: <i>HaystaqDNA</i>	
Title/Percentage of time: <i>Data Analyst, 80% to 100%</i>	
Description: <i>Using predictive modeling to predict voter support for the candidate and likelihood to vote in the primary election. Maintaining data ingestion, cleaning, and transformation on a continual basis for campaign field performance, to be used for predictive modeling and micro-targeting. Designing voter contact lists for various modes of voter contact and fundraising, including mail, email, text, phone, and peer to peer campaigns.</i>	

Start Date: <i>8/12/2019</i>	End Date: <i>Ongoing</i>
Client/Project: <i>Redistricting Data Hub</i> <ul style="list-style-type: none"> • <i>Contact and reference:</i> <ul style="list-style-type: none"> ○ <i>Kristina Gomez, Outreach Coordinator and Co-Founder of the RDH, [REDACTED]</i> ○ <i>Cathy Duvall, Advisor and Co-Founder of the RDH [REDACTED]</i> 	
Employer: <i>HaystaqDNA</i>	
Title/Percentage of time: <i>50% of time, since August, 2020.</i>	
Description: <i>Creating a central hub of all redistricting data that is needed for individuals, community groups, commissions, and others interested in getting involved in the redistricting process. Collecting feedback from stakeholders to cater the data that is available on the RDH website to the needs of community groups, as they prepare for redistricting. Validating precinct shapefiles and election results being collected by partner academic groups, and writing reports that are publicly available online. Processing a national voter file with data for over 200 million voters to be made publicly available at the Census Block level; including, aggregated voter registration, vote history, and commercial data, with the goal of making voter file data a resource for communities of interest. Overseeing the data validation work of six data fellows, and training five new full time hires in the redistricting process and data used for redistricting. Participating in Community of Interest summits and other conversations with the various mapping platforms and tools that were created in recent years, in order to ensure compatibility between one another for users. Gaining feedback from stakeholders as to the needs of these mapping tools, and communicating those needs to them. Overseeing the technical infrastructure of the RDH, including managing and training on best security</i>	

practices, setting up data storage warehousing, website backing, and database management using Amazon Web Services S3 and Redshift.

Start Date: 6/4/2018	End Date: 7/28/2018
Client/Project: <i>Voting Rights Data Institute</i> <ul style="list-style-type: none"> • Contact: <i>Fellowship of the Metric Geometry and Gerrymandering Group, contact@magg.org</i> <ul style="list-style-type: none"> ○ <i>Tisch College, Barnum Hall 163 Packard Ave., Medford, MA 02155</i> 	
Employer: <i>Metric Geometry and Gerrymandering Group</i>	
Title/Percentage of time: <i>Fellow, 100%</i>	
Description: <i>Mathematical and computational research in redistricting. Training in the Voting Rights Act, and redistricting legal history, case law, and criteria. Contributed to collecting and geo-referencing precinct shapefiles where they are not available at the state level, in Ohio. Studied measures of compactness, and how they perform in comparison to one another. Studied Ecological Inference, and its uses for determining if Racially Polarized Voting has occurred in past elections.</i>	

EDUCATION

Education		
Degree (i.e. PhD, Master's, Bachelors)	<i>Bachelor of Arts</i>	Year Completed: <i>2019</i>
Program	<i>Computer Science & Mathematics, minor in Political Science</i>	
University	<i>Lewis & Clark College - Portland, OR</i>	

TRAINING – Provide any relevant technical or professional training related to the role resource will be providing on this project.

