

AGENDA
LARIMER COUNTY BOARD OF COMMISSIONERS
Monday, February 8, 2016/3:00 P.M./Hearing Room

A. CALL TO ORDER

B. PLEDGE OF ALLEGIANCE

C. PUBLIC HEARING CONSENT ITEMS: *Will not be discussed unless requested by
Commissioners or members of the audience.

*1. SHAFFER – DRAKE CAMPGROUND SPECIAL REVIEW **PAGE 1**
FILE #12-Z1899

Staff Contacts: Karin Madson, Planning, Eric Tracy Engineering, Doug Ryan, Health

*2. GARDNER SUBDIVISION PRELIMINARY PLAT **PAGE 251**
FILE #14-S3262

Staff Contacts: Michael Whitley, Planning, Clint Jones, Engineering, Doug Ryan, Health

D. ADJOURN

*2. TITLE: Gardner Subdivision Preliminary Plat

REQUEST: Approval of a Subdivision of a 7.64-acre parcel zoned FA-1 - Farming into two single-family residential lots and an appeal to Section 8.14.1.H of the Land Use Code (lot depth to width ratio)

LOCATION: Section 20, Township 4 North, Range 69 West of the 6th P.M.; 4017 W. County Road 8, Berthoud, Located southeast of the intersection of County Road 8 and County Road 23

APPLICANTS/PROPERTY OWNERS: Stephen Gardner & Margot Nacey
3833 W. County Road 8
Berthoud, CO 80513

STAFF CONTACTS: Michael Whitley, Planning
Clint Jones, Engineering
Doug Ryan, Health Department

FILE #: 14-S3262

NOTICE GIVEN: Newspaper Publication
First Class Mailing to surrounding property owners within **500** feet

LCPC HEARING DATE: January 20, 2016

LCPC RECOMMENDATION: Approval of the project and approval of the appeal, motions passed by vote of 7-0

DISCUSSION:

This item was on the consent agenda for the January 20, 2016 Planning Commission public hearing at 6:30 pm. At the hearing Staff presented a brief overview of the Development Services Team report recommending approval of the proposed Subdivision and recommending approval of the Appeal to Section 8.14.1.H of the Land Use Code regarding lot depth to width ratios.

Commissioner Wallace asked if the existing secondary access on County Road 23 was reviewed by the appropriate departments.

Mr. Whitley replied that the secondary access was evaluated and review by the Engineering Department and was determined to be adequate as a primary access to the proposed Lot 2.

PLANNING COMMISSION AND DEVELOPMENT SERVICES TEAM RECOMMENDATION:

BE IT RESOLVED that the Planning Commission recommend to the Board of County Commissioners approval the Gardner Subdivision, file #14-S3262, and appeal to Section 8.14.1.H of the Larimer County Land Use Code

A) The Larimer County Planning Commission and Development Services Team recommends approval of the Gardner Subdivision File #14-S3262 subject to the following conditions:

1. The Final Plat shall be consistent with the approved preliminary plan and with the information contained in the Gardner Acres Subdivision, File #14-S3262 except as modified by the conditions of approval or agreement of the County and applicant. The applicant shall be subject to all other verbal or written representations and commitments of record for the Gardner Subdivision.
2. The following fees shall be collected at building permit issuance for new single family dwellings: Thompson R-2J school fee, Larimer County fees for County and Regional Transportation Capital Expansion and Larimer County Regional Park Fees (in lieu of dedication). The fee amount that is current at the time of building permit application shall apply.
3. All habitable structures will require an engineered foundation system. Such engineered foundation system designs shall be based upon a site specific soils investigation. The lowest habitable floor level (basement) shall not be less than 3 feet from the seasonal high water table. Mechanical methods proposed to reduce the ground water level, unless it is a response after construction, must be proposed on a development wide basis.
4. Passive radon mitigation measures shall be included in construction of residential structures on these lots. The results of a radon detection test conducted in new dwellings once the structure is enclosed but prior to issuance of a certificate of occupancy shall be submitted to the Building Department. As an alternative, a builder may present a prepaid receipt from a radon tester which specifies that a test will be done within 30 days. A permanent certificate of occupancy can be issued when the prepaid receipt is submitted.

B) The Development Services Team recommends approval of the appeal to Section 8.14.1.H (Lot Width to Depth Ratio) of the Larimer County Land Use Code.

SUGGESTED MOTION FOR BOARD OF COUNTY COMMISSIONERS:

I move that the Board of County Commissioners approve the Gardner Subdivision Preliminary Plat File #14-S3262 subject to the conditions as outlined above.

**PLANNING COMMISSION
MINUTES
FROM
January 20, 2016**

LARIMER COUNTY PLANNING COMMISSION

Minutes of January 20, 2016

The Larimer County Planning Commission met in a regular session on Wednesday, January 20, 2016, at 6:30 p.m. in the Hearing Room. Commissioners' Christman, Couch, Cox, Gerrard, Miller, and Wallace were present. Commissioner Glick and Jensen were absent. Commissioner Dougherty presided as Chairman. Also present were Matt Lafferty, Principal Planner, Karin Madson, Planner II, Michael Whitley, Planner II, Eric Tracy, Engineering Department, Doug Ryan, Health Department and Jill Wilson, Recording Secretary.

GARDNER SUBDIVISION #14-S3262: Mr. Whitley provided background information on the request for a subdivision of two lots on a 7.64 acre parcel located at 4017 W. County Road 8, Berthoud, CO, which was located southeast of the intersection of County Road 8 and County Road 23. The request also included an appeal to Section 8.14.1.H of the Larimer County Land Use Code (lot depth to width ratio).

Commissioner Wallace asked if the second access was reviewed by the appropriate departments.

Mr. Whitley replied that the secondary access was evaluated and reviewed by the Engineering Department and that access satisfied the requirements.

DISCUSSION:

Commissioner Cox moved that the Planning Commission adopt the following Resolution:

BE IT RESOLVED that the Planning Commission recommend to the Board of County Commissioners approval the Gardner Subdivision, file #14-S3262, and appeal to Section 8.14.1.H of the Larimer County Land Use Code for the property described on "Exhibit A" to the minutes, subject to the following conditions:

1. The Final Plat shall be consistent with the approved preliminary plan and with the information contained in the Gardner Subdivision, File #14-S3262 except as modified by the conditions of approval or agreement of the County and applicant. The applicant shall be subject to all other verbal or written representations and commitments of record for the Gardner Subdivision.
2. The following fees shall be collected at building permit issuance for new single family dwellings: Thompson R-2J school fee, Larimer County fees for County and Regional Transportation Capital Expansion and Larimer County Regional Park Fees (in lieu of dedication). The fee amount that is current at the time of building permit application shall apply.
3. All habitable structures will require an engineered foundation system. Such engineered foundation system designs shall be based upon a site specific soils investigation. The lowest habitable floor level (basement) shall not be less than 3 feet from the seasonal high water table. Mechanical methods proposed to reduce the ground water level, unless it is a response after construction, must be proposed on a development wide basis.

4. Passive radon mitigation measures shall be included in construction of residential structures on these lots. The results of a radon detection test conducted in new dwellings once the structure is enclosed but prior to issuance of a certificate of occupancy shall be submitted to the Building Department. As an alternative, a builder may present a prepaid receipt from a radon tester which specifies that a test will be done within 30 days. A permanent certificate of occupancy can be issued when the prepaid receipt is submitted.

Commissioner Gerrard seconded the Motion.

Commissioners' Christman, Couch, Cox, Gerrard, Miller, Wallace and Vice-Chairman Dougherty voted in favor of the Motion.

