

PATENT ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT												
NATURE OF CONVEYANCE:	ASSIGNMENT												
CONVEYING PARTY DATA													
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>James David Sawin</td> <td>07/05/2012</td> </tr> <tr> <td>Luke W. Friendshuh</td> <td>07/03/2012</td> </tr> <tr> <td>Sumanth Jannyavula Venkata</td> <td>07/03/2012</td> </tr> <tr> <td>Ryan James Goss</td> <td>07/09/2012</td> </tr> <tr> <td>Mark Allen Gaertner</td> <td>07/09/2012</td> </tr> </tbody> </table>		Name	Execution Date	James David Sawin	07/05/2012	Luke W. Friendshuh	07/03/2012	Sumanth Jannyavula Venkata	07/03/2012	Ryan James Goss	07/09/2012	Mark Allen Gaertner	07/09/2012
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Sumanth Jannyavula Venkata	07/03/2012												
Ryan James Goss	07/09/2012												
Mark Allen Gaertner	07/09/2012												
RECEIVING PARTY DATA													
Name:	Seagate Technology LLC												
Street Address:	10200 South DeAnza Boulevard												
City:	Cupertino												
State/Country:	CALIFORNIA												
Postal Code:	95014												
PROPERTY NUMBERS Total: 1													
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13543036</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13543036								
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Application Number:	13543036												
CORRESPONDENCE DATA													
Fax Number:	9528542722												
Phone:	952-854-2700												
Email:	tdotter@hdpattlaw.com												
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i>													
Correspondent Name:	Hollingsworth Davis												
Address Line 1:	8500 Normandale Lake Blvd.												
Address Line 2:	Suite 320												
Address Line 4:	Minneapolis, MINNESOTA 55437												
ATTORNEY DOCKET NUMBER:	STX.076.A1												
NAME OF SUBMITTER:	William B. Ashley												

CH \$40.00 13543036

Total Attachments: 20

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ASSIGNMENT

WHEREAS, I/we James David Sawin of 3 Heather Lane, Sterling, MA 01564, Luke W. Friendshuh of 27555 Jonquil Avenue, Elko, MN 55020, Sumanth Jannyavula Venkata of 1482 Savanna Drive, Shakopee, MN 55379, Ryan James Goss of 5088 Pondsedge Lane, Prior Lake, MN 55372, and Mark Allen Gaertner of 3273 Costa Drive, Vadnais Heights, MN 55127 are the inventor(s) of an invention entitled DEFINING ADDRESS RANGES USED TO CACHE SPECULATIVE READ DATA that is the subject matter of: (check all that apply)

- a provisional application for Letters Patent which is identifiable in the United States Patent and Trademark Office by Application No. _____ filed on _____;
- an application for Letters Patent which is identifiable in the United States Patent and Trademark Office by Application No. _____ filed on _____ and/or executed on even date herewith; and
- an international application for Letters Patent filed pursuant to the Patent Cooperation Treaty which is identifiable in the United States Receiving Office by Application No. _____ filed on _____; and/or executed on even date herewith:

WHEREAS, Seagate Technology LLC, a limited liability company organized and existing under the laws of the State of Delaware and the United States of America, and having offices at 10200 South DeAnza Boulevard, Cupertino, California, 95014 USA, ("Assignee") is desirous of acquiring the entire right, title and interest in and to the invention, the applications, and any and all Letters Patent or similar foreign or domestic legal protection;

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, I/we transfer to Assignee, its successors and assigns, my/our entire right, title and interest in and to the invention, the above-identified applications, all provisional applications from which any of the above-identified applications claim priority, corresponding domestic and foreign applications, any continuation, division, renewal, or substitute for the applications, all Letters Patent, any reissue, re-examination, or similar legal protection issuing related to the Letters Patent, and all rights and benefits under any applicable treaty or convention; and I/we authorize the Director of the United States Patent and Trademark Office or foreign equivalent to issue the Letters Patent or similar legal protection to the Assignee.

I/We authorize the Assignee, its successors and assigns, to insert in this instrument the filing date(s) and application numbers when ascertained. I/We further authorize the Assignee, its successors and assigns, or anyone it may properly designate, to apply for Letters Patent or similar legal protection, in its own name if desired, in any and all foreign countries and appoint Assignee the common representative in the above identified international application and any international application for the invention.

