

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NORTH CAROLINA
WESTERN DIVISION**

360 VIRTUAL DRONE SERVICES LLC et)
al.,)
)
Plaintiffs,)
v.)
)
ANDREW L. RITTER, in his official)
capacity as Executive Director of the North)
Carolina Board of Examiners for Engineers)
and Surveyors, et al.,)
)
Defendants.)
_____)

Case No.: 5:21-cv-0137-FL

**MEMORANDUM IN SUPPORT OF
PLAINTIFFS' MOTION FOR SUMMARY JUDGMENT**

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TABLE OF CONTENTS

Nature of the case.....	1
Statement of facts.....	2
A. Commercial drone use	2
B. Michael Jones founds 360 Virtual Drone Services LLC and begins offering drone-related photography services	4
C. North Carolina’s regulation of surveying	7
D. The North Carolina surveying board investigates 360 Virtual Drone Services.....	8
E. The surveying board issues 360 Virtual Drone Services a cease-and-desist letter	11
F. Michael Jones complies with the surveying board’s instructions.....	11
G. Procedural background	12
Argument	13
I. North Carolina’s restriction on creating maps and 3D digital models violates Plaintiffs’ First Amendment rights	13
A. North Carolina’s surveying law restricts Plaintiffs’ speech based on its content.....	14
1. The surveying law burdens speech	14
2. The surveying law burdens speech based on its content.....	16
B. North Carolina’s surveying law fails under any level of First Amendment scrutiny.....	18
1. Both strict scrutiny and intermediate scrutiny place on the government the burden of justifying the challenged law	18
2. North Carolina’s surveying law fails either strict or intermediate First Amendment scrutiny	19
II. The Court may be able to conclude that the parties’ dispute has been narrowed as to certain real-estate marketing images and certain aerial maps.....	24
Conclusion	26
Certificate of service	27

TABLE OF AUTHORITIES

Cases

<i>Billups v. City of Charleston</i> , 961 F.3d 673 (4th Cir. 2020).....	<i>passim</i>
<i>Brown v. Entertainment Merchants Association</i> , 564 U.S. 786 (2011).....	18
<i>Holder v. Humanitarian Law Project</i> , 561 U.S. 1 (2010)	18
<i>McCullen v. Coakley</i> , 573 U.S. 464 (2014)	19
<i>McCutcheon v. FEC</i> , 572 U.S. 185 (2014)	21
<i>National Institute of Family & Life Advocates v. Becerra</i> , 138 S. Ct. 2361 (2018).....	16, 19
<i>Pacific Coast Horseshoeing School, Inc. v. Kirchmeyer</i> , 961 F.3d 1062 (9th Cir. 2020).....	15
<i>Sorrell v. IMS Health Inc.</i> , 564 U.S. 552 (2011)	2, 14, 15, 22
<i>Williams-Yulee v. Florida Bar</i> , 575 U.S. 433 (2015)	18

Statutes and Rules

21 N.C. Admin. Code 56.0601	7
Mo. Rev. Stat. § 327.272	20
N.C. Gen. Stat. § 89C-2	7, 12, 19
N.C. Gen. Stat. § 89C-3(7)(a)	8
N.C. Gen. Stat. § 89C-3(7)(a)(1)	7
N.C. Gen. Stat. § 89C-3(7)(a)(3)	7
N.C. Gen. Stat. § 89C-3(a)(5)-(6)	8
N.C. Gen. Stat. § 89C-10(c).....	7
N.C. Gen. Stat. § 89C-10(f)	7
N.C. Gen. Stat. § 89C-13(b)(1a).....	7, 19
N.C. Gen. Stat. § 89C-13(b)(1a)(d)	7
N.C. Gen. Stat. § 89C-23	7, 12

N.C. Gen. Stat. § 89C-24	7, 12
N.C. Gen. Stat. § 89C-25(7a).....	23
N.C. Laws S.L. 1998-118 (H.B. 794)	8
Va. Code § 54.1-402(C).....	20
Wis. Stat. § 443.134.....	20

Other Authorities

Google Earth Help, <i>Measure distances and areas in Google Earth</i>	3
N.C. Bd. of Exam’rs for Eng’rs & Surveyors, <i>Individual Applicants: Professional Land Surveyor</i>	7
Paul M. Spinden, <i>The Enigma of Engineering’s Industrial Exemption to Licensure: The Exception That Swallowed A Profession</i> , 83 UMKC L. Rev. 637 (2015).....	23-24

NATURE OF THE CASE

This is a case about information. Like many entrepreneurs, Plaintiff Michael Jones became fascinated by drones—small, unmanned aircraft. In 2017 and 2018, he paired his love for drones with another of his interests: photography. With his one-man business, 360 Virtual Drone Services, he began offering a range of aerial photography services, including aerial orthomosaic maps. Using a drone, an operator can capture a series of aerial geotagged images over a tract of land. And with commercially available software, he or she can process those images into a composite map. These maps can be useful as visual aids. They also can contain various types of location information; with the software, for example, users can measure distances, elevations, areas, and the like. (Think Google Earth, but with up-to-date images.) Simply, the maps convey what the government’s expert in this case would later call “useful information.” Statement of Undisputed Facts (SUF) 56.

Michael Jones began offering these sorts of maps. But he had hardly begun to get that part of his business off the ground before the North Carolina Board of Examiners for Engineers and Surveyors intervened. After a six-month investigation in 2019, the Board ordered him to stop offering orthomosaic maps. Because Jones and his company do not have a full-blown land-surveyor license, the Board warned, it was illegal for them to give customers aerial maps containing “location and dimension data” and to “produc[e] orthomosaic maps, quantities, and topographic information.” The right to convey basic location information about land, the Board maintained, is reserved for licensed surveyors only. Unless Jones’s company “c[a]me into compliance,” the Board threatened civil and even criminal sanctions. SUF 35.

Not surprisingly, Jones complied and shut down his budding efforts to develop an aerial-mapping business. But under the First Amendment, he shouldn’t have had to. “[T]he creation and dissemination of information are speech within the meaning of the First Amendment.”

Sorrell v. IMS Health Inc., 564 U.S. 552, 570 (2011). At base, what Jones wants to do is create and disseminate information. And the Board says he can't *because of* that information's content. By its terms, for instance, the agency's cease-and-desist letter to Jones targeted "information" and "data"—speech. In defending this case, moreover, the agency has resorted to increasingly content-based distinctions to justify its power to pursue small businesses like Jones's. According to the Board's expert, for example, the presence of a scale bar—or even a north arrow—is enough to transform a lawful image of land into an illegal, unlicensed "survey." More broadly, the Board insists that only by actively scrubbing information and metadata from maps can Jones avoid enforcement in the future.