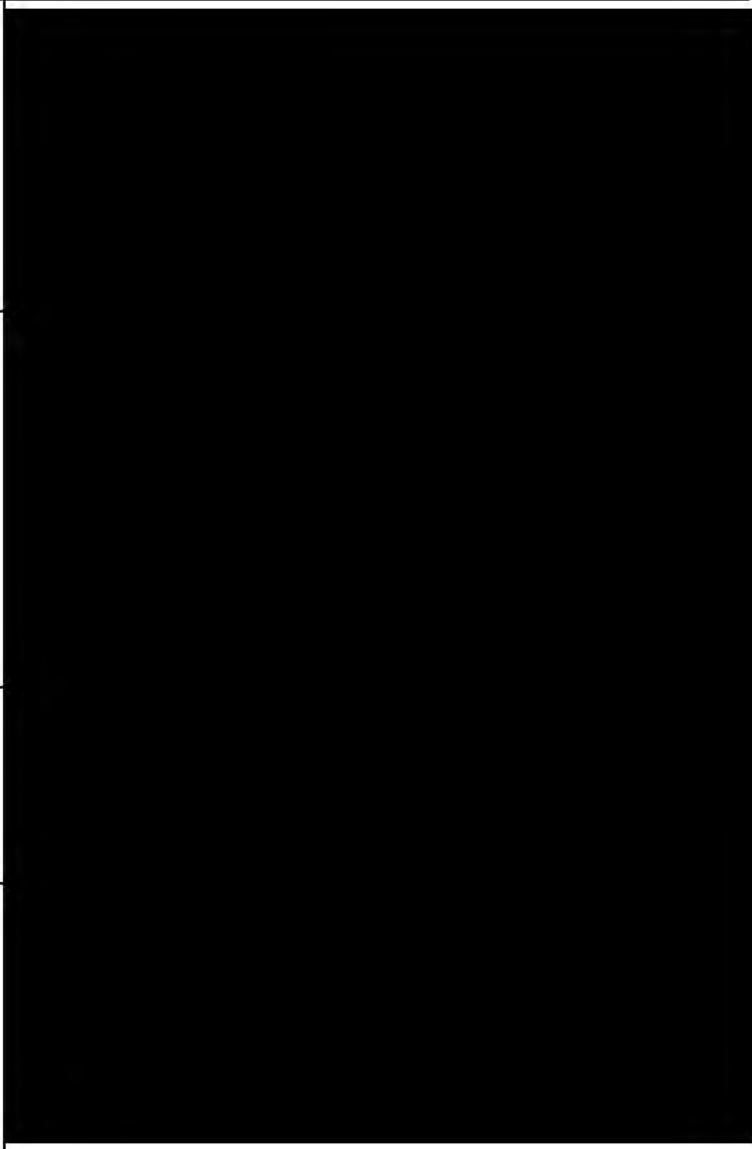
Technical or Professional Training	
Course Name	<i>Voting Rights Data Institute Fellow, through the Metric Geometry and Gerrymandering Group at Tufts/MIT</i>
Topic	<i>Mathematics and Computation of Redistricting</i>
Date taken	<i>Summer, 2018</i>

Resource Letter of Commitment

The Bidder must submit a letter of commitment for Key Personnel, signed by the identified resource, stating their commitment to work for the bidder/subcontractor on this project contingent on award of the bid. If the identified personnel are currently assigned to another project the bidder must provide a letter signed by the Project Manager releasing the individual from the project.

The Following personnel from HaystaqDNA and Q2 confirm that they are available to work for the ICRC if this bid is awarded.

William Desmond -- HaystaqDNA	
Adriana Rogers -- HaystaqDNA	
John O'Neill -- HaystaqDNA	
Andrew Drechsler -- HaystaqDNA	
Karin Mac Donald -- Q2 Data & Research	

Ken Strasma -- HaystaqDNA	
Sue Ranochak -- Q2 Data & Research	
Jaime Clark -- Q2 Data & Research	
Brad Wieneke -- HaystaqDNA	

Document 7 -- Contractor Organizational Chart HaystaqDNA & Q2 Data & Research



Document 8 -- Example Reports

HaystaqDNA & Q2 Data & Research

Example Report 1: Plan Components Report

Only the first page of two of these sample reports are displayed, of final Congressional Districts and final Legislative Districts in Arizona, from 1/17/2021.

Final Congressional Districts - Approved 1/17/12				
DISTRICT	COUNTY	% OF COUNTY VAP	% OF DIST VAP	% VA Hisp
1	Coconino	100.00%	19.65%	11.65%
1	Navajo	100.00%	14.45%	9.68%
1	Apache	100.00%	9.35%	5.15%
1	Graham	100.00%	5.10%	29.14%
1	Greenlee	100.00%	1.14%	44.16%
1	Pinal	52.10%	27.55%	30.47%
1	Pima	9.50%	13.70%	14.16%
1	Yavapai	14.80%	4.83%	10.88%
1	Gila	45.60%	3.67%	26.68%
1	Maricopa	0.10%	0.35%	13.17%
1	Mohave	0.60%	0.20%	3.01%
DISTRICT	PLACE	% OF PLACE VAP	% OF DIST VAP	% VA Hisp
1	Yavapai - Camp Verde	100.00%	1.62%	13.27%
1	Yavapai - Sedona	100.00%	1.20%	12.25%
1	Yavapai - Village of Oak Creek (Big Park)	100.00%	1.04%	7.32%
1	Yavapai - Lake Montezuma	100.00%	0.70%	11.14%
1	Yavapai - non-Census Place	5.40%	0.28%	3.86%
1	Pinal - Casa Grande	100.00%	6.70%	32.02%
1	Pinal - Maricopa	100.00%	5.62%	20.79%
1	Pinal - non-Census Place	54.70%	4.17%	33.00%
1	Pinal - Eloy	100.00%	2.61%	52.86%
1	Pinal - Saddlebrooke	100.00%	1.75%	3.47%
1	Pinal - Coolidge	99.90%	1.54%	36.58%
1	Pinal - Arizona City	100.00%	1.47%	27.13%
1	Pinal - Oracle	100.00%	0.55%	35.36%
1	Pinal - San Manuel	100.00%	0.50%	43.84%
1	Pinal - Superior	100.00%	0.41%	65.21%
1	Pinal - Sacaton	100.00%	0.33%	8.56%
1	Pinal - Kearny	100.00%	0.28%	36.38%
1	Pinal - Red Rock	100.00%	0.26%	24.50%
1	Pinal - Mammoth	100.00%	0.19%	65.57%
1	Pinal - Casa Blanca	100.00%	0.17%	10.89%
1	Pinal - Blackwater	100.00%	0.14%	19.94%
1	Pinal - Dudleyville	100.00%	0.14%	59.24%
1	Pinal - Ak-Chin Village	100.00%	0.10%	22.09%
1	Pinal - Stanfield	100.00%	0.09%	61.42%
1	Pinal - Cactus Forest	100.00%	0.08%	16.48%
1	Pinal - Stotonic Village	100.00%	0.08%	10.91%
1	Pinal - Picacho	100.00%	0.07%	57.34%
1	Pinal - Sacaton Flats Village	100.00%	0.07%	9.47%
1	Pinal - Upper Santan Village	100.00%	0.07%	4.69%
1	Pinal - Goodyear Village	100.00%	0.05%	20.74%
1	Pinal - Lower Santan Village	100.00%	0.05%	10.04%

