STATE OF NORTH CAROLINA
GASTON COUNTY

IN THE GENERAL COURT OF JUSTICE
SUPERIOR COURT DIVISION
FILE NO. 08 CRS 068290

FILED
2011 DEC -8 P 2:08

STATE OF NORTH CAROLINA )
)
v. ) MOTION FOR APPROPRIATE RELIEF
)
MARK BRADLEY CARVER, )
Defendant. )

NOW COMES the Defendant, Mark Bradley Carver, pursuant to N.C. Gen. Stat. § 15A-1411 *et seq.*, and, through undersigned counsel, respectfully moves this Court for appropriate relief on the grounds that Defendant's rights under the Sixth, Eighth, and Fourteenth Amendments to the United States Constitution and Article I §§ 19, 23, and 27 of the North Carolina State Constitution were violated during his 2011 trial.

Through this motion, Defendant moves the Court to vacate his conviction or order a new trial. Denying him such relief will result in a fundamental miscarriage of justice within the meaning of N.C. Gen. Stat. § 15A-1419(b)(2) and under *House v. Bell*, 547 U.S. 518 (2006). In support of this motion, the Defendant shows the following:

## INTRODUCTION

1. Mark Carver (Carver) stands convicted of one count of first degree murder stemming from the murder of Irina Yarmolenko (Ms. Yarmolenko) on May 5, 2008.

2. Testing of touch DNA revealed a mixture of profiles on the pillar above the driver side rear door on the outside of Ms. Yarmolenko's car. The North Carolina State Bureau of Investigation Laboratory (SBI Lab)[1] determined that a partial profile from the mixture was consistent with Carver's DNA profile. No other evidence has ever connected Carver to the crime.

3. None of Carver's DNA was found on Ms. Yarmolenko's body, despite the fact that the method used to commit the murder would have required substantial contact between Ms. Yarmolenko and her murderer.

4. Carver has been excluded as the contributor of the DNA found on all three ligatures used to murder Ms. Yarmolenko. Testing of two of the ligatures resulted in an unidentified profile that does not belong to Ms. Yarmolenko or Carver, including male DNA one of the items.

[1] Now known as the North Carolina State Crime Laboratory.

5. Carver was excluded as the contributor of the DNA found under Ms. Yarmolenko's fingernails.

6. Carver's trial attorneys provided ineffective assistance of counsel by failing to adequately challenge the State's witnesses, including the testimony regarding the critical DNA evidence.[2]

## PROCEDURAL BACKGROUND

7. On May 5, 2008, Ms. Yarmolenko was found murdered on an embankment of the Catawba River.

8. On December 12, 2008, Carver was arrested for first degree murder and felony conspiracy to commit murder. He was indicted three days later.

9. On March 14, 2011, Carver's trial began in Gaston County, the Honorable Timothy S. Kincaid (Judge Kincaid) presiding.

10. On March 17, 2011, at the close of the State's evidence, the Court granted the defense motion to dismiss the charge of felony conspiracy. (Trial Tr. 336–37.)

11. On March 18, 2011, the trial concluded with the defense having presented no evidence.

12. On March 21, 2011, Carver was convicted of first degree murder and sentenced to life in prison.

13. On June 5, 2012, the Court of Appeals of North Carolina upheld Carver's conviction, despite a compelling dissenting opinion which argued that the defense motion to dismiss the first degree murder charge due to insufficiency of the evidence should have been granted. *State v. Carver*, 221 N.C. App. 120, 725 S.E.2d 902 (2012).[3]

14. On January 25, 2013, Carver's conviction was upheld, *per curiam*, by the Supreme Court of North Carolina. *State v. Carver*, 366 N.C. 372, 736 S.E.2d 172 (2013).

## FACTUAL BACKGROUND

### a. The Crime

15. On May 5, 2008, Dennis Lovelace (Lovelace) and his girlfriend Brenda Pierce (Pierce), discovered a woman's body on an embankment of the Catawba River while they were jet skiing. (Trial Tr. 35–38.)

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[2] The trial transcript is attached as Defendant's Exhibit 1. Citations to the transcript are cited as "Trial Tr." throughout this motion.

[3] The opinion and dissent are attached as Defendant's Exhibit 2.

16. Pierce rode her jet ski back to a local bait shop to call 911, while Lovelace located a man working at the nearby construction site of an apartment complex and asked him to call 911. (Trial Tr. 38, 52–53.)

17. At 1:07 p.m., the man's 911 call was received by the Gaston County Communications Center. (Def. Ex. 3 at 2–3.) Pierce's 911 call came in two minutes later. (Def. Ex. 3 at 8.)

18. At 1:12 p.m., officers with the Belmont Police Department (BPD) were dispatched to the scene. (Def. Ex. 3 at 4.)

19. At 1:20 p.m., officers with the Mount Holly Police Department (MHPD) were dispatched. (Def. Ex. 3 at 3.)

20. Upon arrival, investigators determined that the body was that of Ms. Yarmolenko, a student at the University of North Carolina at Charlotte (UNC-C). (Trial Tr. 116.)

21. Ms. Yarmolenko's body was found next to her car on the embankment. Her feet were pointing toward the river and her hand was gripping a vine. (Trial Tr. 118, 130.)

22. A Mount Holly Police officer testified that, an hour after officers arrived, Ms. Yarmolenko's body and clothing were wet, and her hair appeared wet. (Trial Tr. 118.)

23. Both driver side doors of Ms. Yarmolenko's car were open, the car had struck a tree stump just above the waterline of the river, and the front right tire was in a mud puddle. (Def. Ex. 4 at 1; Trial Tr. 96.)

24. The car was in neutral. (Def. Ex. 5.) According to State's report, the driver's seat belt was buckled at the time of impact and the car was travelling approximately 10–15 miles per hour when it hit the tree stump. (Def. Ex. 6 at 10.) The engine was not running. (Trial Tr. 256.) The car keys were found on the ground near the rear of the driver side of the vehicle. (Trial Tr. 241.)

25. Ms. Yarmolenko had been strangled to death with three ligatures that came from within her vehicle—a black drawstring that was consistent with having come from her hooded sweatshirt, a blue ribbon that matched ribbon found on a bag discovered in her car, and a blue bungee cord that was similar to another bungee cord located in the trunk of her car. (Trial Tr. 133–34, 144, 151; *see also* Def. Ex. 4 at 2.)

**b. Irina Yarmolenko's Known Activities on May 5, 2008**

26. Ms. Yarmolenko's whereabouts in the hours prior to her murder are fairly well documented.

27. At 10:17 a.m., Ms. Yarmolenko, as evidenced by surveillance video, stopped at her bank in Charlotte to make a deposit. (Def. Ex. 7 at 5.)

28. At 10:33 a.m., she dropped off donations at Goodwill in Charlotte. This was also captured on surveillance video. (Def. Ex. 7 at 7.)

29. Around 10:50 a.m., she stopped by a coffee shop where she worked near the UNC-C campus. She was not working the day of her murder.

30. At 11:09 a.m., surveillance video shows her car entering the parking lot of a YMCA in Belmont, NC. It circles the parking lot and exits at 11:10 a.m. and appears to go towards the Water's Edge Subdivision. (Def. Ex. 6 at 7.) The video is not clear enough to determine who is driving or how many people are in the car.

31. The embankment where she was murdered is located next to the Water's Edge Subdivision. (Trial Tr. 200.)

32. Based upon the video surveillance, Ms. Yarmolenko was murdered sometime between 11:10 a.m. and 1:07 p.m. when the first 911 call was placed.

33. Why Ms. Yarmolenko was in the Belmont area, roughly twenty minutes from her apartment and university, has never been confirmed. There is no known previous connection between Ms. Yarmolenko and the YMCA, the Water's Edge Subdivision, or the embankment where she was found.

**c. The Law Enforcement Investigation**

34. When officers arrived at the crime scene, both of the driver side doors were open. They were still open when the lead MHPD detective, William Terry (Det. Terry), arrived around 2:15 p.m. (Def. Ex. 7 at 2; Trial Tr. 124–25.) At some point during the crime scene investigation, but before the car was tested, photos taken by law enforcement document that the doors were closed. (Trial Tr. 125.)

35. Investigators failed to interview (Trial Tr. 201) or request DNA samples from any of the nearby construction workers.

36. Ms. Yarmolenko was a strict vegetarian and despised fast food, yet a half-eaten hamburger[4] from Wendy's was found in her trunk. (Def. Ex. 8 at 2; Def. Ex. 9.)

37. A camera was also found in her trunk. There was no film in it, but two exposures were shown on the counter.[5] (Trial Tr. 134–35.)

38. Detective Jim Workman (Det. Workman) with the Gaston County Police Department (GCPD) collected latent prints from the outside of the car at the scene, but none of the latent prints recovered were of value for identification purposes. (Trial Tr. 223–26; Def. Ex. 4 at 1–2.)

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[4] The food has also been described as a chicken and bacon wrap. (Def. Ex. 9.)

[5] On June 21, 2010, Det. Terry discovered that it is possible for the camera's frame counter to advance without film in the camera. (Def. Ex. 6 at 16.)