A law that applies in this way violates the First Amendment, and the analysis is straightforward. North Carolina's surveying law burdens protected speech; Jones can't sell his maps (or 3D digital models, a related product he'd like to develop) because of the information they communicate. So the law "is subject to First Amendment scrutiny"—either strict or intermediate. *Billups v. City of Charleston*, 961 F.3d 673, 684 (4th Cir. 2020). For its part, the Board cannot carry its burden under either standard; most notably, the agency has no evidence that unlicensed mapping causes any harms in the (not insignificant) number of states with less-restrictive laws than North Carolina's. Simply, North Carolina's restriction on mapping and modeling is a solution in search of a problem, and one that comes at the expense of Plaintiffs' First Amendment rights. Plaintiffs' motion for summary judgment should be granted.

STATEMENT OF FACTS

A. Commercial drone use

A drone is an unmanned aircraft that can fly either autonomously or with a remote pilot on the ground. ^{SUF 1.} Recent years have seen the rise of a thriving commercial-drone industry nationwide. Using cameras, drones can take photographs of—and collect data about—buildings,

land, construction sites, and other property. *Id.* The images and data can be used for many different purposes. Two are at the heart of this case: creating aerial orthomosaic maps and creating photorealistic 3D digital models.

Aerial Maps. Drones have revolutionized the mapping industry. Using drones, operators can create detailed two-dimensional maps of property by flying a drone over the area, capturing images, and stitching those images together using computer software that combines the images into a single, high-resolution photograph. *SUF 2.* These composite photos often are called “orthomosaic” or “measurable” maps. *Id.* (By way of background, a short tutorial video is available at <https://tinyurl.com/2s3zw4dj>.)

Because each individual image is geo-referenced, the map can also convey useful information about the land—for example, about distances, elevations, and the like. *SUF 3.* It can be used to measure the distance from Point *A* to Point *B*. *Id.* Or to estimate the area of a piece of land. *Id.* Or to identify the elevation of a particular point. *Id.* Some of this information can be conveyed using traditional means—for example, a scale bar at the bottom of the map. Alternatively, commercially available mapping platforms (well-known examples include Pix4D and DroneDeploy) let users annotate maps and use other tools to derive information from the maps, including distances, areas, elevations, and volumes. *Id.*

Similar information is available through any number of public-record sources; using Google Earth, for example, you can measure the distance between two points, or calculate area, or (for some places) pinpoint an elevation. *See generally* Google Earth Help, *Measure distances and areas in Google Earth*, <https://tinyurl.com/y5jjtcjx>. One of the benefits of aerial maps, though, is currentness. While the images and data on sites like Google Earth may be months or years out of date, a custom aerial map can document up-to-date conditions. *SUF 4.* That

currentness can provide useful information in many different contexts. A farmer, for example, may want to estimate the amount of crop loss in a field after a storm. *Id.* A real-estate developer may want to estimate the size of a piece of land. *Id.* Developers, project managers, and other stakeholders may want up-to-date progress reports on construction projects. *Id.* And so on.

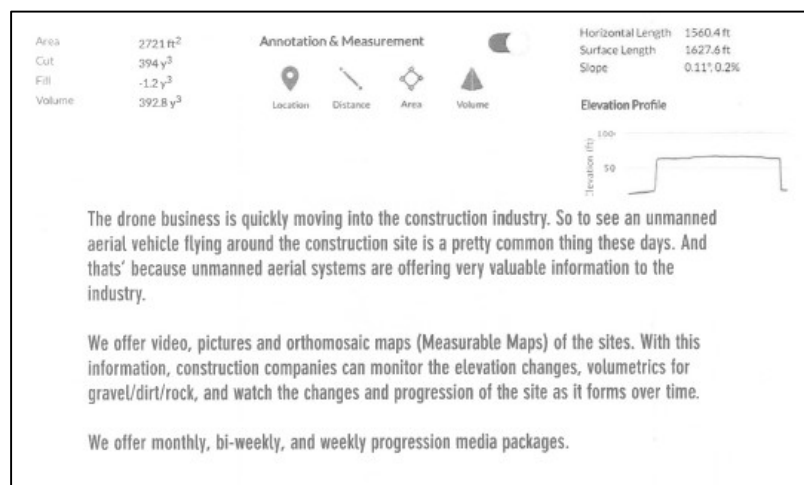
3D Digital Models. Drones can also be used to capture images for photorealistic 3D models of land and structures. SUF 5. Much like a two-dimensional aerial map, a 3D model can be created by combining geotagged photos to create a three-dimensional representation of a piece of property. *Id.* And again as with two-dimensional maps, these models can offer information in various settings. They can be used to inspect hard-to-reach areas (cell towers, for instance). *Id.* They can be used as a form of cultural preservation—for example, by capturing a three-dimensional representation of a historical site. *Id.* They can be used to recreate crime-scenes. *Id.* In short—and much like their two-dimensional counterparts—3D models are a source of useful information. *Id.*

B. Michael Jones founds 360 Virtual Drone Services LLC and begins offering drone-related photography services.

1. Michael Jones has provided photography and videography services in North Carolina since around 2016. SUF 6. What started off as a hobby soon grew into a small business, with Jones offering photography services for pay. SUF 7.

Jones soon recognized the extraordinary potential of drones, and he branched out into drone-based aerial photography as well. SUF 8. He got certified by the FAA to fly drones commercially. *Id.* And in 2017, he founded a single-member company—360 Virtual Drone Services LLC—and began offering drone-photography services to clients, including real-estate developers, property managers, realtors, entertainment companies, and individuals. *Id.*