Final Legislative Districts - Approved 1/17/12				
DISTRICT	COUNTY	% OF COUNTY VAP	% OF DIST VAP	% VA Hisp
1	Yavapai	70.30%	70.58%	9.59%
1	Maricopa	1.80%	29.42%	7.35%
DISTRICT	PLACE	% OF PLACE VAP	% OF DIST VAP	% VA Hisp
1	Yavapai - Prescott	100.00%	20.24%	7.09%
1	Yavapai - Prescott Valley	100.00%	17.32%	13.40%
1	Yavapai - non-Census Place	89.50%	14.08%	8.18%
1	Yavapai - Chino Valley	100.00%	4.90%	11.50%
1	Yavapai - Williamson	100.00%	2.75%	3.38%
1	Yavapai - Paulden	100.00%	2.33%	18.81%
1	Yavapai - Dewey-Humboldt	100.00%	1.82%	8.29%
1	Yavapai - Black Canyon City	100.00%	1.41%	4.59%
1	Yavapai - Cordes Lakes	100.00%	1.25%	6.28%
1	Yavapai - Congress	100.00%	1.03%	7.59%
1	Yavapai - Bagdad	100.00%	0.74%	20.16%
1	Yavapai - Mayer	100.00%	0.73%	5.10%
1	Yavapai - Spring Valley	100.00%	0.57%	6.86%
1	Yavapai - Wilhoit	100.00%	0.44%	7.56%
1	Yavapai - Yarnell	100.00%	0.36%	5.61%
1	Yavapai - Peoples Valley	100.00%	0.24%	7.43%
1	Yavapai - Seligman	100.00%	0.21%	18.06%
1	Yavapai - Ash Fork	100.00%	0.17%	34.72%
1	Yavapai - Peoria	100.00%	0.00%	0.00%
1	Yavapai - Wickenburg	0.00%	0.00%	
1	Yavapai - Camp Verde	0.00%	0.00%	
1	Maricopa - Phoenix	1.50%	9.01%	9.86%
1	Maricopa - Anthem	100.00%	8.55%	7.59%
1	Maricopa - New River	100.00%	6.88%	5.43%
1	Maricopa - Cave Creek	97.50%	2.41%	6.77%
1	Maricopa - Carefree	100.00%	1.78%	2.31%
1	Maricopa - non-Census Place	1.10%	0.80%	5.88%
1	Maricopa - Peoria	0.00%	0.00%	
DISTRICT	COUNTY	% OF COUNTY VAP	% OF DIST VAP	% VA Hisp
2	Santa Cruz	100.00%	22.06%	78.16%
2	Pima	15.40%	77.94%	45.64%
DISTRICT	PLACE	% OF PLACE VAP	% OF DIST VAP	% VA Hisp
2	Pima - Tucson	13.30%	35.69%	63.58%
2	Pima - Green Valley	100.00%	14.10%	4.20%
2	Pima - Sahuarita	100.00%	11.91%	26.91%
2	Pima - non-Census Place	31.60%	9.94%	47.32%
2	Pima - South Tucson	100.00%	2.66%	75.54%
2	Pima - Summit	100.00%	2.34%	74.89%
2	Pima - Arivaca Junction	100.00%	0.50%	62.25%

Example Report 2: Compactness and Competitiveness Report

The report is for the final Congressional Districts in Arizona, from 1/17/2021. Competitiveness and compactness are both redistricting criteria in Arizona.