39. That evening, the car was removed from the scene and taken to the BPD's secure garage. (Def. Ex. 7 at 3.)

40. On May 6, 2008, the autopsy was performed. (Trial Tr. 313.) The report concluded Ms. Yarmolenko died from asphyxiation secondary to ligature strangulation. (Trial Tr. 322.)

41. On May 7, 2008, Officer J.D. Costner (Ofc. Costner) with the GCPD processed the interior of Ms. Yarmolenko's car and items found in the car for latent prints. He also packaged items for possible DNA testing. (Def. Ex. 8.)

42. None of the prints recovered by Ofc. Costner were of value for identification purposes. (Trial Tr. 227.)

43. In the days following the murder, investigators spoke with Ms. Yarmolenko's friends and classmates. One indicated she was a very trusting person who was known to pick up hitchhikers and often walked through the woods alone. (Def. Ex. 9.)

44. On May 13, 2008, over a week after the murder, investigators interviewed Lovelace, the jet skier who discovered the body, for the first time. (Def. Ex. 7 at 5–7.) Investigators never requested a DNA sample from him. (Trial Tr. 47.)

45. On June 11, 2008, Trooper Daniel Souther (Tpr. Souther), a collision reconstructionist with the State Highway Patrol, was asked to perform an inspection of Ms. Yarmolenko's car. (Trial Tr. 247–48, 253–54.)

46. Two weeks later, Tpr. Souther performed the inspection. He specifically looked at airbag data and determined that, with the amount of damage done to the car when it hit the tree stump, the airbag should have deployed. Since it did not, he testified that in his opinion the car was turned off when it hit the stump. (Trial Tr. 253–56.)

47. Tpr. Souther also determined that the car had been traveling at about 10–15 miles per hour at the time of impact and that the driver's seat belt was buckled at the time of impact. (Def. Ex. 6 at 10.)

48. As confirmed by photos taken during his examination, Tpr. Souther did not wear gloves when he inspected the car. He testified that he had been told the car had already been processed for DNA. (Trial Tr. 262.) Although items from the car had been previously collected, the car itself had not been processed and was not processed until a month later.

49. On July 10, 2008, two months after the murder, Det. Workman finally swabbed the car for DNA. (Trial Tr. 229–30; Def. Ex. 4 at 4.)

50. On October 8, 2008, five months after the murder, investigators interviewed Pierce, Lovelace's girlfriend, who was with Lovelace when he discovered the body. (Def. Ex. 7 at 11.) Investigators never requested a sample of Pierce's DNA. (Trial Tr. 57.)

**d. Improper Processing of the Crime Scene**

51. Law enforcement did not keep a crime scene log, despite it being standard practice. (Trial Tr. 206.)

52. A number of rescue workers, law enforcement, and firemen responded to the scene, but DNA samples were never collected from any of them to compare to profiles obtained from the evidence. (Trial Tr. 206.)

53. Several photographs taken at the scene and during later investigation of the car document that officers were touching the car without gloves. (Def. Ex. 10.)

54. The outside of the car was processed for prints by Det. Workman at the scene, but he did not know if any officers touched the car before he examined it. He testified he never asked if anyone had touched the car (Trial Tr. 224–27, 239), although photographs provide clear evidence that they had.

55. Det. Workman did not examine the ignition switch for fingerprints. (Trial Tr. 240.)

56. The car was not processed for DNA until July 10, 2008. (Trial Tr. 163.)

57. Det. Workman did not swab the gear shift, the ignition switch, or the steering wheel for DNA. (Trial Tr. 240–41.)

**e. Mark Carver**

58. On the morning of May 5, 2008, Carver picked up a salt block for his cousin's goats. An employee at the store put the salt block into Carver's vehicle for him because Carver had difficulty carrying heavy objects.

59. Mark then dropped off a prescription at the College Park Pharmacy. The prescription was filled at 10:52 a.m. The pharmacy indicated that prescriptions are usually filled immediately, but always within thirty minutes of drop-off. (Def. Ex. 11.)

60. From there, Carver went fishing on the Catawba River at a spot where he and his family had previously fished.[6] (Trial Tr. 102; Def. Ex. 16 at 2, *see also* Def. Ex. 13 at 24.) His cousin, Neal Cassada (Cassada), joined him a short time later to get the salt block.

    a. It took both men to transfer the salt block from Carver's vehicle into Cassada's. (Def. Ex. 13 at 25.)

    b. Carver has suffered from carpal tunnel syndrome since 1998. This condition has not improved with surgery and he received disability payments for the condition prior to his conviction. (Def. Exs. 19, 20.)

[6] The pharmacy is located approximately 1.5 miles from Carver's fishing spot.

c. Cassada suffered from significant heart problems, having had two previous heart attacks. (Def. Ex. 15 at 4.)

61. Around noon, the two heard a scraping noise that sounded like a bulldozer.[7] Sometime between 12:00 p.m. and 1:00 p.m., Cassada left and Carver continued to fish by himself. (Def. Exs. 16, 17.)

62. Around 2:15 p.m., Carver was approached by Officer Robert Ellison (Ofc. Ellison) with the MHPD. (Def. Ex. 7 at 2.) He was still at the fishing spot as he had been for several hours.

63. Ofc. Ellison asked Carver for identification, which he provided to the officer. (Def. Ex. 17.) Carver also informed Ofc. Ellison that Cassada had been there earlier and provided him with Cassada's contact information. At the end of the conversation, Carver and Ofc. Ellison shook hands and Ofc. Ellison left.

64. Carver was released from the scene at 2:30 p.m. to go pick up his daughter from school. (Def. Ex. 7 at 8; *see* Def. Ex. 16 at 3.)

65. At some point after leaving the fishing the spot, Carver went back to the pharmacy to pick up his prescription. Shelly Nixon, who worked at the pharmacy, later told law enforcement that when Carver came in "the incident was on television." Carver told her that he had been near there fishing and that law enforcement told him someone was shot. (Def. Ex. 12.)[8]

66. Carver realized later that evening that he had forgotten his fishing net and he returned with his brother to get it. Officers were in the process of removing Ms. Yarmolenko's car from the embankment and would not allow Carver to retrieve the fishing net. Carver returned the following morning, but the net was gone.[9] (Trial Tr. 211; Def. Ex. 13 at 49–55.)

67. On May 15, 2008, Carver voluntarily agreed to be interviewed by investigators. Carver told the officers that Cassada and he had gone to the river that day to fish. (Def. Ex. 7 at 8.)

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[7] As the subdivision nearby was still being constructed, it is entirely possibly the noise heard truly was a bulldozer.

[8] It is clear from Carver's statement that he had no knowledge of the crime because he did not even know the cause of death.

[9] Undersigned counsel has been unable to confirm whether the fishing net was collected into evidence by law enforcement. Pursuant to N.C. Gen. Stat. § 15A-268(a7), undersigned counsel requested an evidence inventory in May 2016 and was informed that MHPD would not provide the inventory. The refusal to respond to undersigned counsel's written request with an inventory list is in direct violation of N.C. Gen. Stat. § 15A-268(a7), which states, in part, that "Upon written request by the defendant, the custodial agency *shall* prepare an inventory of biological evidence relevant to the defendant's case that is in the custodial agency's custody." N.C. Gen. Stat. § 15A-268(a7) (emphasis added). Instead, MHPD forwarded the request to District Attorney Locke Bell and advised counsel to go through the DA for the inventory. The District Attorney has been uncooperative with or unresponsive to several defense counsel requests during post-conviction investigation.

68. On October 6, 2008, Carver and Cassada voluntarily provided buccal swabs and fingerprints. (Trial Tr. 175–77; Def. Ex. 7 at 11.)

69. During his videotaped interrogation, Cassada adamantly denies ever touching the car. When law enforcement lies to Cassada and tells him that Carver is in the other room implicating him, Cassada continues to maintain his innocence and denies having anything to do with the crime or seeing or being near Ms. Yarmolenko's car.

70. Carver repeatedly spoke to law enforcement, including after his arrest, voluntarily provided buccal swabs and fingerprints, and has always maintained his innocence.

### i. Carver's Intellectual Limitations

71. After interactions with Carver, he is often described as "simple". He did not complete high school and is illiterate.

72. The Department of Prison's assessment of Carver at the time of his incarceration was that his reading and spelling skills were at a first grade level. (Def. Ex. 14 at 6).

73. Although a psychological evaluation was not conducted prior to his trial, an evaluation, using the Wechsler Adult Intelligence Scale (WAIS-IV), the Wide Range Achievement Test Reading Subset (WRAT-4) and Independent Living Scales (ILS) was conducted on Carver in November 2016. (Def. Ex. 18.)

74. The WAIS-IV assessment determined that Carver has "a Full Scale IQ score of 61" with his "overall level of functioning . . . in the Extremely Low range . . ." (Def. Ex. 18 at 2). His scores indicate that he is "expected to have much more difficulty with academic and daily life tasks than most other individuals" and that he is likely to need support in "common societal procedures such as grocery shopping, paying bills, gaining employment, voting, and participating in any role in court." (Def. Ex. 18 at 2.)

75. The WRAT-4 Reading Subtest assessment also placed Carver in the "Extremely Low range" and further determined he can "read[] at a first grade level and is likely to have great difficulty reading most material for adults." (Def. Ex. 18 at 3.)