I/We represent to the Assignee, its successors and assigns, that I/we have not and shall not execute any writing or do any act whatsoever conflicting with this Assignment. I/We, my/our executors or administrators, will at any time upon request, without additional consideration, but at the expense of the Assignee, its successors and assigns, execute and deliver to Assignee or its legal representatives such additional writings and do such additional acts as the Assignee, its successors and assigns, may deem desirable to perfect its enjoyment of this grant, and render all assistance in making application for and obtaining, maintaining, and enforcing the Letters Patent or similar legal protection on the invention in any and all countries, including without limitation providing testimony in any related interference, litigation or proceeding.

James David Sawin
James David Sawin (Inventor)
7/5/12
Date

State of Massachusetts)
County of Worcester)

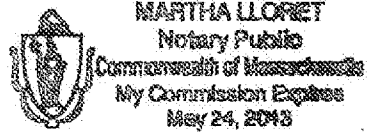
On July 5th, 2012 before me, Martha Lloret - Notary Public
(insert name and title of the officer)

personally appeared James David Sawin (Inventor), who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of Massachusetts that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Martha Lloret (Seal)
Signature of Notary Public



Luke W. Friendshuh (Inventor)

Date

State of _____)
County of _____)

On _____ before me, _____
(insert name and title of the officer)

personally appeared Luke W. Friendshuh (Inventor), who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of _____ that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)
Signature of Notary Public

Sumanth Jannyavula Venkata (Inventor)

Date

State of _____)

County of _____)

On _____ before me, _____
(insert name and title of the officer)

personally appeared Sumanth Jannyavula Venkata (Inventor), who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of _____ that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)
Signature of Notary Public

Ryan James Goss (Inventor)

Date

State of _____)

County of _____)

On _____ before me, _____
(insert name and title of the officer)

personally appeared Ryan James Goss (Inventor), who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of _____ that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)
Signature of Notary Public

Mark Allen Gaertner (Inventor)

Date

State of _____)

County of _____)

On _____ before me, _____
(insert name and title of the officer)

personally appeared Mark Allen Gaertner (Inventor), who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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I/We represent to the Assignee, its successors and assigns, that I/we have not and shall not execute any writing or do any act whatsoever conflicting with this Assignment. I/We, my/our executors or administrators, will at any time upon request, without additional consideration, but at the expense of the Assignee, its successors and assigns, execute and deliver to Assignee or its legal representatives such additional writings and do such additional acts as the Assignee, its successors and assigns, may deem desirable to perfect its enjoyment of this grant, and render all assistance in making application for and obtaining, maintaining, and enforcing the Letters Patent or similar legal protection on the invention in any and all countries, including without limitation providing testimony in any related interference, litigation or proceeding.

James David Sawin (Inventor)

Date

State of _____)

County of _____)

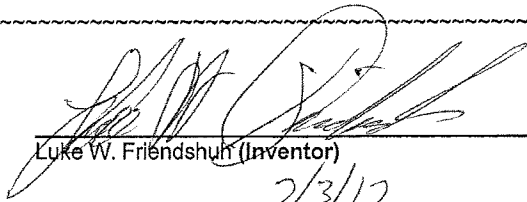
On _____ before me, _____
(insert name and title of the officer)

personally appeared James David Sawin (Inventor), who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of _____ that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)
Signature of Notary Public

~~~~~  
  
\_\_\_\_\_  
Luke W. Friendshuh (Inventor)  
2/3/12  
\_\_\_\_\_  
Date

State of Minnesota)

County of Scott)

On July 3, 2012 before me, Lynnette M. Pasket  
(insert name and title of the officer)

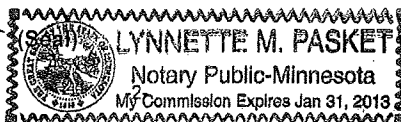
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I certify under PENALTY OF PERJURY under the laws of the State of Minnesota that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature   
Signature of Notary Public

- U.S. Assignment - Seagate Technology LLC





~~~~~

Sumanth Jannyavula Venkata (Inventor)