Final Congressional Districts - Approved 1/17/12 - Compactness and Competitiveness Measures

District	Compactness			Competitiveness Index 2			Competitiveness Index 3			Competitiveness Index 4			Competitiveness Index 5		
	Reock	Perimeter	Polsby-Ropper	Ave. REP %	Ave. DEM %	Diff	Ave. REP %	Ave. DEM %	Diff	Ave. REP %	Ave. DEM %	Diff	Ave. REP %	Ave. DEM %	Diff
1	0.48	1842.90	0.20	50.0%	50.0%	0.0%	47.7%	52.3%	4.6%	51.9%	48.1%	3.8%	50.2%	49.8%	0.4%
2	0.52	449.85	0.49	50.6%	49.4%	1.2%	50.5%	49.5%	1.0%	52.7%	47.3%	5.4%	52.3%	47.7%	4.6%
3	0.27	869.92	0.26	39.3%	60.7%	21.4%	37.4%	62.6%	25.2%	42.6%	57.4%	14.8%	40.8%	59.2%	18.4%
4	0.39	1861.33	0.12	64.5%	35.5%	29.0%	64.3%	35.7%	28.6%	65.1%	34.9%	30.2%	64.9%	35.1%	29.8%
5	0.55	84.35	0.52	63.6%	36.4%	27.2%	64.5%	35.5%	29.0%	65.9%	34.1%	31.8%	66.0%	34.0%	32.0%
6	0.67	157.87	0.32	59.6%	40.4%	19.2%	60.6%	39.4%	21.2%	61.8%	38.2%	23.6%	61.9%	38.1%	23.8%
7	0.55	78.44	0.42	32.2%	67.8%	35.6%	31.0%	69.0%	38.0%	37.9%	62.1%	24.2%	36.0%	64.0%	28.0%
8	0.36	183.78	0.20	61.2%	38.8%	22.4%	61.3%	38.7%	22.6%	62.7%	37.3%	25.4%	62.5%	37.5%	25.0%
9	0.33	115.55	0.16	48.9%	51.1%	2.2%	49.8%	50.2%	0.4%	52.8%	47.2%	5.6%	52.5%	47.5%	5.0%

\$644.00

District	Competitiveness Index 6			Competitiveness Index 7			Competitiveness Index 8			Competitiveness Index 5			All Registration			Reg 2-Way	
	Ave. REP %	Ave. DEM %	Diff	Ave. REP %	Ave. DEM %	Diff	Ave. REP %	Ave. DEM %	Diff	Ave. REP %	Ave. DEM %	Diff	% REP	% DEM	% OTH	% REP	% DEM
1	49.7%	50.3%	0.6%	48.4%	51.6%	3.2%	49.6%	50.4%	0.8%	48.0%	52.0%	4.0%	30.1%	39.6%	30.3%	43.2%	56.8%
2	50.3%	49.7%	0.6%	50.3%	49.7%	0.6%	50.2%	49.8%	0.4%	50.2%	49.8%	0.4%	34.7%	34.2%	31.1%	50.4%	49.6%
3	39.9%	60.1%	20.2%	38.7%	61.3%	22.6%	39.5%	60.5%	21.0%	38.0%	62.0%	24.0%	21.9%	43.2%	34.9%	33.6%	66.4%
4	63.8%	36.2%	27.6%	63.8%	36.2%	27.6%	63.9%	36.1%	27.8%	63.9%	36.1%	27.8%	41.5%	23.4%	35.1%	63.9%	36.1%
5	64.2%	35.8%	28.4%	64.6%	35.4%	29.2%	63.7%	36.3%	27.4%	64.4%	35.6%	28.8%	44.4%	22.3%	33.3%	66.6%	33.4%
6	59.8%	40.2%	19.6%	60.4%	39.6%	20.8%	59.5%	40.5%	19.0%	60.2%	39.8%	20.4%	41.3%	24.7%	34.0%	62.6%	37.4%
7	35.3%	64.7%	29.4%	34.0%	66.0%	32.0%	34.0%	66.0%	32.0%	32.7%	67.3%	34.6%	17.7%	44.2%	38.1%	28.6%	71.4%
8	61.1%	38.9%	22.2%	61.2%	38.8%	22.4%	60.8%	39.2%	21.6%	61.1%	38.9%	22.2%	41.4%	25.7%	33.0%	61.7%	38.3%
9	50.1%	49.9%	0.2%	50.4%	49.6%	0.8%	49.4%	50.6%	1.2%	50.0%	50.0%	0.0%	33.5%	31.3%	35.1%	51.7%	48.3%