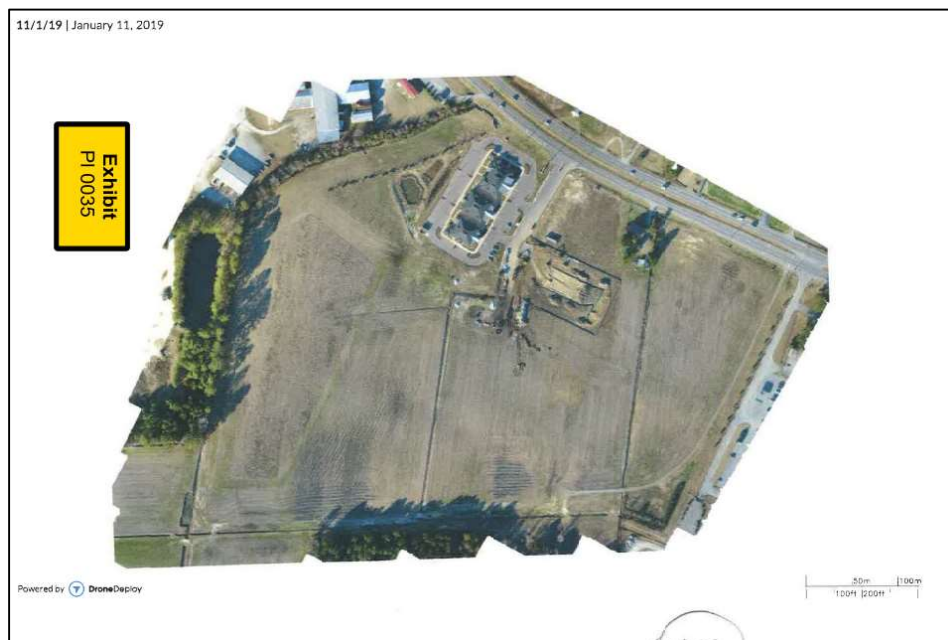
Along with standard photography jobs (aerial shots for weddings, for instance), he began offering aerial mapping services as well. *SUF 9.* He made a profile on a popular commercial-drone website, Droners.io, and selected “Surveying & Mapping” as one of his project categories. *Id.* (As he would later explain to the North Carolina surveying board, the Droners.io site did not offer a standalone “Mapping” category. *See* Pls.’ App’x Ex. 7 at 5.) On his own website, too, he began advertising “video, pictures and orthomosaic maps (Measurable Maps) of [construction] sites.” *SUF 10.* “With this information,” he wrote, “construction companies can monitor the elevation changes, volumetrics for gravel/dirt/rock, and watch the change and progression of the site as it forms over time.” *Id.*



Pls.’ App’x Ex. 4 at 2.

Over the next year or so, Jones started making progress. A drone-data company hired him to fly his drone over a Walmart distribution center and capture the images needed to create a thermal map of the roof. *SUF 11.* He was hired to capture aerial images of a shopping-mall parking lot, which likewise could be used to create an aerial map. *Id.* He also started trying to make maps himself. *SUF 12.* One repeat client, for instance, had hired him to take periodic photos and videos of a real-estate development site. *Id.* To try to expand his portfolio, Jones

processed those images into an aerial map and pitched the client on incorporating maps into Jones's existing business. (The map he created is reproduced below.) That client chose not to make use of maps. *Id.* Undeterred, though, Jones continued to advertise mapping as one of his company's offerings. *Id.*



See Pls.' App'x Ex. 5 at 1.

2. At no point has Michael Jones been a licensed land surveyor. SUF 13-14. Nor has he ever deliberately marketed himself as a licensed surveyor. SUF 15. Nor, for that matter, has he ever purported to establish legal descriptions of property. SUF 16. Even so, in December 2018 he received a letter from the North Carolina Board of Examiners for Engineers and Surveyors. SUF 17. "Based on a review of [360 Virtual Drone Services's] website . . . and an advertisement on the Droners.io web site," the Board stated, "it is alleged that the firm may be practicing or offering to practice land surveying." "The services include, but are not limited to, 'Surveying & Mapping,' and providing orthomosaic maps of construction sites." *Id.* The Board advised that "an investigation has been initiated" and gave Jones fifteen days to provide "your written

explanation of, or comments on, the charges along with any documents or papers, which support your position in this matter.” SUF 17; *see also* Pls.’ App’x Ex. 6 at 1.

C. North Carolina’s regulation of surveying

People and businesses engaged in “the practice of land surveying” in North Carolina must have a surveyor license issued by the state’s Board of Examiners for Engineers and Surveyors. Practicing land surveying without a license exposes violators to both civil and criminal enforcement. N.C. Gen. Stat. §§ 89C-2, 89C-23, 89C-24; *see also id.* § 89C-10(c), (f).

To get a surveyor license, an applicant must meet a combination of educational, examination, and practice requirements. 21 N.C. Admin. Code 56.0601. An applicant without a surveying-related B.S. or associate degree, for example, must have nine years of “progressive practical experience” under a practicing licensed land surveyor. N.C. Gen. Stat.

§ 89C-13(b)(1a)(d). All applicants also must pass three examinations: Fundamentals of Surveying, Principles and Practice of Surveying, and a North Carolina-specific exam. All applicants must pay hundreds of dollars in fees. And present five references. *Id.* § 89C-13(b)(1a). And submit to a character-and-fitness inquiry. *Id.* And tender a sample plat complying with the state’s standards for the practice of land surveying. *See* N.C. Bd. of Exam’rs for Eng’rs & Surveyors, *Individual Applicants: Professional Land Surveyor*, <https://tinyurl.com/5xbstx69>.

Over the years, North Carolina’s definition of “practice of land surveying” has broadened. The definition naturally covers traditional surveying activities, like the placement of survey monuments and establishing “property line[s], easement[s], or boundar[ies] of any tract of land”—work that affects the property rights of landowners. N.C. Gen. Stat. § 89C-3(7)(a)(1), (3). But in recent decades, the surveying board’s mandate has expanded far beyond projects that have legal implications for property rights, to include, for example, “mapping . . . relative to the location, size, shape, or physical features of the earth, improvements on the earth, the space

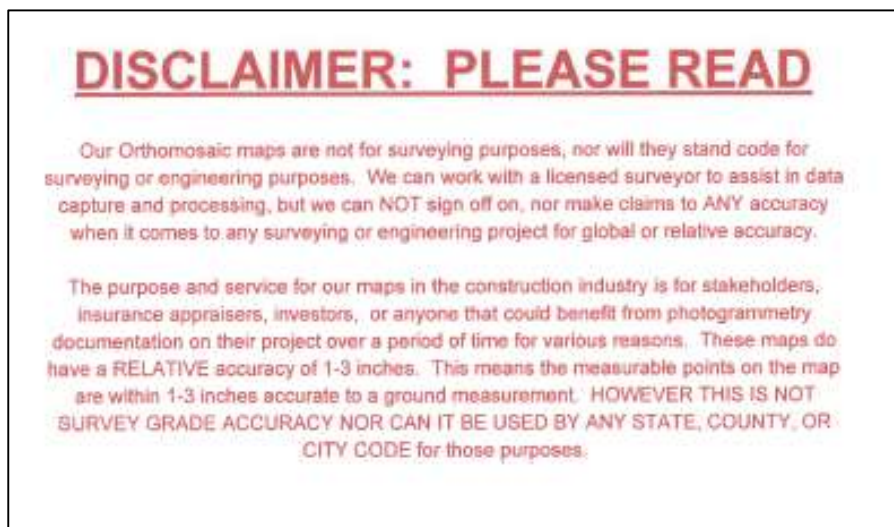
above the earth, or any part of the earth.” *Id.* § 89C-3(7)(a); *see also id.* § 89C-3(7)(a)(5)-(6); N.C. Laws S.L. 1998-118 (H.B. 794).