MOTION PASSED: 7-0

**PLANNING COMMISSION
STAFF REPORT
FROM
January 20, 2016**

TITLE: Gardner Subdivision Preliminary Plat

REQUEST: Approval of a Subdivision of a 7.64-acre parcel zoned FA-1 - Farming into two single-family residential lots and an appeal to Section 8.14.1.H of the Land Use Code (lot depth to width ratio)

LOCATION: Section 20, Township 4 North, Range 69 West of the 6th P.M.; 4017 W. County Road 8, Berthoud, Located southeast of the intersection of County Road 8 and County Road 23

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3833 W. County Road 8
Berthoud, CO 80513

STAFF CONTACTS: Michael Whitley, Planning
Clint Jones, Engineering
Doug Ryan, Health Department

FILE #: 14-S3262

SITE DATA:

Parcel Number: 94202-00-007

Total Development Area: 7.64 acres

Existing Land Use: Mobile home

Proposed Land Use: Single-Family residential on the newly created lot

Existing Zoning: FA-1-Farming

Adjacent Zoning: FA-1-Farming

Adjacent Land Uses: Single-Family residential & Agricultural production

Services:

 Access: County Road 8 & County Road 23

 Water: Little Thompson Water District

 Sewer: On-Lot Septic

 Fire Protection: Berthoud Fire Protection District

No. Trips Generated by Use: 20 trips per day for the two lots

PROJECT DESCRIPTION/BACKGROUND:

The applicants propose to subdivide a 7.64 acre parcel into two lots. The property currently contains a mobile home. The applicants' project description indicates that the parcel is a dry lot and unsuitable for farming.

The property is located at 4017 W. County Road 8 which is southeast of the intersection of County Road 8 and County Road 23.

The Dry Creek Lateral Ditch runs on the east side of the property.

The primary access for the property is located on County Road 8 with a secondary access onto County Road 23. If the proposed Subdivision is approved, the northern parcel would continue to use the primary access point and the southern parcel would use the existing secondary access point.

The property is inside of the Berthoud Community Influence Area but outside of the Berthoud Growth Management Area.

The application includes an appeal to Section 8.14.1.H of the Land Use Code which states that lots can not exceed a width-to-depth ratio of 1.5-to-1. The proposed Lot 2 does not meet this standard.

REVIEW CRITERIA:

To approve a Subdivision, the County Commissioners must consider the following review criteria and find that each criterion has been met or determined to be inapplicable:

A. The proposed Subdivision is compatible with existing and allowed land uses in the surrounding area;

The property is zoned FA-1 (Farming). The minimum lot size in the FA-1 zone is 100,000 square feet (2.3 acres). The proposed subdivision would create one additional lot for a total of two lots. The proposed lots are 3.08 and 2.94 acres.

The predominant land uses in the area is single-family residential and agricultural production. There are a variety of property sizes in the vicinity and many existing lots are smaller than two acres. The proposed residential Subdivision would be compatible with existing and allowed land uses in the surrounding area.

B. The applicant has demonstrated that the proposed Subdivision can and will comply with all applicable requirements of this Code;

The principal requirements for the review are located within Section 8 of the Larimer County Land Use Code. The initial comments of applicable Section 8 standards are summarized here.

Section 8.1 Adequate Public Facilities

Sub-Section 8.1.1 Sewage Disposal Level of Service Standards:

The attached comments from the Department of Health and Environment indicate that the soils on the property are adequate for a conventional on-site septic system. The comments also note that the system's soil absorption system is required to be a minimum of 100 feet from the Dry Creek Lateral ditch bank.

Sub-Section 8.1.2 Domestic Water Level of Service Standards:

Water is to be provided by the Little Thompson Water District. A letter of commitment from the District was provided with the subdivision application and the Department of Health and Environment has determined that the letter satisfies the requirements regarding the provision of domestic water.

Sub-Section 8.1.3 Drainage Level of Service Standards:

The attached Engineering Department comments indicate that a Preliminary Drainage Plan and Report and a geotechnical report will be required with the Preliminary Plat submittal. The geotechnical report needs to discuss groundwater levels and address any lots that will not be allowed to have basements. Please refer to the attached Engineering Department comments for additional details.

Sub-Section 8.1.4 Fire Protection & Emergency Medical Level of Service Standards:

The Berthoud Fire Protection District had no comments or concerns with the proposed subdivision.

Sub-Section 8.1.5 Road Capacity and Level of Service Standards:

The attached comments from the Engineering Department note that County Road 8 and County Road 23 are both classified as major collectors. Major collector roads require a 100-foot right-of-way (50-feet on either side of the right-of-way centerline). The proposed plat would dedicate right-of-way to satisfy the right-of-way width requirements from the centerlines.

Section 8.2 Wetland Areas:

There are no wetlands on the subject property.

Section 8.8 Irrigation Facilities:

The property owner has entered into an agreement (attached) with the Dry Creek Lateral Ditch Company. There are no outstanding concerns.

Section 8.11 Air Quality Standards:

Because of the small size of the proposed subdivision, the provisions in this Section of the Land Use Code are not applicable.

Section 8.12 Water Quality Management Standards:

The Engineering Department has no drainage or water quality management concerns with the proposed subdivision.

Section 8.13 Commercial Mineral Deposits:

Larimer County's GIS database does not identify aggregate resources on the property.

Section 8.14 Development Design Standards for Land Division:

The Development Design standards address lot location, access, easement and utility standards. With the exception of Section 8.14.1.H which is being appealed by the applicants, the preliminary plat complies with the Development Design standards.

C. The recommendations of referral agencies have been considered; and

The application was referred to a variety of agencies. The responses received are attached to this report. There are no major outstanding issues.

D. Approval of the proposed Subdivision will not result in a substantial adverse impact on other property in the vicinity of the proposed Subdivision.

There do not appear to be adverse impacts associated with a subdivision of this property.

APPEAL TO SECTION 8.14.1.H (Lot Width to Depth Ratio) of the Land Use Code

Section 8.14.1.H of the Land Use Code reads,

Lots can not exceed a depth-to-width ratio of 3-to-1. Lots can not exceed a width-to-depth ratio of 1.5-to-1;

The proposed Lot 2 has a width-to-depth ratio of approximately 3.75-to-1.

The review criteria for considering the appeal to Section 8.14.1.H are found in Section 22.2.3 of the Land Use Code.

A. Approval of the appeal will not subvert the purpose of the standard or requirement.

The purpose of requiring a lot-to-depth ratio is to avoid creating long and shallow lots or narrow and deep lots. Those configurations tend to have more setback issues and less useable space than lots that have widths and depths that are proportionate.

In this case, the lot is already long north-to-south and relatively shallow east-to-west. The proposed subdivision does not change the configuration of the property but separates the southern portion of the property from the northern portion.

Because the depth of the property is not decreasing with the creation of the proposed Lot 2, approval of the appeal would not subvert the purpose of the standard.

B. Approval of the appeal will not be detrimental to the public health, safety or property values in the neighborhood.

Approval of the appeal would not be detrimental to the public health, safety or property values in the neighborhood.

C. Approval of the appeal is the minimum action necessary.

Because the property depth is not changing, approval of the appeal is the minimum action necessary to allow the southern portion of the property to be divided from the northern portion.

D. Approval of the appeal will not result in increased costs to the general public.

Approval of the appeal will not result in increased costs to the general public.

E. Approval of the appeal is consistent with the intent and purpose of the Code.

Because the property depth is not changing and the proposed lot meets every other development design standard in the Land Use Code, approval of the appeal is consistent with the purpose and intent of the Code.

RECOMMENDATION: Based on the overall review of this project, the Development Services Team recommends approval of the appeal.

OTHER MAJOR CONCERNS AND ISSUES:

The major issues and concerns with the proposed subdivision are outlined in this report.

SUMMARY & CONCLUSIONS:

The Gardner Subdivision as proposed would divide a 7.64 acre parcel into two lots. The Development Service Team believes that the application adequately addresses most of the review criteria and standards for this type of development and supports the appeal to Section 8.14.1.H of the Larimer County Land Use Code.