Index 2: Average of 2008 and 2010, each year weighted equally

Index 3: Average of 2008, 2010 and % of major party Registration, each of the three components weighted equally

Index 4: Average of 2004, 2006, 2008 and 2010, each year weighted equally

Index 5: Average of 2004, 2006, 2008, 2010 and % of major party registration, each component weighted equally

Index 6: Average of 2004, 2006, 2008 and 2010, each year weighted equally, Races where one candidate received more than 60% of the 2-way vote removed

Index 7: Average of 2004, 2006, 2008, 2010, and major party registration, each year weighted equally, Races where one candidate received more than 60% removed

Index 8: 1/3 2010, 1/3 2008, and 1/6 2004, and 1/6 2006, Races where one candidate received more than 60% of the 2-way vote removed

Index 9: 1/4 2010, 1/4 2008, 1/8 2006, 1/8 2004, and 1/4 major party registration, Races where one candidate received more than 60% of the 2-way vote removed

Example Report 3: Boundary Splits Report

The report is for the final Congressional Districts in Arizona, from 1/17/2021. Preserving political subdivisions is a redistricting criterion in Arizona.

Final Congressional Districts - Approved 1/17/12			
Geography	Unsplit	In 2 Districts	In 3 or More Districts
County	8	4	3
Census Place	445	14	5
Census Tract	1,375	146	5
Census Block Group	3,974	200	4
Reservation	16	2	4
Tribal Subdivision	138	5	3
Split Counties			
Name	Number of Districts		
Maricopa	8		
Pinal	3		
Pima	3		
Yuma	2		
Yavapai	2		
Mohave	2		
Gila	2		
Split Census Places			
Name	Number of Districts		
Maricopa - Phoenix	6		
Maricopa - Glendale	4		
Maricopa - Tempe	3		
Maricopa - Mesa	3		
Yuma - Yuma	2		
Yavapai - Camp Verde	2		
Pinal - Coolidge	2		
Pima - Tucson	2		
Pima - Sahuarita	2		
Pima - Picture Rocks	2		
Maricopa - Surprise	2		
Maricopa - Scottsdale	2		
Maricopa - Peoria	2		
Maricopa - Paradise Valley	2		
Maricopa - Guadalupe	2		
Maricopa - Goodyear	2		
Maricopa - Chandler	2		
Maricopa - Buckeye	2		
Split Reservations			
Name	Number of Districts		
Salt River AZ	4		
Tohono O'odham Nation AZ	3		
Gila River AZ	3		
Yavapai-Apache Nation AZ	2		
Hualapai AZ	2		
Split Tribal Subdivisions			
Name	Number of Districts		
F AZ	3		
4 AZ	3		
Sif Oidak AZ	2		
Gu Achi AZ	2		
C AZ	2		
A AZ	2		
6 AZ	2		

Example Report 4: Population Data Report

The report is for the final Congressional Districts in Arizona, from 1/17/2021.