In recent years, the Board has enforced its surveying law vigorously against drone operators, issuing at least a half-dozen cease-and-desist letters between 2016 and 2020. SUF 18. The agency has warned them against “aerial surveying and mapping services” and “any resulting map or drawing,” against “3D models” and “aerial photogrammetry,” against “use of orthomosaic software, aerial orthomosaics and models with control point accuracy.” SUF 19-20. The Board’s counsel cautioned one drone operator against providing clients with even basic information about their land. Processing aerial images of a building into a 3D model? “No, this would be within the definition of land surveying.” SUF 21. Processing aerial images into a map so a client can go online and perform rough measurements using a distance tool? Surveying. *Id.* Processing the images into a map so a client “can go online and draw a polygon around [a] stock pile and use a software tool to tell him area and cubic yards contained in the stockpile”? Surveying. *Id.* Only if “there is no meta data or other information about coordinates, distances, property boundaries or anything that falls within the definition of land surveying”—the Board’s lawyer advised—can a drone operator safely give clients aerial images of their land. *Id.*

D. The North Carolina surveying board investigates 360 Virtual Drone Services.

1. Michael Jones learned all this the hard way. Having received the Board’s investigation letter in December 2018, he responded quickly. SUF 22-23. By e-mail, he asked the Board for “help in making sure that my company is not overstepping any boundaries or [is] in violation of any codes.” SUF 24; *see also* Pls.’ App’x Ex. 7 at 4. He advised that he had removed the “Mapping and Surveying” category from his Droners.io profile. Pls.’ App’x Ex. 7 at 5; *see also id.* (“This group title is only offered as a services ‘together’ as ‘mapping and surveying.’ You are not able to just select ‘Mapping’ per [se].”). He explained that he had added a long

disclaimer for his mapping services. And he asked the Board to “[p]lease feel free to correct or offer any revisions that need to be made to this disclaimer.” *Id.* at 4.



Id.; see also Pls.’ App’x Ex. 19 at 58.

Jones also asked for guidance about what kinds of work he could lawfully perform without a surveyor license. He noted that he offered aerial maps for the construction industry and explained that the maps are “generally used” for purposes like:

- “[M]onitoring the site/property by flying it every week or bi-weekly”;
- “Stockholders, insurance adjusters, investors can see the site as it constructs”;
- “Quality Control”;
- “Safety Control/Monitoring”;
- “Annotations for marking spots on the site”; and
- “Equipment verification etc.”

Pls.’ App’x Ex. 7 at 5-6. He explained that the mapping software could also let clients “get[] a quick but relatively accurate measurement of an area,” which could, for example, let them estimate “how much cable they would need to get from this point X to point Z.” *Id.* at 6. “If this is in ANY violation of any code,” he wrote, “please let me know.” *Id.* “Please keep in mind,” he

added, “this would be working WITH the disclaimer on our site and also with the project manager’s [i.e., the client’s] knowledge that we are not licensed surveyors.” *Id.* “Please if we have missed anything or need rewording of any thing we have changed in our disclaimers or such,” he reiterated, “I would please ask that you let us know, we want your help in making sure we are working within the legal means in North Carolina.” *Id.*

2. The Board largely ignored Jones’s plea for guidance; in early February, an investigator sent him a two-sentence e-mail asking to set up an interview. SUF 26; *see also* Pls.’ App’x Ex. 7 at 3. Days later, the two met in person. SUF 27. At the meeting, Jones recalls, the investigator told him that giving a client an aerial photograph that contains geospatial metadata would qualify as the unlicensed practice of surveying. SUF 28. The investigator also told him that stitching aerial photographs together to create an orthomosaic map would qualify as the unlicensed practice of surveying. SUF 29. Jones also recalls that the investigator told him that giving a client aerial images on which he had drawn lines (for example, to approximate property boundaries) would qualify as unlicensed surveying as well. SUF 30.

The investigator would later deny having offered Jones any guidance on what he could and could not legally do. SUF 31. In accordance with the agency’s practices, the investigator did not record his interview with Jones. SUF 32. And he shredded his contemporaneous notes of the interview. SUF 33. His later report of the interview, however, reflects that he and Jones spoke in detail about Jones’s business. SUF 34; *see also* Pls.’ App’x Ex. 21 at 2. The report also recorded that Jones confirmed that he offered aerial maps. Pls.’ App’x Ex. 21 at 2-3. It recorded that Jones “acknowledged that at one time he advertised the ability to provide measurements but has since removed that from any marketing materials.” *Id.* at 3. It recorded that Jones said “he has the ability to add his clients as administrators in the [mapping] application, which would allow them

to use the measurement tools if they wanted to, but he has never done so.” *Id.* It also recorded that Jones “acknowledged that he has taken some real estate videos . . . that include what appears to be property lines” but that “his intent with that was to give a general location and shape of the parcel” and that “he puts a disclaimer . . . in the notes of his YouTube videos stating, ‘Property lines are for a visual guide only and are not accurate to county coordinates.’” *Id.* at 4.

E. The surveying board issues 360 Virtual Drone Services a cease-and-desist letter.

Five months passed. Mid-summer 2019, Michael Jones received another letter from the Board. *SUF* 35; *see also* *Pls.’ App’x Ex. 8*. “After a thorough consideration of the investigative materials,” the Board advised, “the Board’s Review Committee has determined that there is sufficient evidence to support the charge that 360 Virtual Drone Services, LLC is practicing, or offering to practice, surveying in North Carolina, as defined in G.S. 89C-3(6) without being licensed with this Board.” *Pls.’ App’x Ex. 8* at 1. The Board stated that the company’s unlawful activities “include, but are not limited to: mapping, surveying and photogrammetry; stating accuracy; providing location and dimension data; and producing orthomosaic maps, quantities and topographic information.” *Id.* at 1-2. As for Jones’s questions about disclaimers, the Board dismissed them with one sentence: “[M]arketing disclaimer is not appropriate as the services still fall within the practice of land surveying.” *Id.* at 2. If Jones’s company “fails to come into compliance,” the Board warned, the agency could “apply to the court for an injunction” or “pursue criminal prosecution.” *Id.* at 1.