76. The ILS assessment determined that Carver "functions in the Low range in all areas" and "is likely to have great difficulty living on his own, managing money, managing his health and safety, and coping with stressors." (Def. Ex. 18 at 4.)

### ii. Carver's Disability and Physical Limitations

77. During his interrogations, Carver mentions that he has carpal tunnel and tendonitis in his arms. (Def. Ex. 29.)

78. According to his medical records, Carver has been diagnosed with radial tunnel syndrome and carpal tunnel syndrome, leaving him physically disabled, since at least 1998—seven years prior to Ms. Yarmolenko's murder. (Def. Exs. 19, 20.)

79. The diagnosis was confirmed by several doctors over the years, including ones determining whether Carver should receive disability benefits as a result of his condition. Doctors have noted Carver was "severely disabled", that he had "greatly decreased grip strength," and that he could not "hold the doctor's pen without dropping it." (Def. Exs. 19, 20.)

80. In 2003, a doctor conducting a medical improvement review for the Social Security Administration determined there had been no medical improvement in Carver's condition. (Def. Ex. 20.)

81. Carver's physical limitations are such that he was physically incapable of committing murder in the manner in which this one was perpetrated.

82. His medical condition and the limitations it imposed were not thoroughly investigated at the time of his trial.

**f. Touch DNA Testing**

83. DNA testing has traditionally been conducted on saliva, semen, and blood, which can directly link an individual to a crime scene. No such samples were found at the crime scene in this case.

84. The testing conducted in this case was on "touch DNA" samples collected from Ms. Yarmolenko's car and items on her body (the ligatures, her clothing, etc.). Touch DNA is comprised of skin cells that people naturally shed on surfaces with which they come into contact.

85. These skin cells are generally not visible to the naked eye, but are collected by swabbing items that the perpetrator may have touched.

86. On October 24, 2008, Carver's and Cassada's buccal swabs, along with the swabs taken from the car by Det. Workman on July 10, 2008, were submitted to the SBI Lab for testing. (Trial Tr. 181; *see also* Def. Ex. 7 at 11–12.) Inexplicably, this was the first time the swabs taken from Ms. Yarmolenko's vehicle were submitted for testing despite having been collected more than three months prior.

87. On December 10, 2008, the SBI Lab advised the MHPD of the results of their analysis.

    a. A partial DNA profile was obtained from one of two swabbings taken from the pillar above the driver side rear door of Ms. Yarmolenko's vehicle. The partial profile was consistent with a mixture, meaning more than one profile was present, and the predominant DNA profile "matched" Carver. (Def. Ex. 7 at 12; Def. Ex. 21.)

b. The swabs from the front passenger door armrest and the interior side front passenger door glass revealed profiles consistent with a mixture and the predominant DNA profile from both locations "matched" Cassada. (Def. Ex. 7 at 12.)

88. Carver's and Cassada's DNA profiles were not matched to any other evidence collected at the crime scene, including:

    a. All three ligatures used to murder Ms. Yarmolenko.

        i. Ms. Yarmolenko was the predominant profile on the ribbon swabbings and could not be excluded as a contributor to the mixture of DNA found on the bungee cord. (*See* Def. Exs. 21, 22.)

        ii. There is DNA, other than that of Ms. Yarmolenko, present on the ribbon and the bungee cord that does not match Carver or Cassada. (*See* Def. Exs 21, 22.)

    b. the underside of the exterior door handle on the driver side rear door,
    c. the passenger's side rear door,
    d. the windshield pillar on the passenger side,
    e. the front passenger door armrest,
    f. the front passenger door interior door handle,
    g. the seat belt button in the passenger side front seat,
    h. the seat belt button in the driver side rear seat,
    i. the interior door handle on the driver side rear door,
    j. the arm rest of the driver's side rear door,
    k. the grab handle on the driver side rear passenger side,
    l. the interior trunk release,
    m. the armrest on the passenger side rear door, and
    n. the buccal swab from the driver's seat belt.

    (*See* Def. Exs. 21, 22.)

89. Partial DNA profiles were obtained from scrapings of Ms. Yarmolenko's left and right fingernails. The profiles were consistent with a mixture, with the predominant profile in each matching Ms. Yarmolenko. Carver and Cassada were excluded as being contributors to either profile. (Def. Ex. 22.)

**h. Arrest and Subsequent Testing**

90. On December 12, 2008, Carver and Cassada were arrested for the death of Ms. Yarmolenko.

91. On May 26, 2009, the State again processed Ms. Yarmolenko's car for DNA in additional areas. These areas were the key ignition, the gear stick, and the driver's seat belt release. (Def. Ex. 23.) There is no explanation for why this DNA was not collected the day of the crime.

92. After Carver and Cassada's arrests, DNA from *at least eight* alternate suspects was tested by the SBI Lab and a Crime Stoppers advertisement soliciting information regarding the murder continued to run. (Trial Tr. 217–18.) Some of the testing of alternate suspects occurred even after trial dates in the case had been set.

93. The testing of multiple items of evidence resulted in no conclusion as to some or all of the alternate suspects, meaning they could not be excluded as the source of the DNA. (Trial Tr. 216–17, *see* Def. Exs. 24, 25.)

94. On August 10, 2010, the District Attorney requested that the MHPD transfer the ribbon, bungee cord, drawstring, and buccal swabs from Carver and Cassada to the Richland County Sheriff's Department Forensic Sciences Laboratory (RCSD Lab) in South Carolina to undergo additional DNA testing.[10] (Def. Ex. 6 at 18.)

95. On August 31, 2010, the RCSD Lab's testing of the drawstring revealed a mixture, with the major contributor being Ms. Yarmolenko and the minor contributor being "too weak to reliably interpret." The testing of the bungee cord revealed a mixture, with the predominant profile belonging to Ms. Yarmolenko, and excluding Carver and Cassada as contributors to the mixture. The minor profile was uploaded into the Combined DNA Index System. The testing of the ribbon revealed only the DNA of Ms. Yarmolenko. (Def. Ex. 27.)

96. RCSD was never provided the DNA profiles of the alternate suspects. The State only requested they compare the DNA found on the ligatures to Carver and Cassada.

**i. Trial**

97. Carver and Cassada were to be tried separately. Cassada's trial was scheduled first, but he had a heart attack and passed away the day before his trial began. After his death, his attorney joined Carver's defense as co-counsel.

98. Carver's trial began on March 14, 2011. The defense relied entirely on cross examination of the State's witnesses to defend Carver and chose not to present any evidence.

99. Before the trial, neither defense attorney spoke with the jet skiers who discovered Ms. Yarmolenko's body. (Trial Tr. 46–47.)

100. The theory put forth by the State was that Ms. Yarmolenko had gone to the river to take photos and had taken compromising photos of Carver and Cassada, which they then eliminated by stealing the film from her camera after the murder. The theory hinged on the fact that the camera found in Ms. Yarmolenko's trunk did not have film inside.

[10] This more sensitive testing still did not include Y-STR. (*See* Def. Ex. 26.)

101. Det. Terry testified for the State that the camera found in Ms. Yarmolenko's trunk had "two exposures showing on the counter there and it appeared that two pictures were taken" but there was no film in the camera. (Trial Tr. 134–35.)

102. Det. Terry also testified that the camera was examined further on June 21, 2010. (Trial Tr. 138.) However, Det. Terry failed to inform the jury that he learned that the counter on the camera could advance without any film inside. (Def. Ex. 28.)

103. The defense also failed to elicit any testimony regarding the fact that Det. Terry knew the film counter could advance without film in the camera, despite having been provided a report during discovery that specifically stated he was aware the film counter could advance in such a situation. (Def. Ex. 28.) The defense missed the opportunity to effectively challenge the only motive for the murder put forth by the State, weak as it was. The defense only asked whether any tests were conducted to determine if the camera was operative, to which Det. Terry answered no. (Trial Tr. 207.)

104. Based on the evidence presented at trial, three things ultimately lead to Carver's conviction:

a. his proximity to the crime scene;
b. the touch DNA evidence; and
c. his alleged knowledge of Ms. Yarmolenko's height.

### i. Carver's Proximity to the Crime Scene

105. The State relied on what it determined to be a logical inference that because Carver was near the crime scene when law enforcement arrived, he committed the crime.[11]

106. As Judge Hunter noted in his dissent, "No evidence (such as matching tire threads or footprints as in *Stone* and *Barnett*) was presented that [Carver] actually traveled the path between" where he had been fishing and where Ms. Yarmolenko was found. *Carver*, 221 N.C. App. at 128, 725 S.E.2d at 908.

107. Despite the absolute lack of evidence that Carver ever traveled from the fishing embankment to the crime scene, defense counsel presented no testimony relating that lack of evidence to the jury.

108. At trial, law enforcement testified that an officer standing on the embankment where Carver was fishing could clearly hear another officer who was standing at the crime scene when that second officer spoke in a normal tone of voice. The State used this testimony to attack the credibility of Carver's version of events—suggesting that there was

[11] It should be noted that this "logical inference" is similar to the inference drawn in another North Carolina conviction which ended in exoneration. *See State v. Taylor*, 337 N.C. 597, 447 S.E.2d 360 (1994).

no way Carver did not hear Ms. Yarmolenko's car crash into the stump or the ensuing attack, as he claimed.