DEVELOPMENT SERVICES TEAM FINDINGS:

A. For the Subdivision:

1. The Gardner Subdivision is compatible with existing and permitted land uses in the surrounding area, provided the applicant complies with the recommendations found within this report.
2. The Gardner Subdivision can comply with all standards of the Land Use Code provided the applicants comply with the recommendations found within this report.
3. The recommendations of referral agencies for the Gardner Subdivision have been considered throughout this report.
4. Approval of the Gardner Subdivision will not result in a substantial adverse impact on other property in the vicinity of the proposed subdivision.

B. For the Appeal to Section 8.14.1.H (Lot Width to Depth Ratio)

1. Approval of the appeal will not subvert the purpose of the standard or requirement.
2. Approval of the appeal will not be detrimental to the public health, safety or property values in the neighborhood.
3. Approval of the appeal is the minimum action necessary to divide the property.
4. Approval of the appeal will not result in increased costs to the general public.
5. Approval of the appeal will be consistent with the intent and purpose of the Code.

DEVELOPMENT SERVICES TEAM RECOMMENDATION:

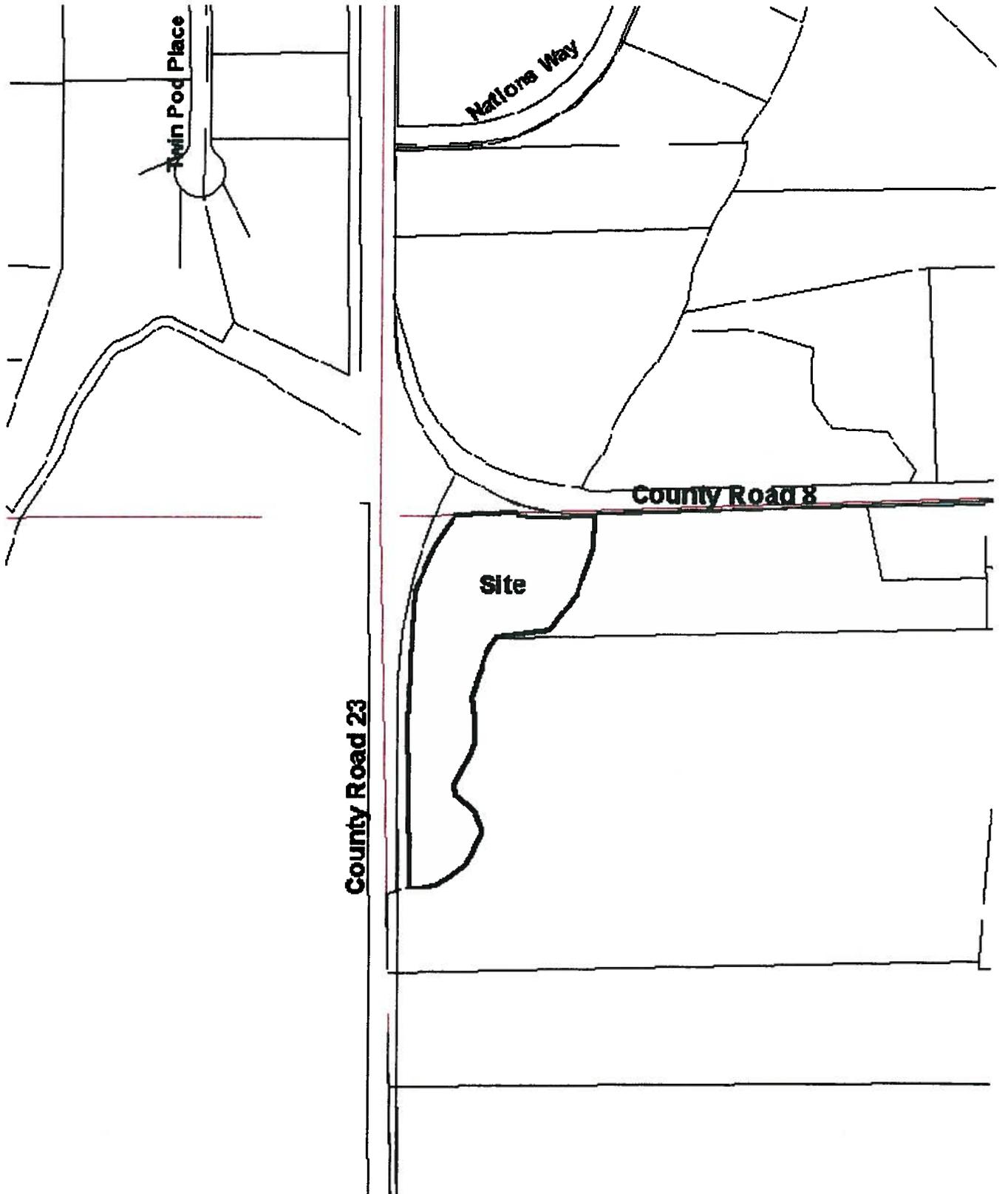
A. The Development Services Team recommends the Larimer County Planning Commission recommend to the Board of County Commissioners approval of the Gardner Subdivision, File #14-S3262 subject to the following conditions:

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lowest habitable floor level (basement) shall not be less than 3 feet from the seasonal high water table. Mechanical methods proposed to reduce the ground water level, unless it is a response after construction, must be proposed on a development wide basis.

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B. The Development Services Team recommends recommends the Larimer County Planning Commission recommend to the Board of County Commissioners approval of the appeal to Section 8.14.1.H (Lot Width to Depth Ratio) of the Larimer County Land Use Code.



West Line Rcpn. #88013691
Gardner / Nacey To Larimer
County Commissioners

CENTENNIAL FARM
CONSERVATION DEVELOPMENT
(NOT A PART)

CENTENNIAL FARM
CONSERVATION DEVELOPMENT
(NOT A PART)

LOT 1
± 3.08 Ac.

D=13'12"00"
R=1220.00'
L=281.07'
C=S18°56'20"W
280.45'

LOT 2
± 2.94 Ac.

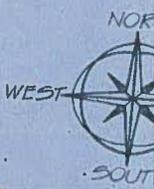
East Line Rcpn. #88013691
Gardner / Nacey To Larimer
County Commissioners

Indicates Direction of
Existing and Proposed
Drainage Flow (typ.)

50' ROW Dedicated With
This Plot (±1.41 Ac.)

UNINCORPORATED
LARIMER COUNTY
(NOT A PART)