F. Michael Jones complies with the surveying board’s instructions.

Not surprisingly, Jones heeded the Board’s demand that he and his company “come into compliance.” He stopped trying to develop his mapping business. *SUF* 36. He stopped offering any kinds of aerial maps. *Id.* He even stopped taking jobs to capture images for *other* people to

use for aerial maps. *Id.* He refrained from branching out into other mapping-related work as well—for instance, using aerial images to create 3D digital models, which also qualifies as “surveying” under North Carolina law. *Id.* Given the investigator’s warning, he also stopped adding lines on real-estate marketing images to indicate the rough position of property boundaries. *Id.*; *see also* SUF 37; Pls.’ App’x Ex. 9 at 1 (advising potential client that “I can no longer put lines around the property because the NC board of Engineering and Surveying filed a complain[t] against my company for ‘Practicing Surveying without a license’”).

G. Procedural background

Jones and 360 Virtual Drones Services LLC filed this lawsuit in March 2021. They seek a judgment that secures their right to create and sell aerial maps, 3D models, and real-estate photographs with lines approximating property boundaries. Compl. p. 22 (ECF 1).¹

For the aerial maps, the Board responded to this lawsuit with a murky—but inescapably content-based—position. In the Board’s telling, Jones can process his images into orthomosaic aerial maps—but before he shares those maps with anyone, he must strip out all location information and metadata. SUF 39, 40-41, 45; *see also, e.g.*, Pls.’ App’x Ex. 25 (Schall Dep. 34:4-34:13). So, for example, he can print out a hard copy of an aerial map. SUF 40-42; *see also* Pls.’ App’x Ex. 25 (Schall Dep. 36:18-37:6). But he can’t include a scale bar on the page; the bar would allow for measuring things, which would make the image an unlicensed survey. SUF 40-41, 43; *see also* Pls.’ App’x Ex. 25 (Schall Dep. 37:7-37:20). For the same reason, it also would be illegal to include a north arrow. SUF 40; *see also* Pls.’ App’x Ex. 23 at 15. Or maybe the north arrow would be fine; the Board’s witnesses offered conflicting views. *Compare* SUF 40,

¹ The surveying law restricts unlicensed surveying by natural persons and entities alike, and the Board has a history of enforcing its law against both. N.C. Gen. Stat. §§ 89C-2, 89C-23, 89C-24; *see also* SUF 38. For that reason, this case is brought on behalf of Michael Jones as well as his company.

with SUF 44. Whatever might be said of north arrows, though, the Board was clear on one thing: Jones certainly can't give his clients access to an unscrubbed electronic version of the map. SUF 39-41, 45; *see also* Pls.' App'x Ex. 25 (Schall Dep. 39:13-40:15); Pls.' App'x Ex. 26 (Ritter Dep. 52:2-52:5). *He* is allowed to see the location data that goes into his aerial maps. But letting his *customers* see that information is illegal. Giving clients access to a mapping platform like DroneDeploy or Pix4D, for instance, would mean giving them access to the location data contained in their map. That would put Jones in violation of the surveying law.

As for the 3D models, the Board appears to be standing on its power to ban unlicensed persons from creating them. SUF 46-49. For a time, the Board's in-house counsel suggested that unlicensed persons might legally sell 3D models if they "somehow . . . strip[ped] all the metadata out of the 3D digital model." SUF 50. But he admitted that he was "not qualified to answer" whether removing georeferenced data from a 3D model was even possible. *Id.* And the Board's expert later confirmed that "[a] 3D digital model is all on its own completely georeferenced" and "there's no stripping that data." SUF 51.

Lastly, for the real-estate photographs, the Board has submitted that its surveying law does not cover those images. SUF 52; *see also* SUF 53-55. The Board also denies that its investigator told Jones differently. Answer ¶ 63 (ECF 21).

Given the Board's position that it can prohibit Jones and his company from performing mapping and modeling, this case has proceeded through discovery and to summary judgment.

ARGUMENT

I. North Carolina's restriction on creating maps and 3D digital models violates Plaintiffs' First Amendment rights.

Michael Jones wants to use his drone to take photographs of land. He wants to process those photos into aerial maps and 3D models using commercially available mapping software.

He wants to offer and sell those maps and models to willing clients. Legally, however, he can't. His maps and models would convey certain information—location data about distances, coordinates, volumes, elevations. And backed by civil and criminal penalties, North Carolina's surveying law forbids him from giving that "useful information" (as the Board's expert put it) to his clients.

A law that applies in this way breaks with the First Amendment, and the analysis is a straightforward one. North Carolina's surveying law burdens protected speech; Jones can't sell his mapping products because of the information those products communicate. As a result, the law "is subject to First Amendment scrutiny"—either strict or, at a minimum, intermediate. *See Billups v. City of Charleston*, 961 F.3d 673, 684 (4th Cir. 2020). Under either standard, the Board cannot carry its burden of proving a sufficient means-end fit between its governmental interests and its expansive surveying law.

A. North Carolina's surveying law restricts Plaintiffs' speech based on its content.

Laws that burden protected speech are subject to heightened First Amendment scrutiny—either strict scrutiny (if the law regulates speech based on its content) or intermediate (if the law is content-neutral). Here, North Carolina's surveying law burdens speech and it does so because of the speech's content, making it subject to strict scrutiny.

1. The surveying law burdens speech.

To start, the surveying law burdens speech. "An individual's right to speak is implicated when information he or she possesses is subjected to 'restraints on the way in which the information might be used' or disseminated." *Sorrell v. IMS Health Inc.*, 564 U.S. 552, 568 (2011). And North Carolina imposes just such a restraint here. By law, the state forbids Jones from providing aerial maps and models to clients because those products contain location

information. Unless he scrubs his maps of all georeferenced data, he will have violated the surveying law. SUF 40-41, 45. 3D digital models are off-limits altogether. SUF 46-49. Simply, the surveying law forbids Jones and his company from conveying certain information to his customers. (Not for nothing, his cease-and-desist letter spoke in terms of “information” and “data.” SUF 35.) That is a burden on protected speech. *Sorrell*, 564 U.S. at 570 (“[T]he creation and dissemination of information are speech within the meaning of the First Amendment.”).