109. The day of the crime, there was an active construction project nearby.

110. Interstate 85 runs close to the embankment where Carver was fishing and the highway noise is easily within earshot of the fishing embankment. Airplanes also pass over the area roughly every five minutes as the airport is nearby.

111. Defense counsel never solicited testimony or presented evidence to challenge the officers' assertion that the crime scene is within earshot of the embankment where Carver was fishing.

### ii. Carver's Alleged Knowledge of Ms. Yarmolenko's Height

112. During Carver's first interview with law enforcement, he told them he did not know Ms. Yarmolenko's height.

113. During trial, the State presented evidence indicating that during an interview with law enforcement, Carver knew how tall and big Ms. Yarmolenko was despite saying he had never seen her. (*See* Trial Tr. 196–98.)

114. Det. Terry testified as follows:

> Q: Did he continue to deny hearing or seeing the victim?
> A: Yes.
> Q: But during this interview didn't Mr. Carver actually describe the victim to you?
> MR. RATCHFORD: Objection.
> THE COURT: Overruled.
> A: Yes, he did.
> Q: How did he describe the victim to you?
> A: He said that she was – I believe the words he used is a little thing or a little girl. He described her as being little and he said that she came up to him about right here (indicating).
> Q: Because he actually stood up and showed you how far she came up ot him?
> MR. RATCHFORD: Objection, Your Honor. May we approach?
> THE COURT: All right.
> (Conference with counsel at the bench)
> THE COURT: Overruled.
> Q: So Mr. Carver actually stood up?
> A: Yes.
> Q: And he indicated actually on his own body where Ms. Yarmolenko came up to on him?

A: Yes.
Q: And were those his words?
A: Then he followed it with "I guess. I've never seen her."
Q: Okay. So then even after that he continued to deny seeing her?
A: Yes.
Q: So then did you eventually ask him again and say, well, then, how did you know how tall she was, things of that nature? Was that talked about at that point?
A: I don't recall if I asked it or not, but it was talked about, yes.
Q: Now there was certainly no news footage of Irina Yarmolenko standing right next to the defendant right here next to him?
A: No, ma'am.
Q: But somehow he knew how tall she was?

(Trial Tr. 196–98.)

115. This was powerful evidence for the jury and defense counsel elicited no testimony and offered no evidence to explain or mitigate this apparent contradiction.

116. Inexplicably, the jury was never shown the actual video. If the video had been shown, the jury would have seen the following exchange, which puts Carver's statement into clear context:[12]

> Crow: "Let's go back to May…when you were down there fishing at the lake, and you know why, I mean, the girl—your little girl[13] got killed down there…same day you were down there fishing."

(9:30 mark in recording)

…

> Crow: "Who ever got her got on her quick, didn't they?"
> Carver: "Yeah." *Nods affirmatively.*
> Crow: "They got their hands around her throat quick, didn't they?"
> Carver: *Nods affirmatively.*
> Crow: "Snuffed her out…"
> Carver: *Nods affirmatively.* "Yeah."
> Crow: *Snaps fingers.* "Just like that."
> Carver: *Nods affirmatively.* "Had to be somebody big and strong…"
> Crow: "Think so?"
> Carver: *Nods affirmatively.*

(28:25 mark in recording)

…

[12] The video is included on a CD as Def. Ex. 29.

[13] At 7:04, Carver says "my little girl" when he's talking about one of his daughters getting her license, which may be what caused Crow to refer to the victim as Carver's girl. (Def. Ex. 29.)

Crow: "Bigger than her...she was a little ole bitty thing, wasn't she?"
Carver: *Nods affirmatively.* "Yeah."
Crow: "How much you figure she weighed?"
Carver: "Probably about 110 pounds..."
Crow: "110 pounds—how tall you figure she was—she wasn't real tall was she?"
Carver: "Not real tall, she wasn't much taller than me..."
Crow: "How tall are you?
Carver: "About 5'4"
Crow: "So she wasn't much taller than you?"
Carver: "Nah, not that I...(*indecipherable*).
(28:36 mark in recording)

• • •

Crow: *Gets up and gestures with hand in front of his eyes.* "If y'all, If y'all was standing up, looking at each other . . . (*indecipherable*) . . . she'd be looking you in the eyes?"
Carver: *Nods affirmatively.* "Yeah, about there."
Crow: "Show me—stand up and show me about how tall she was on you."
Carver: *Standing up and gesturing with his hand in front of the top of his eyes.* "Probably, about, about right there. I guess and I don't know . . . I just, I guess."
(28:54 mark in recording)

117. It was Agent Crow who repeatedly referred to Ms. Yarmolenko as a "little girl" or a "little thing", not Carver.[14]

118. It was Agent Crow who first stands and shows how tall Ms. Yarmolenko would be next to Carver.

119. The video shows that Carver is merely mimicking what Agent Crow says and does. Agent Crow repeatedly tells Carver about Ms. Yarmolenko's small stature. When later asked about her size, Carver parrots back information Agent Crow had stated minutes before. It is clear that Carver has no independent knowledge of Ms. Yarmolenko's height outside of what Agent Crow has shown and told him.

120. The defense also never questions Crow about whether Carver had seen any pictures of Ms. Yarmolenko on the news or in the paper, which would account for any knowledge he had of her height and size. It is well documented that by the time the interview occurred in December 2008, photos of Ms. Yarmolenko had been all over the news for seven months.

[14] For brevity, and because the actual video has been provided to the Court, not every instance is included above.

### iii. The Touch DNA Evidence

121. The defense did not thoroughly or effectively challenge the DNA evidence at trial, or call its own DNA expert, despite the fact that it was the only physical evidence presented as linking Carver to the crime scene.

122. At trial, SBI Lab Analyst Karen Winningham (Winningham), testified that Carver's DNA "matched" the predominant profile obtained from the mixture found on the pillar above the rear driver side door. (Trial Tr. 272.)

123. Winningham stated that the "match" was 126 million times more likely to be observed from Carver than if it came from another unrelated individual in the North Carolina Caucasian population, 389 million times more likely to be observed from Carver than if it came from another unrelated individual in the North Carolina black population, 302 million times more likely to be observed from Carver than if it came from another unrelated individual in the North Carolina Lumbee Indian population, and 794 million times more likely to be observed from Carver than if it came from another unrelated individual in the North Carolina Hispanic population. (Trial Tr. 273–74.)

124. Winningham further testified that Carver could not be excluded from the mixture found on the rear passenger side seat belt button. (Trial Tr. 281.) However, Winningham did not generate population statistics for this profile "because statistics had already been generated for the other item that matched him." (Trial Transcript 282.) Failure to generate statistical data for the profile obtained from a different area is not an acceptable practice. (Def. Ex. 30 at 2.)

125. Winningham testified that a secondary transfer of DNA is "DNA transferred from one item and that is also transferred to another item." (Trial Tr. 289.) Later she identifies transference from "one person to another person to the car" as tertiary transference. (Trial Tr. 290.)

126. On cross examination, the explanation of secondary and tertiary transference was further complicated when Winningham testified that secondary transfer of DNA is "me sitting here touching that," and then that tertiary transfer is "touching this, someone else touching this, and transferring my DNA." (Trial Tr. 297.)

127. The State attempted to clear up the confusion regarding secondary and tertiary transference through SBI Lab Analyst Kristin Hughes' (Hughes) testimony. Hughes explained that secondary transference

> refers to a situation where if I shake your hand and then you shake His Honor's hand, could you find my profile on His Honor's hand. [sic] That's secondary transfer. Tertiary transfer refers to that same situation but then His Honor shakes the hand of juror number one. Can you find my DNA profile on the hand of juror number one. [sic] That's tertiary transfer.

(Trial Tr. 306.)

128. Through these two experts, varying and contradictory definitions of complex scientific terms were offered to the jury with little testimony to elucidate which definitions were scientifically accepted or how the two types of DNA transfer applied to Carver's case. Undoubtedly, the jury was left thoroughly confused about what secondary and tertiary transfer are and whether either even applied in this case.

129. The clarification and expansion of this point was particularly important because the DNA profile of the very officer who took Mr. Carver's license and shook his hand, Ofc. Ellison, was never collected or compared to the evidence at the scene.

130. In fact, in a letter from the State to the defense dated October 8, 2010, the prosecutor asked several, although not all, of the officers who had been at the crime scene whether they had touched the car in this case. It is concerning that although the letter indicates that the prosecutor left a message for Ofc. Ellison. (Def. Ex. 32 at 2.), there is no indication from the file this request was followed up on or the answer relayed to the defense.

131. As Ofc. Ellison was in a position to transfer Carver's DNA to Ms. Yarmolenko's vehicle the day of the crime, the defense should have ensured that transference was thoroughly explained to the jury or, more importantly, eliminated as a possibility through DNA testing.

132. The defense at no point attempted to clarify for the jury the difference between these contradicting definitions of secondary and tertiary transfer.

133. Additionally, through the testimony of the State's two DNA experts, the State pursued a line of questioning regarding whether flowing water could remove DNA from the surface of an object. (Trial Tr. 269, 305.) Later, during the rebuttal argument to the motion to dismiss, the State argued that Carver's DNA was not present on the murder weapons because he had washed Ms. Yarmolenko's body off in the river. (Trial Tr. 335–36.)