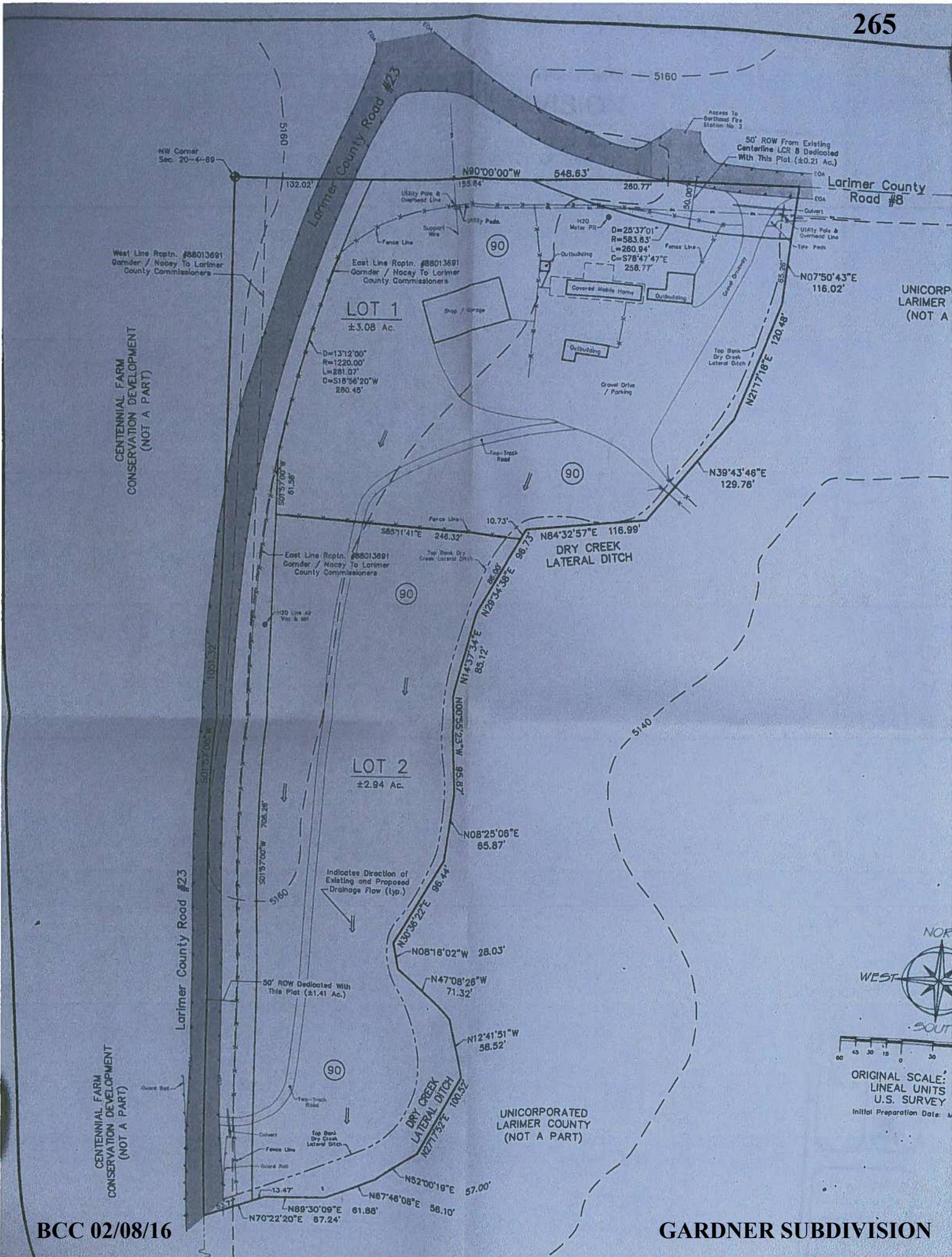
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ORIGINAL SCALE:
LINEAL UNITS
U.S. SURVEY

Initial Preparation Date:



Project Description: Steve Gardner Subdivision
Location: 4017 West County Road 8, Berthoud

The purpose of this project is to divide this property from East to West on an existing fence line. No fencing, grading, utilities, roads, or any type of construction will be involved in this project, so there should be little impact on neighboring properties.

The intent of this project is to provide a residential building site on the (total 50 acre) farm where it will not interfere with the overall operation of the farm. The 4017 WCR 8 parcel is a dry lot, unsuitable for farming. By building a future second residence on this parcel, it won't have to be built on the available "farm parcel," (33 acres which has irrigation and no residence) therefore keeping the character and use of the farm intact.

This type and size of subdivision is common West of Berthoud along County Rd 8 and County Rd 23. The property East of our farm is less than 2.29 acres, and the two parcels East of that are smaller. About 7 years ago the property North across CR 8 from us was divided in two. By building a home on this property, the character of the neighborhood will be preserved, because there will still be open spaces without houses on our farm.

After reading the Land Use Code and talking to Larimer County Planning staff, I'm confident all aspects of this subdivision will comply with the code, except the width to length ratio of the new Southern lot as stated in Section 8.14.1.H. I would like to request an appeal to this portion of the Land Use Code, because the property has been shown to be adequate for a three bedroom home and septic system.

Because this subdivision is in character with the surrounding properties, it will not adversely affect them. Neighbors have even complimented us for our good stewardship of this land, and it's beauty.

Drainage Report:

The property drains toward the East and Southeast and into the Dry Creek Ditch all along the East and South boundaries, similar to the arrows on the Sketch Plan. Water does not stand, or pool in any locations on this property. There is no expectation drainage will be effected by this subdivision, or the construction of a future home on the Southern parcel.



PRELIMINARY ENGINEERING REPORT

DATE: October 9, 2015

SUBJECT: Gardner Subdivision (14-S3262) - Preliminary Plat

APPLICANTS: Stephen V. Gardner
Margaret P. Nacey
3833 West County Road 8
Berthoud, CO 80513

ENGINEER: Schmid Engineering
1204 North Lincoln Avenue
Loveland, CO 80537

INTRODUCTION:

The Larimer County Community Development Division has responded to the Applicants' request for a Sketch Plan Review for the proposed Gardner Subdivision. The Planning Department, and various other County Departments, have provided comments on the proposed subdivision. The Sketch Plan comments have been summarized into a list of items in the form of Submittal Requirements which require additional information to be presented by the Applicants with their Preliminary Plat application.

RESPONSE:

The following information in this Preliminary Engineering Report is presented in regard to selected items from the Submittal Requirements which the Applicants have assigned to Schmid Engineering for response. The response associated with each item is intended to address County Development Services Team comments generated by the Sketch Plan Review process that are directly related to each item. It is understood that the proposed Gardner Subdivision is to comply with the Standards For All Development which are detailed in Section 8 of the Larimer County Land Use Code.

SOILS EVALUATION:

A site-specific Soils Evaluation has been performed for the proposed Gardner Subdivision in regard to groundwater levels and site soil characteristics. The purpose of the Soils Evaluation was for preliminary On-site Wastewater Treatment System (OWTS) design and determining the feasibility of basements within the subdivision. Lot 1 has an existing residential structure and OWTS for which a soils evaluation was not necessary. Therefore, the focus of the Soils Evaluation was for Lot 2.

Prior to the site-specific Soils Evaluation, a preliminary soils evaluation from published soil data was conducted for the proposed subdivision using the Soil Survey of Larimer County Area, Colorado, as published by the United States Department of Agriculture (USDA), Soil Conservation Service and Forest Service, Issued December 1980. The site soil series name and map symbol are identified as Renohill 90 respectively. As stated in this data, soil properties affecting septic tank absorption fields are slow percolation rates and shallow depths to bedrock. Depth to seasonal high water table (groundwater) is greater than six feet (6').

The site-specific Soils Evaluation involved the excavation of two (2) soil profile test pits on August 26, 2015. The test pits were located in the southern area of Lot 2 near the preferred location for a residential structure on the site. Visual evaluations of soils exposed in the two (2) test pits were performed at the site and tactile evaluations of soil samples were performed at a later date in the office of Schmid Engineering.

Descriptions of soils observed and sampled in the two (2) Test Pits are as follows:

Test Pit #1 - Suitable soils for an OWTS extend to a depth of 8'-4" below ground surface.

Below 6" of topsoil to a depth below surface of 3'-0" - Visual Evaluation - Same as Test Pit #2.

From a depth below surface of 3'-0" to 8'-4" - Tactile Evaluation - Soil Type 3 with USDA Soil Texture - Sandy Clay Loam; Structure Shape - GR/BK; Structure Grade - 2; Perc Rate = 41-60 MPI (not tested) and Long Term Acceptance Rate (LTAR) for Treatment Level 1 = .35 GPD/S.F.

From a depth below surface of 8'-4" to 10'-0" - Visual Evaluation - Weathered Claystone, gray, layered, stiff.

No groundwater at 10'-0" depth below surface.

Test Pit #2 - Suitable soils for an OWTS extend to a depth of 6'-0" below ground surface.

Below 6" of topsoil to a depth below surface of 3'-0" - Tactile Evaluation - Soil Type 3 with USDA Soil Texture - Sandy Clay Loam; Structure Shape - GR/BK; Structure Grade - 2; Perc Rate = 41-60 MPI (not tested) and LTAR for Treatment Level 1 = .35 GPD/S.F.