Final Congressional Districts - Approved 1/17/12 - Population Breakdown

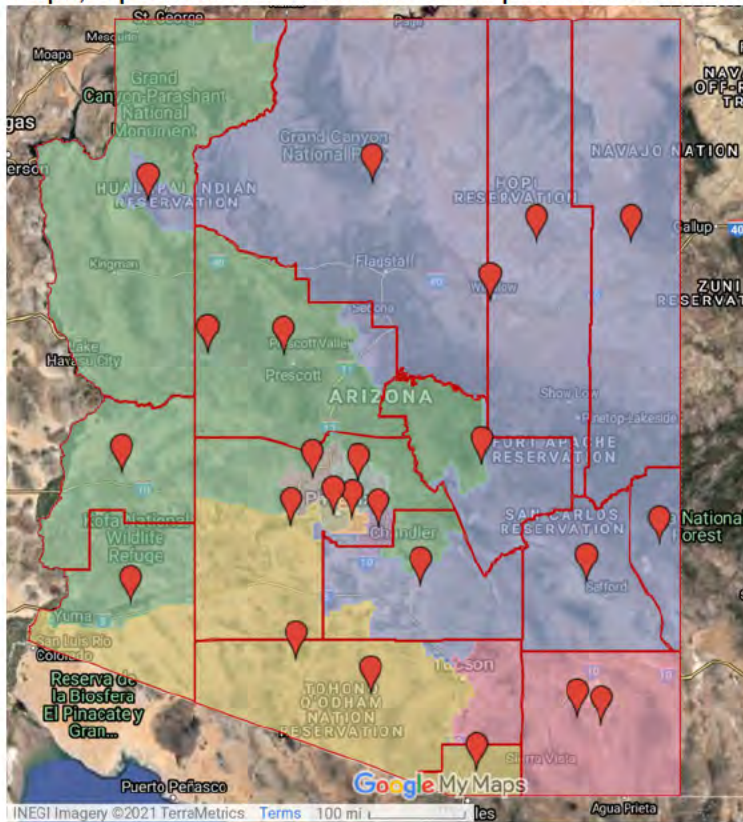
District	Population	Deviation from Ideal Population		Hispanic Population		Non Hispanic (NH) White		NH African American		NH Native American		NH Asian		NH Hawaiian		NH Multi-Race and Other	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
1	710,224	0	0.0%	147,846	20.8%	361,485	50.9%	14,687	2.1%	162,087	22.8%	9,574	1.3%	1,616	0.2%	12,929	1.8%
2	710,224	0	0.0%	183,537	25.8%	457,249	64.4%	25,861	3.6%	6,472	0.9%	19,295	2.7%	1,369	0.2%	16,441	2.3%
3	710,224	0	0.0%	430,398	60.6%	206,608	29.1%	27,375	3.9%	22,441	3.2%	12,168	1.7%	786	0.1%	10,448	1.5%
4	710,224	0	0.0%	127,216	17.9%	538,609	75.8%	11,065	1.6%	12,667	1.8%	7,422	1.0%	934	0.1%	12,311	1.7%
5	710,224	0	0.0%	118,907	16.7%	518,678	73.0%	20,369	2.9%	6,041	0.9%	29,791	4.2%	1,419	0.2%	15,019	2.1%
6	710,224	0	0.0%	107,938	15.2%	534,954	75.3%	16,932	2.4%	11,141	1.6%	24,930	3.5%	841	0.1%	13,488	1.9%
7	710,224	0	0.0%	457,064	64.4%	148,948	21.0%	61,376	8.6%	13,930	2.0%	16,420	2.3%	1,018	0.1%	11,468	1.6%
8	710,225	1	0.0%	131,226	18.5%	509,305	71.7%	27,059	3.8%	5,003	0.7%	22,086	3.1%	1,018	0.1%	14,528	2.0%
9	710,224	0	0.0%	191,017	26.9%	419,811	59.1%	34,377	4.8%	17,644	2.5%	28,823	4.1%	1,958	0.3%	16,594	2.3%

Final Congressional Districts - Approved 1/17/12 - Voting Age Population Breakdown

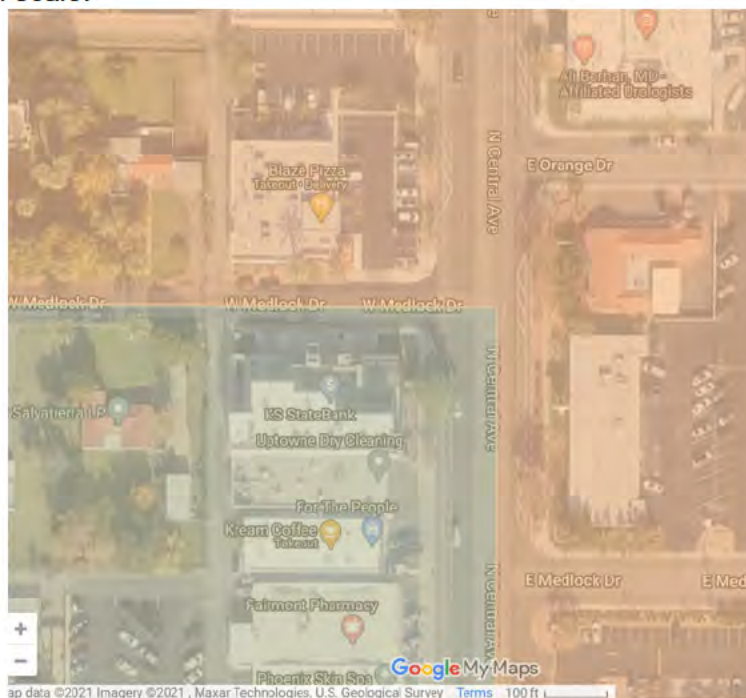
District	Voting Age Pop.	Hispanic Voting Age Pop.		Non Hispanic (NH) White Voting Age Pop.		NH African American Voting Age Pop.		NH Native American Voting Age Pop.		NH Asian Voting Age Pop.		NH Hawaiian Voting Age Pop.		NH Multi-Race and Other Voting Age	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
1	522,309	94,295	18.1%	293,758	56.2%	11,113	2.1%	107,182	20.5%	7,738	1.5%	1,442	0.3%	6,781	1.3%
2	558,252	121,379	21.7%	386,563	69.2%	19,389	3.5%	4,899	0.9%	15,674	2.8%	1,012	0.2%	9,336	1.7%
3	497,743	274,610	55.2%	172,005	34.6%	19,441	3.9%	15,302	3.1%	9,826	2.0%	593	0.1%	5,966	1.2%
4	556,383	80,797	14.5%	443,629	79.7%	8,123	1.5%	10,146	1.8%	5,958	1.1%	704	0.1%	7,026	1.3%
5	512,943	71,636	14.0%	394,037	76.8%	14,141	2.8%	4,087	0.8%	21,360	4.2%	977	0.2%	6,705	1.3%
6	554,574	68,057	12.3%	439,087	79.2%	12,503	2.3%	7,677	1.4%	19,313	3.5%	620	0.1%	7,317	1.3%
7	474,491	275,963	58.2%	126,628	26.7%	42,663	9.0%	9,742	2.1%	12,440	2.6%	740	0.2%	6,315	1.3%
8	536,590	81,076	15.1%	408,385	76.1%	19,155	3.6%	3,619	0.7%	16,608	3.1%	717	0.1%	7,030	1.3%
9	549,718	123,390	22.4%	353,803	64.4%	25,721	4.7%	12,553	2.3%	23,400	4.3%	1,395	0.3%	9,456	1.7%