134. The defense stated that if it were true that DNA on the ligatures could have been washed off, Ms. Yarmolenko's own DNA would not be present either. (Trial Tr. 331, 334.)

135. Neither the State nor the defense explained that there was other DNA present on the ligatures that did not match Ms. Yarmolenko, Carver or Cassada. (*See* Def. Ex. 21 at 4; Def. Ex. 22 at 2.)

136. If the State's theory is that water washed off Carver's DNA, that theory would necessarily mean that all DNA was washed off, which is not consistent with the physical evidence in this case and was never clarified for the jury.

137. In April 2010, almost a year before Carver's trial, the Scientific Working Group on DNA Analysis Methods (SWGDAM) published updated guidelines for the interpretation and reporting of DNA test results. It included specific guidelines for the interpretation of DNA mixtures.

138. Based on the opinions of two forensic scientists engaged by undersigned counsel to review the testing and reporting in this case, had the SBI Lab followed the 2010 guidelines, the "match" would only have been reported for two of the loci because there are only two loci where the reportable alleles meet reporting standards. With only two loci, the results should have been reported as "inconclusive". (Def. Ex. 30 at 2; Def. Ex. 31 at 2.)

139. The defense failed to inform the jury about the new DNA Analysis Methods guidelines, and did not challenge Winningham's characterization of the DNA as a "match" to Carver.

140. When the defense attempted to elicit testimony from Winningham that Carver had been excluded from the mixture of DNA found in the nail scrapings of Ms. Yarmolenko there was an objection, which was sustained for lack of foundation. (Trial Tr. 295, 309.) After a bench conference, the defense made no attempt to establish a foundation in order to admit such testimony and instead abandoned this significant line of questioning altogether.

141. The defense did not present the jury with a DNA expert to refute any of the State's claims or explain the contradiction in State's testimony regarding the definitions and significance of secondary and tertiary touch DNA transfer.

142. At the close of the State's case, the defense made a motion to dismiss during which numerous references were made to the effect that the State had proved that Carver had touched the car, essentially conceding the point. (Trial Tr. 328–35.) Carver has always denied going anywhere near the car and is adamant he never touched it. He did not even know the car was there until police approached him while he was fishing.

## FIRST CLAIM FOR RELIEF

### CARVER WAS DENIED EFFECTIVE ASSISTANCE OF COUNSEL AS GUARANTEED BY THE SIXTH AMENDMENT

143. It is well established that the Sixth Amendment guarantees defendants the right to effective assistance of counsel. *McMann v. Richardson,* 397 U.S. 759, 771 (1970). This right plays a crucial role in ensuring a fair trial, "since access to counsel's skill and knowledge is necessary to accord defendants the 'ample opportunity to meet the case of the prosecution' [. . .]" *Strickland v. Washington,* 466 U.S. 668, 685 (1984) (quoting *Adams v. U.S. ex rel. McCann,* 317 U.S. 269, 275-76 (1942)). An individual may be deprived of his right to counsel when counsel has "simply [. . .] fail[ed] to render 'adequate legal assistance.'" *Id.* at 686 (quoting *Cuyler v. Sullivan,* 446 U.S. 335, 344 (1980)).

144. "The benchmark for judging any claim of ineffectiveness must be whether counsel's conduct so undermined the proper functioning of the adversarial process that the trial cannot be relied on as having produced a just result." *Id.*

145. A petitioner claiming ineffective assistance of counsel (IAC) must ordinarily make two showings. First, he must show that counsel's performance was deficient. *Id.* at 687. Counsel's performance is deficient when it falls below an "objective standard of reasonableness" under the circumstances. *Id.* at 688–90.

146. Second, a petitioner must also show that counsel's deficient performance prejudiced him. *Id.* at 687. Counsel's performance is prejudicial when "there is a reasonable probability that, but for counsel's unprofessional errors, the result of the proceeding would have been different." *Id.* at 694.

147. The Supreme Court of the United States has "declined to articulate specific guidelines for appropriate attorney conduct and instead [has] emphasized that 'the proper measure of attorney performance remains simply reasonableness under prevailing professional norms.'" *Wiggins v. Smith,* 539 U.S. 510, 521 (2003) (quoting *Strickland,* 466 U.S. at 688)). Further, the Supreme Court has determined that "[t]he first prong—constitutional deficiency—is necessarily linked to the practice and expectations of the legal community." *Hinton v. Alabama*, 134 S. Ct. 1081, 1088 (2014). Further, "[c]ounsel . . . has a duty to bring to bear such skill and knowledge as will render the trial a reliable adversarial testing process." *Strickland*, 466 U.S. at 688.

148. Throughout Carver's trial, defense counsel failed to offer key evidence that would have invalidated each of the three pieces of evidence upon which the State built their case, including: the State's proposed "guilty by proximity" inference, the State's touch DNA evidence, and the State's contention that Carver had independent knowledge of Ms. Yarmolenko's height.

**a. Failure to Adequately Consider Mark Carver's Intellectual Disabilities**

149. Despite Carver's obvious intellectual disabilities, lead trial counsel for Carver did not have Carver evaluated. Additionally, defense counsel stated to undersigned counsel that the decision whether to put on *any* defense evidence at trial was left up to Carver.

150. "[T]actical decisions-such as which witnesses to call, which motions to make, and how to conduct cross-examination-normally lie within the attorney's province." *State v. Williams*, 191 N.C. App. 96, 98, 662 S.E.2d 397, 399 (2008) (alteration in original) (quoting *State v. Brown*, 339 N.C. 426, 434, 451 S.E.2d 181, 187 (1994)). "However, when counsel and a fully informed criminal defendant client reach an absolute impasse as to such tactical decisions, the client's wishes must control; this rule is in accord with the principal-agent nature of the attorney-client relationship." *Id.* (quoting *Brown*, 339 N.C. at 434, 451 S.E.2d at 186). "The attorney is bound to comply with her client's lawful instructions, 'and

her actions are restricted to the scope of the authority conferred.'" *Id.* at 98–99, 662 S.E.2d at 399 (quoting *State v. Ali*, 329 N.C. 394, 403, 407 S.E.2d 182, 189 (1991)).

151. In the instant case, there is no indication there was any impasse, absolute or otherwise, between defense counsel and Carver. Moreover, Carver's intellectual limitations, as detailed in Defense Exhibit 18, make it impossible for him to have been "fully informed" about legal strategy and incapable of making tactical decisions regarding whether to introduce evidence at his trial.

152. Leaving such important strategic decisions to Carver "so undermined the proper functioning of the adversarial process that the trial cannot be relied on as having produced a just result." *Strickland,* 466 U.S. at 686.

153. In addition, no reasonable strategic reason can be asserted for trial counsel's failure to investigate the Defendant's intellectual limitations.

**b. Failure to Adequately Challenge the State's Proximity Argument**

154. As previously mentioned, the State presented testimony that the crime scene was within earshot of the embankment where Carver was fishing in order to undermine Carver's claim that he did not hear Ms. Yarmolenko being attacked.

155. In 2016, a local newspaper attempted to reenact the experiment conducted by officers during the murder investigation to determine if the fishing embankment was within earshot of the crime scene. A reporter stood at the spot where Ms. Yarmolenko was found and a photographer stood at the spot where Carver had fished, about 100 yards away. The two attempted to communicate and, per the reporter, they could only hear each other when shouting at full volume, and even then the shouting "sound[ed] like a whisper." (Def. Ex. 34 at 9.)

156. Undersigned counsel also attempted to replicate the experiment performed by officers at the scene. Neither was able to hear the other in a normal or raised voice. They were only able to communicate when shouting at full volume.[15]

157. Defense counsel never attempted to visit the crime scene prior to trial to determine for themselves if the embankment was in fact within earshot of the crime scene. At trial, they failed to challenge the State witnesses' assertion that the crime scene was within earshot during cross examination, and failed to offer any evidence to challenge the State's assertion that Carver would have been able to hear the attack from his fishing spot.

158. The experiments performed by the newspaper and undersigned counsel show that the State's claim that the crime scene was within earshot of the fishing embankment could easily have been undermined and weakened at trial. However, because the defense failed to properly investigate this claim, and did not attempt to challenge the claim on cross

[15] No construction was taking place the day undersigned counsel went to the river. Therefore, it was even less likely Carver would have heard the car crash.

examination, the jury was deprived of a key piece of evidence that would have weakened the State's case. Taken with all the other evidence that was not introduced or challenged by defense counsel, the outcome of the trial would have been different.

159. A key part of the State's case was its assertion that Carver's proximity to the crime scene could support a logical inference of his guilt. Despite the State's assertion, no evidence existed to indicate that Carver ever traveled from his fishing embankment to the crime scene. This fact debunks the State's argument that Carver's proximity allows an inference of guilt. However, testimony regarding this lack of evidence was never elicited by defense counsel, representing a significant failure to challenge the State's case.

160. Had the jury been made aware of this lack of evidence, the State's proximity argument would have been discredited and, taken with all the other evidence that was not introduced or challenged by defense, the outcome of the trial would have been different.

161. Defense counsel rendered a deficient performance during Carver's trial when they failed to properly investigate and challenge the State's assertion that the crime scene was within earshot of the fishing embankment, and when they failed to point out an absolute lack of evidence that Carver traveled between the two spots, which would have thoroughly discredited the State's argument that Carver's guilt could be inferred by his proximity to the crime scene.