From a depth below surface of 3'-0" to 6'-0" - Tactile Evaluation - Soil Type 3 with USDA Soil Texture - Silty Clay Loam; Structure Shape - GR/BK; Structure Grade - 2; Perc Rate = 41-60 MPI (not tested) and LTAR for Treatment Level 1 = .35 GPD/S.F.

From a depth below surface of 6'-0" to 6'-8" - Visual Evaluation - Claystone, gray, layered, very stiff.

No groundwater at 6'-8" depth below surface.

NOTES:

1. Based on a depth to groundwater greater than ten feet (10') in Test Pit #1, a basement would be feasible for the residential structure to be located on Lot 2 near Test Pit #1. Basement floor level shall be a minimum of five feet (5') above groundwater level.
2. An additional Geotechnical Investigation should be performed to determine foundation design recommendations for the residential structure to be located on Lot 2 prior to commencing construction.

SEWAGE DISPOSAL:

In the absence of a public sewer in this area of the County, sewage disposal will be accomplished using an OWTS on each of the two (2) lots. Lot 1 has an existing and functioning OWTS for a residential use. Lot 2 is to have an area of ± 2.94 acres and it appears to have a relatively long and narrow configuration on the Preliminary Plat. Lot 2 will require a new OWTS for a residential use. The Soils Evaluation has provided adequate information to determine if the area and configuration of Lot 2 is adequate for a Soil Treatment Area (STA).

The soils evaluated in Test Pits #1 and #2 meet the soil depth and suitability requirements for a suitable soil to be used as filtering media in a soil treatment system. Test Pit #1 has a suitable soil depth of 8'-4" below the surface. Test Pit #2 has a suitable soil depth of 6'-0" below the surface.

A preliminary system design example for sizing an OWTS on Lot 2 has been performed and is presented as follows:

Number of Bedrooms in Residence = 3

Single Family Residential Design Flow = 450 Gallons per Day (GPD)

LTAR = .35 GPD/S.F. based on Soils Evaluation

STA Required = $450 \div .35 = 1286$ Square Feet (S.F.)

Size Adjustment Factors:

Method of Application - Gravity Trench = 1.0

Type of Distribution Media - Chambers = 0.7

Size Adjusted STA = 1286 S.F. x 1.0 x 0.7 = 900 S.F.

Using 3 S.F. per Lineal Foot (L.F.) for "Infiltrator" Quick4 Standard Chambers in 3'-0" wide trenches:

Total Length of Chambers Required = 900 S.F. ÷ 3 S.F. per L.F. = 300 L.F. of Chambers

Use: Three (3) rows of 25 - Quick4 Standard Chambers with an Effective Length of 4'-0" per Chamber for a STA Trench Distribution System:

Length of each row of Chambers = 25 x 4'-0" = 100 L.F.

Total Length of Chambers in 3 rows = 3 x 100 L.F. = 300 L.F. - O.K.

Size and Area of STA Trench Distribution System having 3 rows of Quick4 Chambers in 3'-0" (3') wide trenches and six feet (6') between trenches:

Width of STA Trench Distribution System = 3' + 6' + 3' + 6' + 3' = 21'

Length of STA Trench Distribution System = 100'

Total Area Required for STA Trench Distribution System = 21' x 100' = 2100 S.F.

Other OWTS components considered in the overall site area on Lot 2 required for the preliminary system design example include underground pipe, a 1000 gallon septic tank and a distribution box in addition to the total area required for the STA Trench Distribution System.

Summary - Taking into account any potential buffer areas for wetlands, Right-of-Way (R.O.W.) dedications, easements and minimum horizontal distances between components of an OWTS and water, physical and health impact features, there will be adequate area for an OWTS on Lot 2 for a residential use. The Soils Investigation and OWTS preliminary system design example confirm Lot 2 will have much more than adequate area to accommodate the STA Trench Distribution System and other OWTS components required for a residential structure and sewage disposal. This area adequacy could obviously apply to a residential structure having more than three (3) bedrooms as well.

WETLANDS:

The Sketch Plan Review comments in regard to Section 8.2 - Wetland Areas in the Larimer County Land Use Code state, "There are Class 2 wetlands identified along the irrigation ditch." A map showing an outline of the proposed subdivision with an overlay of "Potential Class 2 Wetlands" was received via email from Michael Whitley, AICP, Planner II, Larimer County Planning Department on July 29, 2015. According to Robert Helmick, AICP, Larimer County Community Development Division, Development Planning, during a phone conversation on October 7, 2015, this map came from 1997 Aerial Infrared Photographs which identified potential wetlands in Larimer County.

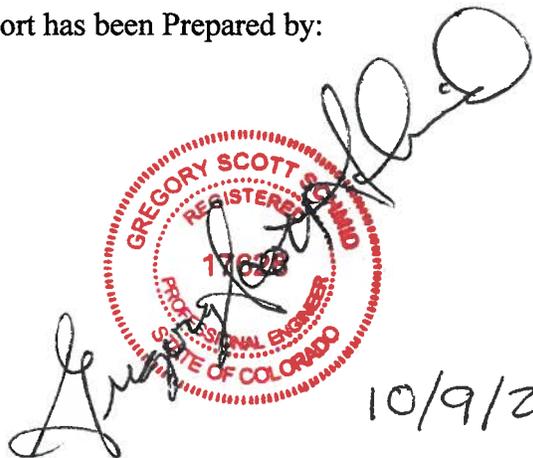
A field evaluation of the proposed subdivision site in regard to wetlands was performed by Schmid Engineering on August 26, 2015. The purpose of the field evaluation was to determine the presence or absence of wetlands on the proposed subdivision. The results of the field evaluation verified there are no wetlands present on the site which could be identified as meeting either of the two (2) definitions of Wetlands found in Section 8.2.5 - Wetland Definition in the Larimer County Land Use Code. As such, there should be no wetland mitigation requirements for the proposed subdivision.

CLOSING:

This Preliminary Engineering Report has been prepared in regard to selected items from the Submittal Requirements for the Gardner Subdivision (14-S3262) - Preliminary Plat. Reference has also been made, in part, to the Preliminary Plat & Site Inventory Map for Gardner Subdivision as prepared by Intermill Land Surveying, Inc., Project No. P-13-7525, 05/13/2015 for proposed subdivision dimensions, configuration and inventoried site features shown thereon in preparation of this Preliminary Engineering Report. The information contained in this Report is intended to provide an adequate response to the Larimer County Community Development Division for additional staff review and comments. Additional information to facilitate review of this information may be obtained from Schmid Engineering upon request.

This Preliminary Engineering Report has been Prepared by:

Gregory Scott Schmid, P.E.
State of Colorado
Registered Professional Engineer
Registration No. 17628



10/9/2015

STARR & WESTBROOK, P.C.

ATTORNEYS AT LAW
 210 EAST 29TH STREET
 LOVELAND, COLORADO 80538
 TELEPHONE 970-667-1029
 FACSIMILE 970-669-3841

RANDOLPH W. STARR
 MICHAEL A. WESTBROOK

E-Mail Randy@starrwestbrook.com
 E-mail Mike@starrwestbrook.com

Thursday, August 13, 2015

Larimer County Planning Division
 Post Office Box 1190
 Fort Collins, CO 80522-1190

Email only: mwhitley@larimer.org

Attention: Michael Whitley

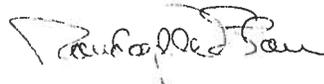
Re: Gardner Subdivision - File Number 14-S3262
 Comments of The Dry Creek Lateral Ditch Company

Dear Michael:

The Dry Creek Lateral Ditch Company has entered into an agreement with the landowners; and a copy of that recorded [July 23, 2015 at Reception Number 20150047802] is attached for your information. The agreement resolves the matters in the previous comments of the Company.

If further information is needed concerning these comments then you should contact me.