Example Report 5: Interactive Congressional Districts Map, from a KMZ file

This map is for the final Congressional Districts in Arizona, from 1/17/2021. KMZ files are able to be read by Google Maps, a platform that members of the public are familiar using.



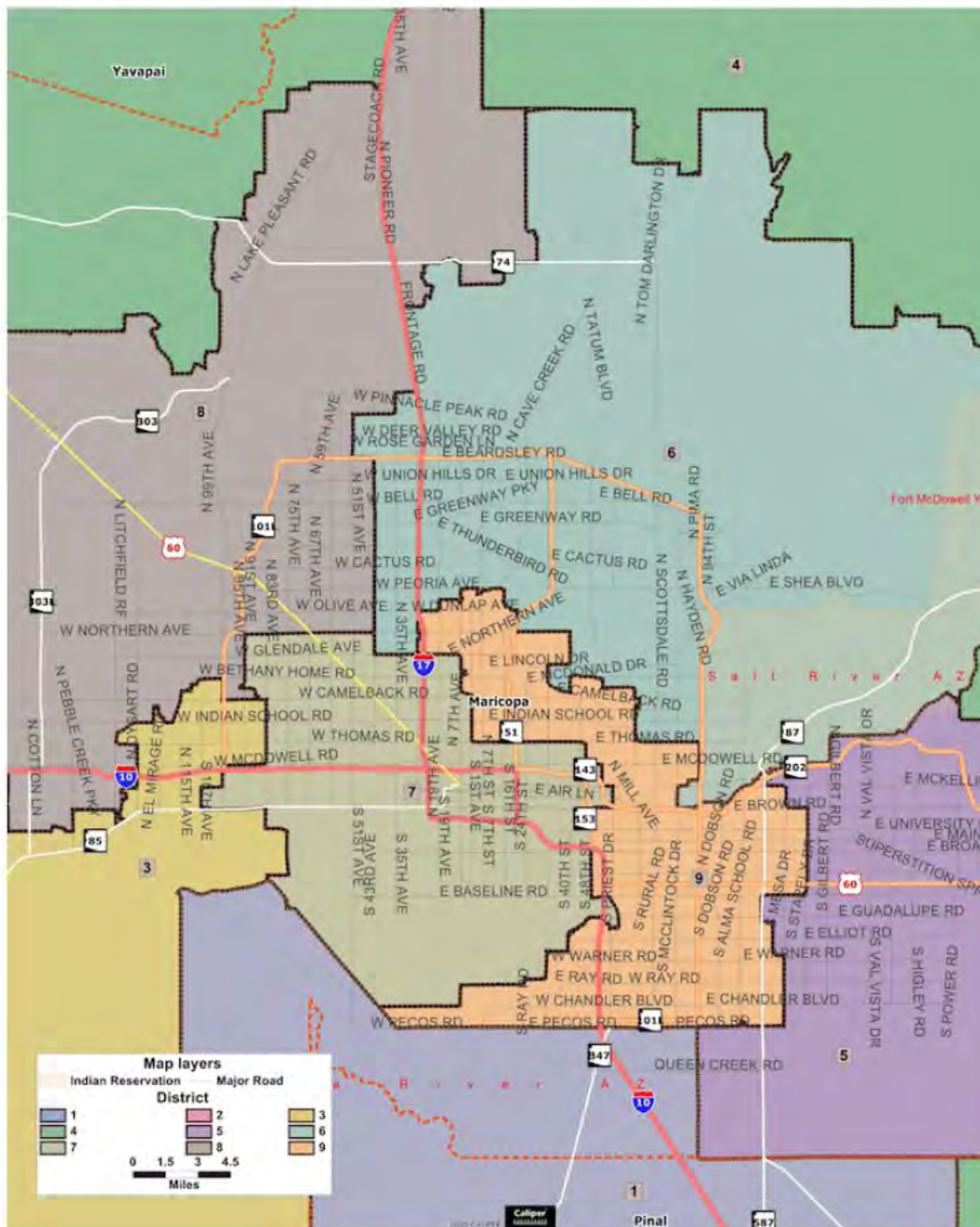
Here we can see how one could zoom in to the Google Map to see the border of Congressional Districts, at a small scale.