162. This deficient performance resulted in a trial wherein the jury was not presented with available exculpatory evidence which would have had a significant effect on the jury and likely changed the outcome of the trial.

**c. Failure to Adequately Challenge the Touch DNA Evidence**

163. The Supreme Court of the United States "ha[s] recognized the threat to fair criminal trials posed by the potential for incompetent or fraudulent prosecution forensics experts . . . [t]his threat is minimized when the defense retains a competent expert to counter the testimony of the prosecution's expert witnesses; it is maximized when the defense instead fails to understand the resources available to it by law." *Hinton v. Alabama*, 134 S. Ct. 1081, 1090 (2014). Indeed, the court recognizes that "cases will arise where the only reasonable and available defense strategy requires consultation with experts or introduction of expert evidence." *Id.* at 1088 (quoting *Harrington v. Richter*, 131 S. Ct. 770, 788 (2011).

164. In this case, a single sample of touch DNA comprised of a few microscopic skin cells was the only evidence the State used to tie Carver to the crime scene.

165. The case put forward by the State relied almost exclusively on a new, complex, type of DNA evidence not widely used in criminal cases at the time and which is still controversial today. The nature of the State's case necessitated the testimony of a DNA expert hired by the defense to adequately defend Carver.

166. Only testimony from such an expert could fully inform the jury of the significance of the DNA profiles being mixtures, the likelihood of transferred DNA, the distinction between secondary and tertiary transfer, the significance of the presence of other DNA profiles, proper procedures for handling DNA evidence given the sensitive nature of touch DNA, updated guidelines for DNA Analysis Method, and the probative value of the numerous articles of evidence from which Carver was excluded.

167. Relying solely on cross examination of the State's experts was objectively unreasonable given the highly technical area of DNA evidence that was being presented in this case. Using touch DNA evidence in North Carolina was so novel in 2011 that Carver's appeal was the first time a North Carolina appellate court considered touch DNA evidence in a criminal case.

168. The defense's failure to put any evidence before the jury, be it through effective cross examination or expert testimony, to correct the State experts' contradictory testimony regarding secondary and tertiary DNA transfer, undoubtedly left the jury confused about touch DNA evidence and DNA transfer, two key components of the State's case.

169. Given the time lapse between the murder and the DNA processing of Ms. Yarmolenko's vehicle, along with the novel and complex nature of touch DNA testing, the defense's failure to order its own tests from the touch DNA samples or to have the unidentified DNA from the ligatures tested against alternative suspects and analyzed for redundancy between the items amounts to a gross oversight that denied the jury crucial information regarding Carver's innocence.

170. The existence of another individual's DNA on the ligatures from which Carver was excluded as a contributor, including on the ribbon and a male profile on the bungee cord, was downplayed by the State's experts. The defense did not sufficiently explore the presence of unaccounted for alleles[16] on the murder weapons during cross examination given the State's implication that the presence of such DNA was trivial. By failing to adequately bring to the jury's attention the presence of another unidentified person's DNA on the murder weapons, defense counsel deprived the jury of a key piece of evidence and Carver of the right to an adequate defense.

171. The State argued that Carver's DNA was not found on the ligatures or on Ms. Yarmolenko's body because that DNA had been washed off in the river. While the defense pointed out that Ms. Yarmolenko's DNA would also have been washed off in the river, they failed to point out to the jury that there were other DNA profiles found on the ligatures that did not match Carver, Cassada, or Ms. Yarmolenko. The defense failed to adequately point out that the State's fabricated explanation was illogical.

172. Moreover, the defense did not elicit testimony regarding the DNA profile found on the door pillar and seat belt button. The State contended at trial that some of the peaks from

[16] In a DNA sequence, at each locus, each individual has two alleles. One allele is received from the individual's mother and the other is received from their father. It only takes a one-allele difference in a full single source profile to exclude a suspect.

the samples found on the door pillar and seat belt button matched the known sample from Carver. However, the State did not mention other matching peaks found in both the pillar and seat belt samples. Though those peaks were below reporting threshold, they are consistent on both the pillar and the seat belt and exclude Carver, Cassada, and Ms. Yarmolenko. (Def. Ex. 30 at 2.) This information would have been strong corroboration for the possibility that Carver's DNA was transferred to the crime scene by another individual, and would have greatly weakened the State's only physical evidence.

173. When confronted with a case based almost entirely on a new, complex form of DNA analysis, the defense counsel failed to present an expert DNA witness and failed to adequately cross examine State's witnesses regarding DNA analysis. In doing so, defense counsel performed deficiently to the detriment of Carver. Absent these errors, the jury would have been exposed to significant evidence of Carver's innocence, presenting a reasonable probability that they would have reached a different verdict.

**d. Failure to Adequately Question Carver's Alleged Knowledge of Ms. Yarmolenko's Height**

174. The defense never introduced evidence or solicited testimony showing that Carver's knowledge of Ms. Yarmolenko's height was based solely on suggestive statements and gestures that Agent Crow made during the interrogation and that Carver did not have any independent knowledge of Ms. Yarmolenko's height, besides what he guessed from seeing images in the news and comparing her to his own daughter who was a similar age.

175. A review of the interrogation video clearly shows that Carver had no actual knowledge of Ms. Yarmolenko's height. Agent Crow's suggestive questioning led Carver to make an assumption about her height based only on verbal and physical cues given by Agent Crow throughout the interrogation.

176. Given Carver's limited mental capacity, he was particularly susceptible to suggestion.

177. Judge Kincaid was quoted earlier this year as saying the testimony regarding Carver's alleged knowledge of Ms. Yarmolenko's height was a turning point in the trial and that after Ofc. Terry's testimony, the change in the courtroom was palpable. After being informed of the context surrounding Carver's statements about Ms. Yarmolenko's height, context clearly shown in the interrogation video, Judge Kincaid stated, "That might have made a difference to the jury. It sure could have. Wow." He went on to indicate that not playing the video could be grounds for an IAC claim. (Def. Ex. 33 at 5.)

178. The defense counsel's failure to present the interrogation video to the jury represents a clear failure to adequately investigate this case and present exculpatory evidence to the jury. The defense made no effort to put Carver's comments into context, although the interrogation video clearly illustrates that he had no independent knowledge

of Ms. Yarmolenko's height. Had the jury seen this video, a key piece of the State's case would have been significantly undermined.

179. By failing to present evidence to the jury which would discredit the State's claim that Carver had independent knowledge of Ms. Yarmolenko's height, the defense counsel tendered a deficient performance while representing Carver, failing to offer significant exculpatory evidence that would likely have resulted in a different outcome at trial.

**e. Failure to Adequately Challenge the Existence of a Motive**

180. Further, the defense failed to elicit testimony that the investigators knew that the camera's counter could advance without film. (Trial Tr. 207; Def. Ex. 6 at 16; Def. Ex. 28.) This left the State opportunity to argue its theory that Carver and Cassada had been doing something illegal at the river that day that Ms. Yarmolenko caught it on film, thus leading the two men to kill her and take the film out of the camera. (Def. Ex. 35.)

181. Had the State's theory been properly challenged with the available evidence, the State would have been left with a complete lack of motive which unquestionably would have impacted the jury.

182. Put simply, Carver had no reason nor the ability to murder Ms. Yarmolenko. When combined with the complete lack of physical evidence for a crime where physical contact between the perpetrator and victim clearly occurred—physical contact that Carver was physically unable to exert—the jury verdict would have been different.

**f. Failure to Obtain and Use at Trial Carver's Medical Records Which Prove He was Physically Incapable of Committing this Crime**

183. The defense was aware that Carver's physical limitations made it impossible for him to murder Ms. Yarmolenko, yet they failed to obtain the medical records which would have proven it.

184. The medical records make clear that Carver was not capable of holding more than twenty pounds, with some doctors asserting he could not hold more than five or ten pounds. (Def. Ex. 19 at 16; Def. Ex. 20.)

185. Ms. Yarmolenko was a physically fit, young woman. Had she come into contact with Carver in the way the State alleges, he would not have been able to murder her in the manner in which she died. His medical records clearly reflect that he did not have the strength that would be necessary to subdue her, while tying three ligatures around her neck.

186. There is no possible reasonable strategy that would include not even *obtaining* the confidential medical records for review prior to trial.

187. Had information regarding Carver's physical limitations been submitted to the jury, the verdict would have been different.

**g. Conclusion**

188. When examining the volume of mistakes made by defense counsel, the Supreme Court of the United States recognizes that "the right to effective assistance of counsel . . . may in a particular case be violated by even an isolated error of counsel if that error is sufficiently egregious and prejudicial." *Murray v. Carrier*, 477 U.S. 478, 496 (1986).

189. Considered individually, many of the actions and inactions of Carver's defense attorneys warrant a finding that Carver received ineffective representation during his trial which drastically affected the jury's verdict. However, when one considers the cumulative detrimental effect that defense counsel's errors had on the jury's perception of Mr. Carver's innocence, there is no question that Carver did not receive an effective defense as guaranteed by the Sixth Amendment.