Sincerely,



Randolph W. Starr

Enc.-Agreement
 Copy by email only:
 President—The Dry Creek Lateral Ditch Company
 Mr. Stephen V. Gardner

AGREEMENT

This Agreement (the "Agreement"), is between **THE DRY CREEK LATERAL DITCH COMPANY**, a Colorado mutual irrigation company, % Margaret Malchow Sass, President, The Dry Creek Lateral Ditch Company, 1951 South Fillmore Street, Denver, CO 80210 ("Ditch Company") and **STEPHEN V. GARDNER and MARGARET P. NACEY, 3833 West County Road 8, Berthoud, CO 80513** ("Landowner"), and is upon the following terms:

1. Subdivision and Ownership. Landowner is the owner of all of the property known as the Gardner Subdivision, legally described as:

POR N 1/2 OF NW1/4 SEC 20-4-69; COM AT NW COR SD SEC 20; TH N 90 E 1295.33 FT TPOB; TH S 07 08' 00" E 38.34 FT; TH S 10 59' 42" E 161.17 FT; TH N 90 E 295.43 FT; TH S 00 E 142.53 FT; TH N 90 W 1341.51 FT TO CENTERLINE OF HANDY DITCH; TH N 29 34' 38" E 7.57; TH N 84 32' 57" E 116.99 FT; TH N 39 43' 46" E 129.76 FT; TH N 21 17' 18" E 120.48 FT; TH N 07 51' 12" E 116.03 FT TO N LN SEC 20; TH N 90 W 746.70 FT TPOB; CONT 7.52 AC M/L (20110033815) [Parcel #94202-00-006]

AND

POR IN NW 1/4 20-4-69, BEG AT NE COR OF NW 1/4, TH ALG N LN OF NW 1/4 W 647.15 FT, S 9 5' 26" W 236.51 FT, W 64.49 FT, S 22 19' 30" W 120.16 FT, W 134.64 FT TPOB, S 7 5' 20" W 946.21 FT, N 89 28' 36" W 1630.88 FT TO W LN NW 1/4, TH ALG W LN N 1 57' E 218.18 FT TO C/L DITCH, TH ALG C/L N 70 22' 20" E 67.24 FT, N 89 30' 9" E 61.88 FT, N 67 46' 8" E 56.1 FT, N 52 0' 19" E 57 FT, N 27 17' 52" E 100.52 FT, N 12 41' 51" W 58.52 FT, N 47 8' 27" W 71.32 FT, N 8 16' 2" W 28.03 FT, N 30 36' 22" E 96.44 FT, N 8 25' 6" E 65.87 FT, N 0 55' 23" W 95.87 FT, N 14 37' 34" E 85.12 FT, N 29 34' 39" E 89.16 FT, E 1418.48 FT TPOB, CONT 32.11 AC M/L [Parcel #94202-00-012]

AND

5 AC M/L IN N 1/2 OF NW 20-4-69 LY W & N OF HANDY DITCH; EX RD AS PER 88013691 [Parcel #94202-00-007]

(the "Subdivision"—see attached maps). Landowner represents and warrants that Landowner is, on the date of execution of this Agreement, the sole owner of the Subdivision. Landowner may have lien(s) against the Subdivision, and Landowner will obtain the written consent and acceptance of all lienholders by signature on this Agreement prior to its recording. Failure to obtain such written consent and acceptance from all such lienholders shall cause Landowner to be in default under this Agreement.

2. Background and Purpose. Landowner desires to obtain approval of the Ditch Company for certain matters required by the Larimer County, Colorado, Board of County Commissioners relating to the conditional approval of the Subdivision. The Ditch Company's interests will be benefited by the granting of its approval through the terms and conditions of this Agreement. Therefore the parties acknowledge that valuable consideration exists for this Agreement among the parties. Landowner shall promptly reimburse or pay directly all of the Ditch Company's engineering and legal expenses incurred in the negotiation, administration and effectuation of this Agreement. Landowner agrees to pay all of the other fees and expenses provided for in this Agreement.

3. Ownership and Administration of Ditch Company Stock. Landowner owns assessable share(s) of the Ditch Company which have historically been used to irrigate for agricultural purposes the Subdivision. Landowner agrees to continue to pay all of the assessments on the shares of the Ditch Company notwithstanding any division of land ownership; and the assessments shall become a lien on the Subdivision title.

4. Ownership of Ditch Company Property Rights. The Ditch Company has a right-of-way for its ditch, and appurtenant facilities described on the plat attached hereto. Landowner recognizes and confirms said ownership of the Ditch Company. Landowner agrees to execute an easement in the form of Exhibit A attached hereto to have the Landowner confirm and convey the property rights of the Ditch Company. The easement shall be recorded at the expense of the Landowner along with this Agreement. Landowner grants and confirms to the Ditch Company an exclusive easement for the Ditch Company's irrigation ditch and appurtenant facilities as shown on the recorded survey plat of the Ditch Company's system together with rights of ingress and egress for Ditch Company purposes over and across the Subdivision. The width of the ditch easement is seventy feet, being thirty-five feet on each side of the centerline, and additional easement will be required, if necessary, to obtain a minimum of a 25 foot strip on the top of the bank on each side of the ditch.

5. Drainage.

5.01 There shall be no change made in the point, flow rate, volume, amount or type of drainage into the Ditch, except as provided in this Agreement. A Preliminary Drainage Report shall be prepared by _____, which report shall be presented to the County and the Ditch Company. The Ditch Company shall be entitled to review the Preliminary Drainage Report during the time that the appropriate governmental agency is reviewing such report. The Landowner will incorporate the changes to the report and the Drainage Plan suggested by the Ditch Company's engineer. A Final Drainage Report shall then be prepared containing all of the required changes. The Ditch Company shall have a reasonable time (not less than 45 days) to review such Final Drainage Report and present objections to such report and to the design, installation or construction of any facilities that alter the historic drainage pattern. If Landowner fails or refuses to modify the Final Drainage Report to meet the objections of the Ditch Company, then the County shall make the final determination regarding the modifications of the drainage plan.

5.02 Landowner, and Landowner's successors or assigns, shall not cause, suffer or permit any hazardous material, pollutant or other foreign material to be deposited or discharged from or through the Subdivision into the Ditch or the water carried within the Ditch. Any person, including Landowner, having knowledge of such deposit or discharge shall immediately notify the appropriate governmental agencies and Ditch Company of any potential or actual such deposit or discharge by any person.

5.03 Landowner agrees that an easement exists for the historical waste water return ditches and Landowner agrees to regularly maintain, clean and repair the ditches on at least an annual basis prior to the irrigation season, and Landowner agrees to install a concrete pipe culvert of sufficient size based on the Ditch Company engineer's standards for lateral ditch crossings of roads or other surface uses that could affect the operation of the Ditch Company's ditch.

5.04 Landowner agrees that there may have existed for many years underground drain lines and lateral or field ditches carrying water across the properties. Landowner agrees that an easement

exists for the underground drain lines and lateral or field ditches and they agree to regularly maintain and repair the lines and ditches on an "as needed" basis prior to the irrigation season.

6. Plat or Covenant Notes. The following notes shall be inserted by the Landowner onto the Subdivision Plat or into the perpetual covenants that run with the title to the Subdivision:

A. The Ditch Company has an easement for its ditch and has the authority to cut and remove trees within its right of way and it is acknowledged by the owners of the property in the Subdivision that the Ditch Company will, at an appropriate time, remove any and all such trees on the property. The owners of the property in the Subdivision acknowledge that the property owners and successor owners may not plant or otherwise landscape the ditch right of way. The Ditch Company also has the authority to install and maintain a road along each ditch bank for its purposes.

B. The property owners may not place any fence within the ditch right of way, and particularly across the right of way; and the property owners shall not to install any gates or fences on the ditch company right of way without the prior written approval of the Ditch Company. Any fences approved by the Ditch Company along the ditch easement must be fire proof and stock-proof to prevent damage by ditch cleaning by burning, humans and livestock and other sources to the ditch. There will not be permitted any livestock watering in the ditch. There will not be permitted any pumps in the ditch. Cattle guards instead of gates should be utilized instead of gates.