Date

State of _____)

County of _____)

On _____ before me, _____
(insert name and title of the officer)

personally appeared Sumanth Jannyavula Venkata (Inventor), who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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Signature of Notary Public

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\_\_\_\_\_  
Ryan James Goss (Inventor)

\_\_\_\_\_  
Date

State of \_\_\_\_\_)

County of \_\_\_\_\_)

On \_\_\_\_\_ before me, \_\_\_\_\_  
(insert name and title of the officer)

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Signature \_\_\_\_\_ (Seal)  
Signature of Notary Public

~~~~~

Mark Allen Gaertner (Inventor)

Date

State of _____)

County of _____)

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James David Sawin (Inventor)

Date

State of _____)

County of _____)

On _____ before me, _____
(insert name and title of the officer)

personally appeared James David Sawin (Inventor), who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of _____ that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)
Signature of Notary Public

Luke W. Friendshuh (Inventor)

Date

State of _____)

County of _____)

On _____ before me, _____
(insert name and title of the officer)

personally appeared Luke W. Friendshuh (Inventor), who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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Signature _____ (Seal)
Signature of Notary Public

Sumanth Jannayavula Venkata
Sumanth Jannayavula Venkata (Inventor)
3-06-2012
Date

State of Minnesota)

County of Scott)

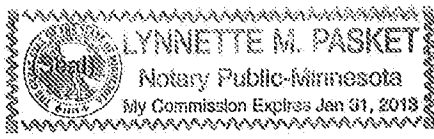
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I certify under PENALTY OF PERJURY under the laws of the State of Minnesota that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Lynnette M. Pasket
Signature of Notary Public



Ryan James Goss
Ryan James Goss (Inventor)

Date

State of _____)

County of _____)

On _____ before me, _____
(insert name and title of the officer)

personally appeared Ryan James Goss (Inventor), who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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WITNESS my hand and official seal.

Signature _____ (Seal)
Signature of Notary Public

Mark Allen Gaertner (Inventor)

Date

State of _____)

County of _____)

On _____ before me, _____
(insert name and title of the officer)

personally appeared Mark Allen Gaertner (Inventor), who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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James David Sawin (**Inventor**)

Date

State of _____)

County of _____)

On _____ before me, _____
(insert name and title of the officer)

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WITNESS my hand and official seal.

Signature _____ (**Seal**)
Signature of Notary Public



Luke W. Friendshuh (**Inventor**)

Date

State of _____)

County of _____)

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Signature of Notary Public


~~~~~  
Sumanth Jannyavula Venkata (Inventor)

Date

State of \_\_\_\_\_)

County of \_\_\_\_\_)

On \_\_\_\_\_ before me, \_\_\_\_\_  
(insert name and title of the officer)