190. Carver was constitutionally entitled to counsel who would "require the prosecution's case to survive the crucible of meaningful adversarial testing" by investigating and presenting to the jury such evidence as a reasonable investigation would have uncovered. *United States v. Cronic*, 466 U.S. 648, 656 (1984).

191. The defense failed to adequately investigate the facts and circumstances surrounding the crime, which in turn left them unable to effectively cross examine the State's witnesses.

192. Through failure to investigate and woefully inadequate trial performance, defense counsel failed to present evidence which would have undermined all three pieces of evidence supporting the State's case. Defense counsel failed to use available evidence to challenge the State's "guilt by proximity" argument, touch DNA evidence, and assertion of Carver's independent knowledge of Ms. Yarmolenko's height.

193. The actions taken and not taken by defense counsel during the investigation and trial of this case were not objectively reasonable and there is exceedingly more than a reasonable probability that, but for counsel's errors, the result of the proceeding would have been different.

194. Due to the errors of defense counsel, Carver's trial failed to meet the standards of an adversarial proceeding required by the Sixth Amendment and Carver was deprived of his right to effective assistance of counsel. Counsel's deficient conduct greatly undermined any confidence in the jury's verdicts, and rendered his trial fundamentally unfair. For the aforementioned reasons, Carver is entitled to relief under the Sixth Amendment.

## SECOND CLAIM FOR RELIEF

### MARK CARVER IS ACTUALLY INNOCENT AND IS ENTITLED TO RELIEF PURSUANT TO THE EIGHTH AMENDMENT

195. Carver is currently serving a life sentence for a crime he did not commit. He did not murder Ms. Yarmolenko or have any participation in her murder.

196. No physical evidence has ever linked Carver to her body or any of the ligatures used to commit the crime.

197. Justice O'Connor's concurring opinion in *Herrera v. Collins* recognizes the "fundamental legal principle that executing the innocent is inconsistent with the Constitution." 506 U.S. 390, 419 (1993). The United States Court of Appeal for the Fourth Circuit extended this principle when it stated that "the principle at stake is no different for one who has been sentenced not to death, but to a term of extended incarceration." *Harvey v. Horan*, 285 F.3d 298, 304–305 (4th Cir. 2002).

198. Carver has consistently maintained his innocence—from the time of his arrest through this postconviction filing. Even after being arrested and informed of his rights under *Miranda v. Arizona*, 384 U.S. 436 (1966), Carver continued to talk with law enforcement rather than exercise his right to remain silent or his right to an attorney. He believed the truth was enough.

199. Carver was offered plea deal for second degree murder which would have carried a sentence of eight to fourteen years in prison. That offer would have been an attractive for someone who was guilty, but Carver maintained his innocence and refused the plea.

200. The entirety of the "evidence" against Carver has been disproven.

201. Carver is actually innocent of Ms. Yarmolenko's murder and is incarcerated in violation of the Eighth Amendment.

202. Justice demands that Carver's conviction be overturned.

## CONCLUSION

203. Mark Carver's Sixth Amendment rights were violated by his defense counsel's ineffective representation and as a result he was wrongfully convicted and incarcerated.

204. Carver had no motive to murder Irina Yarmolenko.

205. No reliable physical evidence has ever tied Carver to Ms. Yarmolenko's body, the crime scene, or the murder weapons.

206. Carver was not physically capable of tying three ligatures around a young, active woman and strangling her as she fought back.

207. Carver had no independent knowledge of the victim's height or size and was manipulated by law enforcement's interrogation techniques.

208. Carver has no prior criminal convictions and has never received an infraction while in prison.

## PRAYER FOR RELIEF

**WHEREFORE**, Defendant respectfully prays unto the Court the following:

1. Issue an order vacating the Trial Court's judgment against Defendant and dismiss all charges against him.

2. In the alternative, issue an order for a new trial.

3. Grant such other relief as this Court deems just and proper.

Respectfully submitted, this the 8th day of December, 2016.

*Attorneys for Mark Bradley Carver:*

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**Certificate of Service and Compliance with 15A-1420(a)(1)(c1)**

I hereby certify that, via hand delivery, I caused to be served a copy of the above **Motion for Appropriate Relief** upon District Attorney Locke Bell, in whose prosecutorial district this case was tried:

The Honorable Locke Bell
Judicial District 27A
Gaston County Courthouse
325 North Marietta St., Suite 2003
Gastonia, NC 28052

I further certify, pursuant to N.C. Gen. Stat. § 15A-1420(a)(1)(c1), that, in my professional judgment as a postconviction attorney, there is a sound legal basis for this motion, that this motion is made in good faith, that I have reviewed the trial transcript in the case, and that I have given notice of this motion to the District Attorney's Office, through service of the motion as indicated above. Notice of this motion has also been given to the attorneys who represented Mr. Carver at trial, Mr. Brent Ratchford and Mr. David Phillips, via email.

This the 8th day of December, 2016.

Christine C. Mumma
*Attorney for Mark Bradley Carver*
Executive Director
N.C. Center on Actual Innocence
P.O. Box 52446 Shannon Plaza Station
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N.C. State Bar No. 26103

MAR EXHIBIT LIST

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EXHIBIT
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November 18, 2016

Ms. Chris Mumma
Executive Director
N.C. Center on Actual Innocence
P.O. Box 52446 Shannon Plaza Station
Durham, North Carolina 27717-2446

**RE: State of NC v. Mark Bradley Carver**
**SBI Lab No.: R200810146**

Dear Ms. Mumma,

Pursuant to your request I have completed a review of the North Carolina State Bureau of Investigation DNA testing in the above referenced case. My review consisted of the case file data that you forwarded to me.

For purposes of this correspondence, I will concentrate on the samples that were reported to reveal a positive association to Mr. Carver.

- Sample 34-2: Listed as 'swabs from pillar above driver's side rear door'
- Sample 34-15: Listed as 'swabs from seat belt button, passenger side back seat'

1. I could not find any indication in the case file as to how many swabs were collected from each of these areas, nor was there indication of what was consumed of these samples during the testing. Therefore, it is not possible, based on the notes provided, to determine what remains for possible retesting. Having said that, there is a notation in the file and on the report under, "Disposition of Evidence", that Items 34-1 through 34-22 (all swabs from the vehicle) and 35 (DNA extracts) were "…being returned via First-Class Mail" indicating there was remaining swab material from some, if not all, of these sample.

   Additionally, the case notes indicate that the DNA extractions were in a final volume of 20ul and it appears only 10ul was used for the testing so there should also be DNA extract remaining from these samples.

2. The SBI laboratory used the ABI Identifiler™ kit during this testing. This kit analyzes sixteen (16) genetic locations (loci), one of which tests for the gender of the DNA source. This kit was common for 2008 when the testing was performed, however there are more sensitive kits available today. These kits include, but are not limited to, Identifiler Plus™, Globalfiler™, Minifiler™, PowerPlex Fusion and Fusion 6C. All of these kits are more sensitive and yield better results with weak, degraded and inhibited samples.

3. The results obtained for both items listed above were partial profiles (not all 16 loci revealed reportable results).

4. For the Items that were reported as having a positive association to Mr. Carver:

    a. The SBI reported that the predominant profile from Item 34-2 matched Mark Carver at 10 loci (gender locus being one). If the SBI were to use the interpretation/reporting guidelines as outlined in the Scientific Working Group on DNA Analysis Methods (SWGDAM) published in April 2010 and which have been generally accepted in the DNA field since publication, I feel this 'match' would only be made at 2 of the loci because there are only 2 loci where the reportable alleles are above stochastic threshold. The statistical significance of a 2 loci inclusion would be significantly different than what was reported.

    b. The SBI reported that Mark Carver couldn't be excluded from the mixture obtained from Item 34-15, however they did not provide a statistical estimate for this association. This is not an acceptable practice today, nor was it acceptable in 2010. The FBI Quality Assurance Standards for DNA Testing Laboratories (QAS) requires that any positive association be accompanied by a qualitative or quantitative value. In looking at the raw data, there were only 4 loci (the gender location being one) where reportable peaks were observed. Each of these locations has peaks below reportable threshold and for that reason, if current guidelines were employed with this sample, no conclusions could be made as to the inclusion or exclusion of any individual.

    c. In each of these profiles there are numerous peaks below reporting threshold. At the vWA there are 2 apparent peaks that appear to be the same in both profiles and these peaks could not have originated from Ms. Yarmolenko, Mr. Carver or Mr. Cassada.

5. DNA cannot be dated and therefore, it is impossible to determine when the DNA was deposited, other than at some point prior to collection. Additionally, it is not possible to determine how DNA is deposited; whether from direct contact, secondary transfer or any other means.

6. There were numerous additional swab samples collected from the car in addition to those discussed above, that exhibited DNA profiles which were not consistent with any of the known standards submitted for comparison. If profiles for the investigators are available for comparison, I would recommend their known profiles be compared to the unknown DNA to rule out the possibility of any contamination at the scene.

If you have any questions following a review of this letter, please don't hesitate to call me at 703-646-9863.