A recent Fourth Circuit decision illustrates the point. Much like this case, *Billups v. City of Charleston* involved a First Amendment challenge to a licensing law—a tour-guide licensing ordinance. 961 F.3d 673, 676 (4th Cir. 2020). The City of Charleston “require[d] . . . tour guide[s] to obtain a license before leading visitors on a paid tour through Charleston’s historic districts.” *Id.* at 682-83. Put differently, the law “prohibit[ed] unlicensed tour guides from leading paid tours—in other words, speaking to visitors—on certain public sidewalks and streets.” *Id.* at 683. And because the activity triggering the law (that is, the tours) “necessarily involves speech or expressive conduct,” the Fourth Circuit held that the law “burdens protected speech and thus implicates the First Amendment.” *Id.* at 683, 684.

These principles apply with equal force here. North Carolina requires people to obtain a surveyor license before conveying images with basic location data to customers. That information is protected speech under the First Amendment. As in *Billups*, North Carolina’s surveying law “completely prohibits” unlicensed people from disseminating the information. *Id.* at 683. So the Fourth Circuit’s “rather straightforward conclusion” in *Billups* applies equally here: the law “undoubtedly burdens protected speech,” making it “subject to First Amendment scrutiny.” *Id.* at 683, 684; *cf. Pac. Coast Horseshoeing Sch., Inc. v. Kirchmeyer*, 961 F.3d 1062, 1069 (9th Cir. 2020) (“[T]he First Amendment deprives the states of ‘unfettered power to reduce

a group's First Amendment rights by simply imposing a licensing requirement.” (quoting *Nat'l Inst. of Fam. & Life Advoc. v. Becerra*, 138 S. Ct. 2361, 2375 (2018)).

2. *The surveying law burdens speech based on its content.*

Not only does the surveying law restrict speech, it does so based on the speech's content. Michael Jones's aerial maps, for example, would be unlawful *because of* the information they contained. If he were to strip his maps of any georeferenced metadata, the Board (today, at least) says it would not punish him for giving those maps to customers. SUF 40-42. If he were to leave the metadata untouched, however, he would violate the law. *See, e.g.*, SUF 45 (Schall Dep. 40:7-40:10) (“Q. Okay. That makes sense. So really the georeferencing information is what triggers the surveying definition, is that what you're saying? A. That's correct. That's correct. . . .”).² If he were to print out an aerial map in PDF, the Board (today) says he'd be in the clear. SUF 40-42. But if the image were to contain a scale in the corner—or, according to the Board's expert, even a modest north arrow—it would become an illegal survey.³ Indeed, the one map Jones pitched to a client qualifies as a survey because of a scale—a line, ticks, letters, and numbers—at the bottom of the page:

² *See also* Pls.' App'x Ex. 23 at 15, 16 (“[Section A] If the orthomosaic is in a digital format such as TIFF, TIFFJPG, JPG2000, MrSID, etc., and does include georeferencing information in the file header as metadata or is accompanied by a georeferencing metadata file, in my opinion, this would be regulated as it falls under the definition of Land Surveying within N.C.G.S. § 89C-3(7). . . . [Section C]. ‘Capturing aerial images of land and structures (along with location data, coordinates, elevation data, and volume data) and making those images and that data available to paying clients.’ In my opinion, this would be regulated as it falls under the definition of Land Surveying within N.C.G.S. § 89C-3(7).”); Pls.' App'x Ex. 24 (Board 30(b)(6) Dep. Tr. 25:8-26:22 (Board's designee endorsing expert's view)).

³ SUF 40 (Pls.' App'x Ex. 23 at 15) (“[Section A] . . . If the document was printed, also called ‘hard-copy’, and didn't include a reference grid, scale bar, north arrow, title block, etc., basically just a printed picture, this would not be regulated.”); *see also* Pls.' App'x Ex. 24 (Board 30(b)(6) Dep. 26:9-26:13 (“Q. . . . It sounds like you looked over Letter a. The board doesn't disagree with [Mr.] Schall's opinion there? A. Correct.”)), *cited at* SUF 41.



See Pls.’ App’x Ex. 5 at 1; SUF 43 (Schall Dep. 37:7-37:20) (“Q. . . . So in contrast to the one we were just talking about, Exhibit 34, as I understand what we’ve been discussing this orthomosaic map [Exhibit 35] would qualify under the definition of survey, is that right? A. I see a scale bar on there which implies that the map is scaled correctly and measurable so I would have to say yes.”).

Simply, the Board regulates aerial maps and 3D models because of the information they convey. If a map or model contains information that might let a viewer make measurements—of distances, locations, elevations, volumes, areas—that information triggers North Carolina’s surveying law and all the licensing burdens that follow from it. As the Board concedes, in fact, it (now) has no quarrel with Jones’s creating aerial maps—but only if he scrubs them of all georeferencing data before giving them to anyone. As applied to the work he wants to do, it is the information—the content—in his speech that triggers the surveying law; he can create his maps only if he takes care to strip them of “useful information.” SUF 56. Under a straightforward application of Supreme Court precedent, the law is thus an easy candidate for

strict scrutiny. *Compare Holder v. Humanitarian L. Project*, 561 U.S. 1, 27, 28 (2010) (applying strict scrutiny to a law that “generally functions as a regulation of conduct” because “as applied to plaintiffs the conduct triggering coverage under the statute consists of communicating a message”), with *SUF 45* (Schall Dep. 40:7-40:10) (Q. . . . So really the georeferencing information is what triggers the surveying definition, is that what you’re saying? A. That’s correct. That’s correct. . . .”); *see also Williams-Yulee v. Fla. Bar*, 575 U.S. 433, 444 (2015) (confirming that *Holder* applied strict scrutiny).

B. North Carolina’s surveying law fails under any level of First Amendment scrutiny.

As discussed above, North Carolina’s survey licensing law restricts Plaintiffs’ speech, making the law subject to one of two levels of heightened First Amendment scrutiny: strict or intermediate. Also as discussed above, strict scrutiny is the correct standard to apply here. Under either standard, however, the Board cannot carry its burden of justifying its surveying law.

1. Both strict scrutiny and intermediate scrutiny place on the government the burden of justifying the challenged law.

Under the Supreme Court’s First Amendment precedent, both strict scrutiny and intermediate scrutiny are rigorous standards that evaluate a law’s means-end fit. For strict scrutiny, a challenged law is presumptively invalid “unless it is justified by a compelling government interest and is narrowly drawn to serve that interest.” *Brown v. Ent. Merchants Ass’n*, 564 U.S. 786, 799 (2011). To carry its burden, “[t]he State must specifically identify an ‘actual problem’ in need of solving, and the curtailment of free speech must be actually necessary to the solution.” *Id.* (internal citation omitted). Intermediate scrutiny places the burden on the government as well. *Billups*, 961 F.3d at 685 (“The City bears the burden of proving that the Ordinance survives intermediate scrutiny.”).