C. The property owners acknowledge and understand that there may be subsurface waters that arise in the area of this development and that there are periods of time when, due to water flowing within the ditch system and otherwise, that portions of the property receive significant amounts of subsurface water that is very near to the surface, or resides on the surface. Due to this problem, the utility of certain portions of the property for construction of structures could potentially be unavailable. The Ditch Company has no plans to alter its operations as it would cure this surface and subsurface water issue. Ditches may overflow and flood adjoining property and improvements. Property owners shall be solely responsible for all water that overflows the ditch and the Ditch Company shall not be liable for damage caused to any property or improvements due to water overflowing the ditch.

D. The property owners shall maintain the irrigation and drainage patterns existing on the date of recording of the plat so that the quality of water entering the ditch from irrigation and from precipitation and other sources is maintained, and so that there is no change in rate, amount, point or type of drainage into the ditches that will occur. The property owners shall monitor and identify any pollutants or other hazardous materials that enter the ditch and should agree to stop any such deposit in the ditch system.

E. The property owners acknowledge that: 1) No livestock watering, swimming, tubing, canoeing or other use of the ditch or water in the ditch is allowed; 2) No dumping of refuse, including but not limited to household garbage, waste materials, grass clippings, tree and shrub prunings, motor oil, chemicals, pesticides or herbicides is allowed; 3) No pumps for lawn or other irrigation are allowed in the ditch; 4) No use of the ditch easement for hiking, biking, horseback, motorcycle, off road vehicles or other motorized or non-motorized vehicle shall be allowed.

F. No crossings of the ditch are permitted without the prior written consent of the Ditch Company and compliance with the rules, regulations and requirements of the Ditch Company.

7. Miscellaneous

7.01 Attorney Fees, Law and Venue. In any action brought by the Ditch Company to enforce the provisions hereof, whether legal or equitable, and/or in any action involving Ditch Company and Landowner or any successor of Landowner whether to enforce the provisions of this Agreement or otherwise, the Ditch Company shall be entitled to reasonable attorneys' fees as fixed by the court. This Agreement shall be construed under the law of the State of Colorado. Venue for all actions shall be in the District Court of the county where the Subdivision is located.

7.02 Severability. The provisions hereof shall be deemed independent and severable, and the invalidity or partial invalidity or unenforceability of any one provision or portion thereof shall not affect the validity or enforceability of any other provision hereof.

7.03 Successors and Assigns. The terms, covenants, and conditions herein contained shall be binding upon and inure to the benefit of the successors and assigns of Landowner, the Ditch Company, and each of them. Landowner's obligations hereunder shall terminate (and the successor(s) to Landowner shall arise) on the date that Landowner conveys all of Landowner's interest in the Subdivision to transferee(s). Whenever a transfer of ownership of a lot or tract takes place to a bona fide purchaser for value, liability of the transferor for breach of this Agreement thereafter terminates, and the grantor shall be liable only for breach(s) of this Agreement arising prior to the date of conveyance. This paragraph shall apply to any property dedicated to or conveyed to a governmental entity or any other person or entity by Landowner as a public improvement or utility. All amounts due by Landowner to the Ditch Company or to its stockholders, or otherwise under the Agreement shall be a lien against the Subdivision shall inure to the benefit of the Ditch Company and its stockholders for any amount due under the terms of the Agreement or otherwise. Such lien may be foreclosed against the Subdivision, or any portion thereof, by the Ditch Company. The provisions hereof shall constitute covenants running with the land, burdening and benefiting each and every part of the properties and every interest therein. In addition, the provisions hereof shall be enforceable in equity as equitable servitudes upon the land and as covenants in an agreement between owners. This Agreement affects the property and title of the Subdivision, and this Agreement shall be recorded at the expense of Landowner, and after recording, the terms, conditions and covenants of this Agreement shall become a covenant running with the land of the Subdivision. This Agreement shall constitute a benefit and burden on the Subdivision and this Agreement shall be enforceable by the Ditch Company or any of its shareholders, or both the Ditch Company and any of its shareholders.

7.04 Construction, Waiver, Gender, Time of Essence. The provisions hereof shall be liberally construed to effectuate their purpose of creating a uniform plan for the development and operation of the Subdivision. Failure to enforce any provision hereof shall not constitute a waiver of the right to enforce said provision or any other provision hereof. Whenever used in this Agreement, the singular shall include the plural, the plural the singular, and the use of any gender shall include all genders. Time is of the essence of this Agreement.

8. Liability and Indemnification.

8.01 Landowner, and Landowner's successors and assigns, hereby specifically waive and release all known or unknown Claims, damages, rights of indemnity, rights of contribution or other rights of any kind or nature for claims, damages, actions, judgments or executions that have arisen or may arise out of the maintenance, operation or use of the Ditch Company's ditch and easement, including, but not limited to: flooding due to overflow or breach of the Ditch Company's ditch;

washing or erosion of the ditch bank; cleaning of the ditch and easement by any means including but not limited to burning or chemical means; and excavation of the ditch and storage of residue.

8.02 As used in this Agreement, the term "Claims" means (1) losses, liabilities, and expenses of any sort, including attorneys' fees; (2) fines and penalties; (3) environmental costs, including, but not limited to, investigation, removal, remedial, and restoration costs, and consultant and other fees and expenses; and (4) any and all other costs or expenses.

8.03 As used in this Agreement, the term "Injury" means (1) death, personal injury, or property damage; (2) loss of profits or other economic injury; (3) disease or actual or threatened health effect; and (4) any consequential or other damages.

8.04 Landowner covenants and agrees to at all times protect, indemnify, hold harmless, and defend the Ditch Company, its directors, officers, stockholders, agents, employees, successors, assigns, parents, subsidiaries, and affiliates from and against any and all Claims arising from, alleged to arise from, or related to any Injury allegedly or actually occurring, imposed as a result of, arising from, or related to (1) this Agreement; (2) the construction, existence, maintenance, operation, repair, inspection, removal, replacement, or relocation of the Facilities on or adjacent to the Easement; or (3) Landowner's, or any other person's presence at the Subdivision as a result of or related to this Agreement.

8.05 Landowner's duty to protect, indemnify, hold harmless, and defend hereunder shall apply to any and all Claims and Injury, including, but not limited to:

(1) Claims asserted by any person or entity, including, but not limited to, employees of Landowner or Landowner's contractors, subcontractors, or their employees;

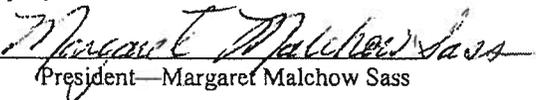
(2) Claims arising from, or alleged to be arising in any way from, the existence at or near the Subdivision of water or ditches or other associated facilities; or

(3) Claims arising from, or alleged to be arising in any way from, the acts or omissions of Landowner, and Landowner's sublessees, invitees, agents, members, or employees.

8.06 Landowner shall maintain adequate liability insurance with standard waiver of subrogation endorsement to insure the risks undertaken as a part of this Agreement in an amount not less than one million dollars or such other amount set from time to time by the Ditch Company naming the Ditch Company and the other indemnified parties as additional insureds. A certificate of such insurance shall be produced by Landowner upon request by the Ditch Company.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement effective on the 21st day of October, 2014.

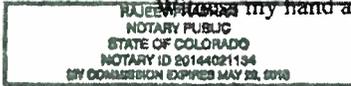
THE DRY CREEK LATERAL DITCH
COMPANY, a Colorado mutual irrigation
company

By: 
President—Margaret Malchow Sass

STATE OF COLORADO)
)
COUNTY OF DENVER) ss.

The foregoing was acknowledged before me this 07 day of July, 2015 by Margaret Malchow Sass, as President of The Dry Creek Lateral Ditch Company, a Colorado mutual irrigation company.

Witness my hand and official seal.