personally appeared Sumanth Jannyavula Venkata (Inventor), who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of \_\_\_\_\_ that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature \_\_\_\_\_ (Seal)  
Signature of Notary Public

~~~~~  
Ryan James Goss (Inventor)

Date

State of MN)

County of Scott)

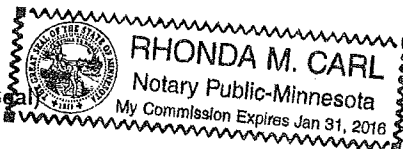
On 7-9-12 before me, Rhonda Carl notary
(insert name and title of the officer)

personally appeared Ryan James Goss (Inventor), who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of MN that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Rhonda Carl
Signature of Notary Public





Mark Allen Gaertner (Inventor)

Date

State of _____)

County of _____)

On _____ before me, _____
(insert name and title of the officer)

personally appeared Mark Allen Gaertner (Inventor), who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of _____ that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)
Signature of Notary Public

ASSIGNMENT

WHEREAS, I/we James David Sawin of 3 Heather Lane, Sterling, MA 01564, Luke W. Friendshuh of 27555 Jonquil Avenue, Elko, MN 55020, Sumanth Jannyavula Venkata of 1482 Savanna Drive, Shakopee, MN 55379, Ryan James Goss of 5088 Pondsedge Lane, Prior Lake, MN 55372, and Mark Allen Gaertner of 3273 Costa Drive, Vadnais Heights, MN 55127 are the inventor(s) of an invention entitled DEFINING ADDRESS RANGES USED TO CACHE SPECULATIVE READ DATA that is the subject matter of: (check all that apply)

- a provisional application for Letters Patent which is identifiable in the United States Patent and Trademark Office by Application No. _____ filed on _____;
- an application for Letters Patent which is identifiable in the United States Patent and Trademark Office by Application No. _____ filed on _____ and/or executed on even date herewith: and
- an international application for Letters Patent filed pursuant to the Patent Cooperation Treaty which is identifiable in the United States Receiving Office by Application No. _____ filed on _____; and/or executed on even date herewith:

WHEREAS, Seagate Technology LLC, a limited liability company organized and existing under the laws of the State of Delaware and the United States of America, and having offices at 10200 South DeAnza Boulevard, Cupertino, California, 95014 USA, ("Assignee") is desirous of acquiring the entire right, title and interest in and to the invention, the applications, and any and all Letters Patent or similar foreign or domestic legal protection;

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, I/we transfer to Assignee, its successors and assigns, my/our entire right, title and interest in and to the invention, the above-identified applications, all provisional applications from which any of the above-identified applications claim priority, corresponding domestic and foreign applications, any continuation, division, renewal, or substitute for the applications, all Letters Patent, any reissue, re-examination, or similar legal protection issuing related to the Letters Patent, and all rights and benefits under any applicable treaty or convention; and I/we authorize the Director of the United States Patent and Trademark Office or foreign equivalent to issue the Letters Patent or similar legal protection to the Assignee.

I/We authorize the Assignee, its successors and assigns, to insert in this instrument the filing date(s) and application numbers when ascertained. I/We further authorize the Assignee, its successors and assigns, or anyone it may properly designate, to apply for Letters Patent or similar legal protection, in its own name if desired, in any and all foreign countries and appoint Assignee the common representative in the above identified international application and any international application for the invention.

I/We represent to the Assignee, its successors and assigns, that I/we have not and shall not execute any writing or do any act whatsoever conflicting with this Assignment. I/We, my/our executors or administrators, will at any time upon request, without additional consideration, but at the expense of the Assignee, its successors and assigns, execute and deliver to Assignee or its legal representatives such additional writings and do such additional acts as the Assignee, its successors and assigns, may deem desirable to perfect its enjoyment of this grant, and render all assistance in making application for and obtaining, maintaining, and enforcing the Letters Patent or similar legal protection on the invention in any and all countries, including without limitation providing testimony in any related interference, litigation or proceeding.

James David Sawin (**Inventor**)

Date

State of _____)

County of _____)

On _____ before me, _____
(insert name and title of the officer)

personally appeared James David Sawin (Inventor), who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of _____ that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (**Seal**)
Signature of Notary Public



Luke W. Friendshuh (**Inventor**)

Date

State of _____)

County of _____)

On _____ before me, _____
(insert name and title of the officer)

personally appeared Luke W. Friendshuh (Inventor), who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of _____ that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (**Seal**)
Signature of Notary Public

~~~~~

\_\_\_\_\_  
Sumanth Jannyavula Venkata (Inventor)

\_\_\_\_\_  
Date

State of \_\_\_\_\_)

County of \_\_\_\_\_)

On \_\_\_\_\_ before me, \_\_\_\_\_  
(insert name and title of the officer)

personally appeared Sumanth Jannyavula Venkata (Inventor), who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of \_\_\_\_\_ that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature \_\_\_\_\_ (Seal)  
Signature of Notary Public

~~~~~

Ryan James Goss (Inventor)

Date

State of _____)

County of _____)

On _____ before me, _____
(insert name and title of the officer)

personally appeared Ryan James Goss (Inventor), who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of _____ that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)
Signature of Notary Public

Mark Allen Gaertner
Mark Allen Gaertner (Inventor)
7-9-12
Date

State of MN

County of Scott

On 7-9-12 before me, Rhonda Carl notary
(insert name and title of the officer)

personally appeared Mark Allen Gaertner (Inventor), who proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

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WITNESS my hand and official seal.

Signature Rhonda Carl (Seal)
Signature of Notary Public