As detailed above (at 16-18), strict scrutiny is warranted here because North Carolina's surveying law is content-based. Because the law fails even intermediate scrutiny, however, the Court can enter judgment for Plaintiffs without deciding whether strict scrutiny is called for. *E.g., id.* (declining to decide whether law was subject to strict or intermediate scrutiny because it "cannot survive even intermediate scrutiny."); *cf. Nat'l Inst. of Fam. & Life Advocs.*, 138 S. Ct. at 2375 (similar).

2. North Carolina's surveying law fails either strict or intermediate First Amendment scrutiny.

If less demanding than strict scrutiny, intermediate scrutiny, too, requires "a close fit between ends and means." *McCullen v. Coakley*, 573 U.S. 464, 486 (2014). To justify restricting Plaintiffs' speech, the Board must thus show that its law is "narrowly tailored to serve a significant governmental interest, and that [it] leave[s] open ample alternative channels for communication of the information." *Billups*, 961 F.3d at 685. The Board cannot carry that burden. Even if its claimed interests—"safeguard[ing] life, health, and property" and "promot[ing] the public welfare"—are in the abstract significant, N.C. Gen. Stat. § 89C-2; *SUF* 57, the surveying law is not tailored to serve them.

a. To begin, the surveying law burdens substantially more speech than necessary. Jones's maps and models, of course, are speech. But because he lacks a surveyor license, he is barred from providing these products to customers. To do so legally, he would need to devote the better part of a decade to working under a licensed surveyor, take several examinations, submit five references to the Board, pay hundreds in fees, prepare a sample plat, and receive the Board's approval of his character and fitness. N.C. Gen. Stat. § 89C-13(b)(1a); *see also* p. 7, above. As applied to Plaintiffs, these one-size-fits-all burdens are not tailored to the state's claimed interests.

The experience of other states illustrates the point. Whereas North Carolina imposes a monolithic regime on would-be mappers like Jones, other jurisdictions achieve their public-safety goals with far narrower surveying laws. Some states, for example, limit their laws to projects that define legal property lines. Take Missouri, which regulates as “surveying” only projects “that affect real property rights.” Mo. Rev. Stat. § 327.272; *see also id.* (“[T]he term ‘real property rights’ means a recordable interest in real estate as it affects the location of land boundary lines.”). Wisconsin is similar. Wis. Stat. § 443.134. Meanwhile, other states carve out exemptions that let unlicensed persons perform mapping and modeling in a range of circumstances. In Virginia, for instance, unlicensed people have a free hand to “utiliz[e] photogrammetric methods or similar remote sensing technology” to “determine topography or contours, or to depict physical improvements” so long as their maps are “not . . . used for the design, modification, or construction of improvements to real property or for flood plain determination.” Va. Code § 54.1-402(C); *see also id.* (requiring that materials under this exemption bear a specific disclaimer). In Kentucky, all surveying projects are exempt from the survey-licensing requirement so long as they bear a disclaimer. *SUF 59; Pls.’ App’x Ex. 11 at 3.* Likewise in Mississippi. *SUF 58; Pls.’ App’x Ex. 10 at 3.* Until the late 1990s, in fact, North Carolina itself did not restrict mapping; early in his career, the Board’s expert spent years performing what would today be unlawful, unlicensed photogrammetry. *SUF 60-61.*

These comparators drive home that North Carolina’s blanket restriction on mapping and modeling is not in fact tailored to serve its claimed interests. The Board has no evidence that unlicensed mapping and modeling jeopardizes life, health, and property to a greater degree in any of the states whose laws are less restrictive than North Carolina’s. *SUF 62 (Board 30(b)(6) Dep. 16:8-20:24); Schall Dep. 58:1-63:20.* In fact, the Board’s expert volunteered that, as of

2015, “approximately 17” states did not regulate “3D modeling and topographic mapping and surveying” at all. SUF 63. And when pressed, he confirmed that he had no evidence that unlicensed mapping and modeling caused more instances of harm in those states than in North Carolina. SUF 64. That evidentiary default is a dispositive strike against North Carolina’s law. With no evidence that “life, health, and property” are impaired *more* in states that permit unlicensed mapping and modeling, the Board cannot show that its more speech-restrictive alternative is tailored to serve those interests. *Cf. McCutcheon v. FEC*, 572 U.S. 185, 209 n.7 (2014) (plurality opinion) (casting doubt on challenged law’s tailoring because many states had no such law and the government “present[ed] no evidence” of greater harms in those states).

b. In a similar vein, other states also spotlight the availability of less restrictive alternatives. To satisfy intermediate scrutiny (and, of course, strict), the Board “is obliged to demonstrate that it actually tried or considered less-speech-restrictive alternatives and that such alternatives were inadequate to serve the government’s interest.” *Billups*, 961 F.3d at 688; *see also id.* (“The government’s burden in this regard is satisfied only when it presents ‘actual evidence supporting its assertion[s].’”). And here, at least two less-restrictive alternatives lie directly to the north. As discussed, Virginia prohibits unlicensed people from creating maps and models in aid of certain projects—for example, flood-plain determinations—but otherwise largely leaves them alone. Along with other states, Virginia also makes use of disclaimers (rather than a flat ban) to ensure that end-users know what they’re getting. *See* p. 20, above. Still other states don’t regulate mapping and modeling at all. *See* pp. 20-21, above. These alternatives are all less restrictive than North Carolina’s flat ban. The Board has no evidence that these alternatives are inadequate to secure the government’s public-welfare goals. SUF 62-64. Yet

North Carolina appears not even to have entertained these alternatives.⁴ On this ground also, the Board cannot meet its burden under any level of First Amendment scrutiny. *See Billups*, 961 F.3d at 688.

c. In practical terms, moreover, applying the Board's surveying law to people like Michael Jones amounts to a speech-repressive solution in search of a problem. Traditional surveying activities have legal import and directly affect property rights; in North Carolina, for instance, land plats can be recorded by the register of deeds only under the seal of a licensed surveyor. N.C. Gen. Stat. § 47-30(d). For his part, though, Michael Jones doesn't want to set property lines. He wants to provide information to people who want to receive it. Yet North Carolina seeks to prevent him from doing so *because of* the content of that information; if the information is faulty (so the argument appears to go), the consequences would be catastrophic.