Sincerely,

Meghan E. Clement

Meghan E. Clement, MS, F-ABC
Senior Director

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**November 20, 2016**

**Ms. Chris Mumma, Esq.**
**Executive Director**
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**P.O. Box 52446 Shannon Plaza Station**
**Durham, North Carolina 27717-2446**

**Re: State of North Carolina vs. Mark Carver (NCSBI Lab# R200810146)**

Ms. Mumma;

ForensiGen LLC is a North Carolina-based consulting company that specializes in forensic DNA and serology evidence evaluation and testing. Upon your request, I evaluated a portion of the DNA evidence generated by the NCSBI Lab in reference to lab file #R200810146 (NC vs. Mark Carver, offense date 5/5/2008, victim Irina Yarmolenko). This review included the lab's DNA analysis data (e-grams), bench notes, and reports/final conclusions pertaining specifically to item #34-2 (swabs from pillar above driver's side rear door) and item #34-15 (swabs from seat belt button, passenger side back seat). This review also included the lab's relevant Forensic Biology Policy and Procedure Manuals, Forensic Biology SOPs, and Bodily Fluid SOPs and Training Manuals. In additional, I reviewed the transcript of trial testimony given by analyst Karen Winningham in relation to the two evidence items referenced above. I base my review and opinions on contemporary forensic DNA and serology analysis guidelines, recommendations, and best practices set by the forensic science community (entities such as AAFS, ISFG, SWGDAM, NIST), in addition to over 15 years of laboratory experience in the fields of molecular genetics and molecular biology.

**DNA Evidence Evaluation and Findings:**

The NCSBI lab reports indicate that the DNA analyses in R200810146 were based on a standard 16 marker STR analysis kit. For the evidentiary items #34-2 and #34-15, organic DNA extraction was conducted on 11/20/2008. DNA quantitation was accomplished on 11/21/2008 using Applied Biosystems' Quantifiler® protocol, followed by PCR amplification with Identifiler® kit on 11/25/2008. The results/interpretations for this analysis (evidence DNA profile comparison to the defendant Mark Carver) were reported by the lab on 12/30/2008 and again on 9/21/2010.

To ascertain the integrity of the analysis and the accurate interpretation of the results, the DNA profiles (e-grams) for the two items #34-2 and #34-15 were analyzed carefully for discrepancies, inconsistencies, inaccurate allele calls and artifacts, contamination, anomalies in the negative and positive control samples, and/or any other discrepancies of technical or biological nature. The statistical analyses and data interpretations were ascertained for scientific accuracy and potential errors and

biases. I list below the interpretations/conclusions rendered by the Lab for each evidentiary item, followed by my expert analysis, observations, and interpretations as the data pertains to the reference DNA profile obtained from Mark Carver (item# 32).

**Item #34-2: swabs from pillar above driver's side rear door**

**NCSBI Lab Interpretation:** In their 2008 report, the lab concluded that the partial DNA profile obtained from this item was consistent with a mixture. The lab further concluded that the predominant profile in that mixture matched the DNA profile from Mark Carver. The lab rendered a RMP statistic with a source attribution language. That conclusion was reflected in the analyst's court testimony. In the 2010 report, the lab modified the interpretation language to reflect that a partially predominant can be ascertained to match Mark Carver and that additional alleles were present that were inconsistent with the standards submitted. In their 2010 report, the lab rendered an exclusion interpretation for two other individuals from this mixture sample.

**Analysis:** The DNA profile obtained from item #34-2 is consistent with a mixture of at least two contributors. The data reflect a low quality sample: allelic peaks were not detectable at four markers, and allelic dropout must be assumed at all 15 autosomal markers due to stochastic effect. This leads to the conclusion that a considerable amount of data is missing from this DNA mixture to allow for any reliable matching. The interpretation by the lab that a predominant (or even a partially predominant) profile can be discerned from this mixture is highly erroneous and scientifically baseless. The marker genotype(s) cannot be reliably deconvolved from this low quality sample due to stochastic effect and potential allele stacking. The lab's interpretation that the "*partially predominant*" profile "*matched*" the DNA profile from Mark Carver is erroneous and baseless, and points to what is known as confirmation bias. For example, the lab surmised that the typing information at Marker TH01 is allele 6 (perhaps with a possible 9.3 below detection) but failed to also evaluate that the "*predominant*" contributor could have been a homozygous allele 6 at that marker, which would have effectively excluded Mark Carver. Instead, the lab maneuvered around that issue by not using TH01 in the statistical calculation. Similarly at marker D18S51, the detectable typing data was an allele 13 that is barely above the lab's analytical threshold of 75 RFUs. Not considering the possibility that marker D18S51 may reveal a homozygous allele 13, the lab opted to not use that marker for statistical calculation. Conversely at marker D5S818, the lab considered allele 11 as a homozygous genotype and deemed that to match the defendant while ignoring the possibility of stochastic dropout and a heterozygous genotype that would exclude Mark Carver at that marker.

In January 2010, the Scientific Working Group on DNA Analysis Methods promulgated crucial guidance to forensic laboratories on DNA mixture interpretation and the necessity of validating and incorporating the stochastic threshold in DNA evidence interpretation, particularly for mixed samples (guidelines were made public on 4/8/2010). The NCSBI lab did not incorporate SWGDAM 2010 guidelines until after 9/2012. Consequently, the lab interpreted the DNA profile from item #34-2 erroneously not only in their 12/2008 report but also in their 9/2010 report. Under current and more accurate and objective interpretation standards, the partial DNA mixture profile from item #34-2 would have been deemed inconclusive (as opposed to a "*match*" with a statistic of 126 million).

**Item #34-15: swabs from seat belt button, passenger side back seat**

**State Crime Lab Interpretation:** In their 2008 report, the lab concluded that the partial DNA profile obtained from this item was consistent with a mixture and that Mark Carver cannot be excluded as a contributor. The lab also found additional alleles that were inconsistent with the standards submitted. In their 2010 report, the lab rendered an exclusion interpretation for two other individuals from this mixture sample.

**Analysis:** The DNA profile obtained from item #34-15 is consistent with a mixture of at least two contributors. The data reflect a very low quality sample: allelic peaks were detectable at only three autosomal markers. The remaining 12 autosomal markers (the vast majority of the data) revealed complete drop-out. Due to the very low sample quality, this DNA profile should have been deemed inconclusive for any interpretation. The lab opined that Mark Carver cannot be excluded as a contributor to this mixture. Contrary to DNA interpretation standards and practices that were in place even in 2008, the lab did not render any statistical calculation to support that conclusion. Curiously, the lab analyst (Karen Winningham) testified that "*[T]here would have been enough to do a mixtures statistic but it was not performed on this particular item because statistics had already been generated for the other item that matched him*", referring here to item #34-2 and Mark Carver. This is a very misleading statement for two reasons. First, the statistic that was calculated for item #34-2 (the other item that was deemed by lab to "match" Mark Carver) was a RMP statistic that would not have been applicable to item #34-15 (which revealed a mixture profile requiring a CPE/CPI statistic). Second, the RMP statistic for item #34-2, which was based on a flawed interpretation to begin with, resulted in a statistical match probability (RMP or Random Match Probability) of 1 in 126 million in the Caucasian population. For the sake of the argument, had a mixture statistic (CPI/CPE or Combined Probability of Inclusion/Exclusion) been applicable and calculated for item #34-15 (factoring three detectable alleles at D8S1179 and two detectable alleles at marker vWA), that would have yielded a combined probability in the range of 1 in 25, a far cry from 1 in 126 million. Therefore, the testimony by the analyst inappropriately conjoined two distinct (low quality/uninterpretable) evidentiary samples requiring two different approaches in statistical calculations under the same evidence weight/probative value. In my opinion, that was an outrageous misrepresentation of this DNA evidence to the trier of fact. It appears that the analyst's testimony and decision to not calculate a statistic for item #34-15 was driven by a superior/supervisor at the lab. According to the notes found on the Forensic Biology DNA Review Sheet (a document from the case file containing internal technical and administrative reviews, comments, and suggested changes provided by the analyst's peers at the lab), a recommendation was made by the technical reviewer that a CPE statistic be calculated for item #34-15. The administrative reviewer concurred with that recommendation. However, the notes also state: "*Carvere's pred. to 34-2, no need for 2$^{nd}$ set of #s per MJB*", indicating that MJB (initials for Forensic Biology Section Special Agent in Charge Michael J. Budzynski) disagreed with the technical and administrative reviewers' recommendations. The reasoning behind MJB's decision cannot be gleaned from the lab file.

**Additional Note:**

An instance of DNA contamination is found in one of the negative control samples (Q: well D01) extracted on 11/20/2008 along with evidence items #34-1 to #34-22. Sample Q reveals below-detection peaks with allelic morphology at marker D8S1179. The presence of DNA contamination in that sample is further supported by the quantitation data (sample Q showed 0.0169 ng/ul of DNA). This contamination may have impacted the integrity and reliability of the evidentiary items #34-1 to #34-22. Sample Q (stands for Questioned) represents an aliquot of the DNA extraction buffer used by the lab to extract the DNA from evidence items. Typically, sample Q is analyzed alongside the evidence to demonstrate that the reagents that make up the extraction buffer are devoid of exogenous (contaminating) DNA.

Finally, the lab should also provide you with all .fsa files and DNA extraction pages generated in this case.

Ms. Mumma, please feel free to contact me should you have any questions.

Sincerely,

**//e-signed// 11/20/2016**

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**Dr. Maher Noureddine, PhD, MS, D-ABC**
**President: ForensiGen, LLC.**