Example Report 6: Congressional Districts Map with features

This map is for the final Congressional Districts in Maricopa County, from 1/17/2021. It shows an example of how major roads, highways, Reservations, and other recognizable features can be overlaid on a map displaying legislative boundaries.

Final Congressional Districts - Approved 1/17/12 - Maricopa County



For additional examples of reports done in Arizona in 2011 as part of the final maps, can be found here: <https://azredistricting.org/Maps/Final-Maps/default.asp>

Document 9 -- List of Clients

HaystaqDNA Clients from the last three years

<p>Advisory Board for the Arts Austin Opera Redistricting Data Hub Tulchin Research L2 INC (L2 Political) Bernie Sanders for President 2020 Unemployed Workers Union Nepantia Strategies VoteVets Nuestro PAC Working Families Party Our Future United Our Future Colorado The New York Mets InSinkErator RepRanger Piemonte Auto Dealerships of Chicago AlliumHealth GoHealth Kathryn Garcia for NYC Mayor YMCA of Minnesota Measured Campaigns Marked by Covid UltraViolet Action Shalid Buttar for Congress Jessical Haller for City Council Ampourvote More In Common California Assembly Democrats Paula Jean Swearengin US Senate 2020 Ben David 2020 Ohio Battleground Research Ohio Education Association Ohio Democratic Party Stand Up For Ohio Ihssane for Congress -- Leckey MA-04 Planned Parenthood of Wisconsin LLC Vote Andrew 2018 -- Andrew Gilchrist Boerio for Congress Lake Research</p>	<p>Walden University Seattle Chamber of Commerce InfoGroup Strang & Bradley LLC David Straz Tampa Bay Mayor Schoen Cooperman Research Bloomberg Exploratory Committee Need to Impeach Solidarity Strategies Friends of Bernie Sanders Locust Street Emblem Health Brent Welder for Congress Emily Sirota for Colorado MXM National Humane Society Our Revolution ACLU The Alabama Alliance Casual Fans (Casual, LLC) Friends of Ben Jealous Citizens for Boyle First International Resources Food Policy Action Network Data Farm Consulting LLC Wildfire Contact The Tyson Organization, Inc Equity Creative New Venture Fund Data Axle Chong & Koster LLC Cognitive Contractor Aisle 518 Amplify Action Julie Oliver for Texas Maverick Strategies & Mail Community Labor Administrative Services Brown Miller Group Park View Strategies Inc Fair Democracy</p>
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Q2 Data & Research Clients from the last three years

San Joaquin Delta College District; Districting of Trustee Areas

Napa Valley Unified School District; Redistricting of Board of Trustee Areas

City of Oroville; Districting Consultant; Creation of first City Council districts

Novato Sanitary District; Districting Consultant; Creation of first Election Divisions for Board of Directors

Town of Windsor; Districting Consultant; Creation of first City Council districts

City of Antioch; Districting Consultant; Creation of first City Council districts

Quantitative Election Cost study for 58 counties; Fiscal workshops; Consultant to the California Association of Clerks and Election Officials (CACEO)

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A. This Agreement sets forth the entire understanding and agreement between Caliper and Licensee with respect to the subject matter hereof and supersedes all prior understandings, representations, sales materials, and agreements, written or oral, including any purchase orders submitted by Licensee to Caliper in respect of the Product.

B. This Agreement will be governed by the laws of The Commonwealth of Massachusetts, United States of America (without regard to any conflict of law rules that would provide that the law of another jurisdiction would govern), and applicable copyright laws. The parties hereby submit to the exclusive jurisdiction of the state and federal courts of The Commonwealth of Massachusetts. C. This Agreement may be modified only by a written agreement which is made subsequent to this Agreement and signed by duly authorized representatives of Caliper and Licensee. D. If any of the provisions of this Agreement will be held by a court of competent jurisdiction to be contrary to law, the remaining provisions of this Agreement will remain in full force and effect. E. The failure of Caliper to enforce any of the provisions of this Agreement will not be construed to be a waiver of Caliper's right thereafter to enforce such provisions.

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