That argument lacks merit. As a general matter, it mimics one the courts routinely reject in First Amendment cases. *Cf. Sorrell*, 564 U.S. at 577 ("Those who seek to censor or burden free expression often assert that disfavored speech has adverse effects."). More fundamentally, it cannot be squared with the record. The Board has no evidence of adverse consequences in any of the states that do not regulate mapping and modeling. *SUF* 62-64. It has no evidence of adverse consequences in ones that regulate mapping and modeling only in certain settings. *Id.* It has no

⁴ *See* *SUF* 65 (Ritter Dep. 52:22-53:3) ("Q. So can that non-licensee give that same orthomosaic map to a client if the non-licensee puts a disclaimer on the map? A. No. It's my understanding you cannot disclaim your way out of complying with the law. That's my understanding. You cannot disclaim your way out of that."); *SUF* 66 (Board 30(b)(6) Dep. 28:15-29:2) ("Q. [A]s the board's designee, can you point to any instance where the board has informed a non-licensee that they can give an orthomosaic map to a client as long as they include some kind of disclaimer language on that map? A. I don't recall that happening. Q. Okay. I have a similar question for 3D digital models. As the board's designee, can you point me to any instance where the board has informed a non-licensee that they can provide 3D digital models to a client as long as they include certain disclaimer language with that? A. Not that I recall.").

evidence of adverse consequences in ones that regulate via disclaimer rather than a flat ban. *Id.* Even within its own jurisdiction, the Board's drone-related investigations appear never to have been prompted by an injured consumer. (Instead, the complaints tend to be filed by Board-licensed surveyors or engineers. SUF 67-68.) Nor do the Board's investigators trouble to locate or interview customers—to determine, for example, whether any were misled or harmed. SUF 69. And for complex projects, the Board's expert volunteered that clients often require a license or private certification regardless, as part of the bidding process. SUF 70.

Then there's the internet. Anyone can go on any number of websites at any time of day and use mapping tools to calculate distances, areas, elevations, and more. Google Earth, for example, lets you measure distances down to the hundredth of a foot. SUF 71 (Schall Dep. 71:17-72:20). There's even a scale bar. And as the Board's expert acknowledged, people can use these measurable online maps to make all sorts of day-to-day decisions about their land—none of which, in his view, appear to implicate the concerns that undergird the surveying law. *Id.* (Schall Dep. 73:8-73:10) (“A. If they're just using it to get approximate numbers for how much fence to buy how much harm can that do? . . .”).⁵ Nor, seemingly, would the Board have any qualms if Jones himself performed unlicensed mapping and modeling if he were a full-time employee of a particular client (rather than an outside service provider).⁶ In short, the record makes two points

⁵ See also SUF 72 (Schall Dep. 75:22-76:6) (“Q. . . . I think what I understood you saying was that for those kind of lower stakes, small time measuring needs that people might need, the kind of concerns that you had expressed about bridges collapsing, for example, and these kind of engineering failures, that those kind of dangers are less present when we're talking about those smaller scale projects; is that fair to say? MR. HANNA: Object to the form. A. Yeah.”).

⁶ See N.C. Gen. Stat. § 89C-25(7a); see also SUF 73 (recording objections) (Board 30(b)(6) Dep. 24:12-24:25) (“Q. . . . [J]ust to clarify, in each of those scenarios if the employee is performing those volumetric calculations without a surveyor license, that's okay because he falls within the industrial exemption, right? A. Yes. That's in the statute as an exemption. Q. Okay. And am I correct that if 360 Virtual Drone performs those same volumetric calculations for the employer, they would be in violation because they are not an employee of the property owner? A. Correct.

unmissably clear. North Carolina’s surveying law burdens speech. And as applied to Plaintiffs, the law fails any level of First Amendment scrutiny.

II. The Court may be able to conclude that the parties’ dispute has been narrowed as to certain real-estate marketing images and certain aerial maps.

As detailed above, the core dispute between the parties now involves whether the Board can ban Michael Jones and his company from disseminating aerial maps and 3D digital models. In this way, the controversy is narrower than presented in Plaintiffs’ complaint. Originally, for example, the Board’s investigator told Jones that he couldn’t create real-estate marketing photos with approximate boundary lines on them. *See* p. 10, above. The Board denies that the investigator offered that view. *See* p. 10, above. And in any event, the Board’s position appears now to be that Jones’s real-estate marketing images are not regulated by the surveying law. SUF 52-55. If that remains the Board’s formal position, the Court may wish to hold that the case no longer presents a controversy as to those images. (To the extent the Board reverses that position, its expert’s inability to identify any interest justifying a real-estate-images restriction would support judgment for Plaintiffs under any level of First Amendment scrutiny. SUF 74.)

The Board’s position on Jones’s aerial maps has refined as well. At first, the investigator advised Jones that he could not use orthomosaic software to stitch together aerial photos at all. SUF 29. (Again, the Board denies he said that. SUF 31.) And in other investigations, the Board has warned non-licensees against the mere “use of orthomosaic software, aerial orthomosaics and models with control point accuracy.” SUF 20. Now, however, the Board takes the view that Jones can create aerial orthomosaic maps so long as he engages in a content-based scrubbing

They would not come under the industrial exemption clause. Therefore, they would need a license to do that.”); *see generally* Paul M. Spinden, *The Enigma of Engineering’s Industrial Exemption to Licensure: The Exception That Swallowed A Profession*, 83 UMKC L. Rev. 637, 639 (2015).

exercise before sharing them: he must strip the materials of any location data and must ensure that hard-copy versions do not bear even a scale bar. *See* pp. 12-13, 16-18, above. As discussed above (at 16-18), this view triggers the most searching level of First Amendment scrutiny. At the same time, however, it may narrow the parties' dispute as to images that contain none of the content-based data and information the Board says trigger its law. Here, too, if the Board's formal position is that orthomosaic maps that lack location data, scale bars, or other georeferencing information fall outside the surveying law, the Court could conclude that the case no longer presents a controversy as to that subset of images.

CONCLUSION

Plaintiffs' motion for summary judgment should be granted.

Dated: March 25, 2022.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on this 25th day of March, 2022, a true and correct copy of the foregoing was electronically filed with the Clerk of Court using the CM/ECF system, which will send notification of such filing and, pursuant to Local Civil Rule 5.1(e), shall constitute service upon, the following:

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