[Signature]
Notary Public

My commission expires: 05/28/2018

ACCEPTED AND APPROVED:

LIENHOLDER:

By: _____

STATE OF _____)

COUNTY OF _____)

ss.

NO
Lienholder



The foregoing was acknowledged before me this ___ day of _____, 20__, by _____, as _____, as Lienholder.

Witness my hand and official seal.

Notary Public

My commission expires: _____

EXHIBIT "A"
EASEMENT AND RIGHT OF WAY AGREEMENT

This Easement and Right of Way Agreement, made and entered into effective as of the 21st day of October, 2014, by and between STEPHEN V. GARDNER and MARGARET P. NACEY, 3833 West County Road 8, Berthoud, CO 80513, hereinafter collectively called "Grantor" (whether grammatically singular or plural), and The Dry Creek Lateral Ditch Company, c/o Margaret Malchow Sass, President, The Dry Creek Lateral Ditch Company, 1951 South Fillmore Street, Denver, CO 80210, hereinafter called the "Ditch Company."

1. For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Grantor hereby grants, sells, conveys and transfers to the Ditch Company, its successors and assigns, the sole, exclusive and permanent right to enter, re-enter, occupy and use the hereinafter described property to construct, reconstruct, inspect, upgrade, increase size or capacity, operate, repair, maintain, replace, remove and operate one or more open irrigation ditches and/or pipelines for the storage, transmission, distribution and service of irrigation water, and all above ground and underground and service appurtenances thereto, including metering stations, vaults, enclosures, identification signs, checks, headgates, dams and other fixtures, over, across, under and upon the following described land, situate in the County of Larimer, State of Colorado, to-wit:

POR N 1/2 OF NW1/4 SEC 20-4-69; COM AT NW COR SD SEC 20; TH N 90 E 1295.33 FT TPOB; TH S 07 08' 00" E 38.34 FT; TH S 10 59' 42" E 161.17 FT; TH N 90 E 295.43 FT; TH S 00 E 142.53 FT; TH N 90 W 1341.51 FT TO CENTERLINE OF HANDY DITCH; TH N 29 34' 38" E 7.57; TH N 84 32' 57" E 116.99 FT; TH N 39 43' 46" E 129.76 FT; TH N 21 17' 18" E 120.48 FT; TH N 07 51' 12" E 116.03 FT TO N LN SEC 20; TH N 90 W 746.70 FT TPOB; CONT 7.52 AC M/L (20110033815) [Parcel #94202-00-006]

AND

POR IN NW 1/4 20-4-69, BEG AT NE COR OF NW 1/4, TH ALG N LN OF NW 1/4 W 647.15 FT, S 9 5' 26" W 236.51 FT, W 64.49 FT, S 22 19' 30" W 120.16 FT, W 134.64 FT TPOB, S 7 5' 20" W 946.21 FT, N 89 28' 36" W 1630.88 FT TO W LN NW 1/4, TH ALG W LN N 1 57' E 218.18 FT TO C/L DITCH, TH ALG C/L N 70 22' 20" E 67.24 FT, N 89 30' 9" E 61.88 FT, N 67 46' 8" E 56.1 FT, N 52 0' 19" E 57 FT, N 27 17' 52" E 100.52 FT, N 12 41' 51" W 58.52 FT, N 47 8' 27" W 71.32 FT, N 8 16' 2" W 28.03 FT, N 30 36' 22" E 96.44 FT, N 8 25' 6" E 65.87 FT, N 0 55' 23" W 95.87 FT, N 14 37' 34" E 85.12 FT, N 29 34' 39" E 89.16 FT, E 1418.48 FT TPOB, CONT 32.11 AC M/L [Parcel #94202-00-012]

AND

5 AC M/L IN N 1/2 OF NW 20-4-69 LY W & N OF HANDY DITCH; EX RD AS PER 88013691 [Parcel #94202-00-007]

The easement and right of way for ditches shall be seventy feet wide, being thirty-five feet on each side of the center line, or 25 feet from the top of the bank of the ditch on each side, whichever is greater.

2. Grantor further grants to the Ditch Company:

2.01 The right to grade the easement area for the full width thereof and to extend the cuts and fills with such grading into and on the land along and outside of the easement to the extent as the

Ditch Company may find reasonably necessary;

2.02 The right to support the ditches and pipelines across ravines and water courses with such structures as the Ditch Company shall deem necessary;

2.03 The right of ingress to and egress from the easement over and across all of the land of Grantor by means of roads and lanes thereon, if such exists, otherwise by such route or routes as shall occasion the least practicable damage and inconvenience to Grantor;

2.04 The right of grading for, constructing, maintaining and using such roads on and across the lands as the Ditch Company may deem necessary in the exercise of the right of ingress and egress or to provide access to property adjacent to the land;

2.05 The right to install, maintain and use gates and/or cattle guards in all fences which now cross or shall hereafter cross the easement;

2.06 The right to mark the location of the easement by suitable markers set in the ground; provided that any such markers remaining after the period of construction shall be placed in fences or other locations which will not interfere with any reasonable use Grantor shall make of the easement;

2.07 All other rights necessary and incident to the full and complete use and enjoyment of the right-of-way and easement for the purposes herein granted.

3. Grantor hereby covenants and agrees:

3.01 That Grantor shall not erect or place any permanent building, structure, improvement, fence or tree on the described easement, and the Ditch Company shall not be liable for their removal if they are so placed, and Grantor agrees, at Grantor's sole expense to so remove such items.

3.02 That Grantor shall not excavate in or near the ditch and shall not diminish the ground cover in the easement or over any water lines and shall not substantially add to the ground cover in the easement or over the water lines or their appurtenances.

3.03 Grantor shall not grant any other easement, right-of-way, permit or license upon, under or over said property without the written consent of the Ditch Company.

3.04 Grantor warrants that Grantor is the owner in fee of the above-described lands and will defend the title thereto against all claims, and that said lands are free and clear of encumbrances and liens of whatsoever character, except the following: None.

4. It is agreed by the parties:

4.01 Grantor reserves all oil, gas and other minerals in, on and under the above-described lands, and Grantor shall not grant any right in the surface or otherwise that will materially interfere with the rights and privileges herein granted to the Ditch Company.

4.02 Each and every one of the benefits and burdens of this easement and right-of-way shall inure to and be binding upon the respective personal representatives, successors, and assigns of the parties hereto.

4.03 The easement includes the right to clean by mechanical, chemical or burning the ditch system, the right to deposit earth and other materials on the easement, the right to change the location of the ditch within the easement or to place the irrigation system in an enclosed pipe.

4.04 The Ditch Company hereby expressly reserves an easement over and across the Subdivision for the benefit of Ditch Company, its designated successors, their contractors, employees, materialmen, and assigns for the purpose of conducting therein and thereon such work of maintenance, improvement, construction, utility installation, development, and other reasonable

activities as the Ditch Company may deem necessary or desirable.

4.05 The Ditch Company is granted the full right and authority to cut, trim, remove, destroy, or modify any trees, shrubs, grasses, structures, fences or other items within the easement or not within the easement but may cause a hazard within the easement. Landowner, and the homeowners association, shall not plant, place or maintain any trees, shrubs, grasses, structures, fences or other items within the easement, nor shall they plant, place or maintain any trees, shrubs, grasses, structures, fences or other items in such a manner, nor shall they place or maintain fence within the easement. Gates or cattle guards shall be installed in all fences so that the Ditch Company has easy passage to its ditch and facilities. The Ditch Company shall be provided keys for all locked gates.

IN WITNESS WHEREOF the undersigned has set his hand and seal as Grantor

GRANTOR

Stephen V. Gardner
Stephen V. Gardner

Margaret P. Nacey
Margaret P. Nacey

STATE OF COLORADO)

ss.

COUNTY OF LARIMER)

The foregoing instrument was acknowledged before me this 6th day of July, 2015, by Stephen V. Gardner, and Margaret P. Nacey, as Grantor.

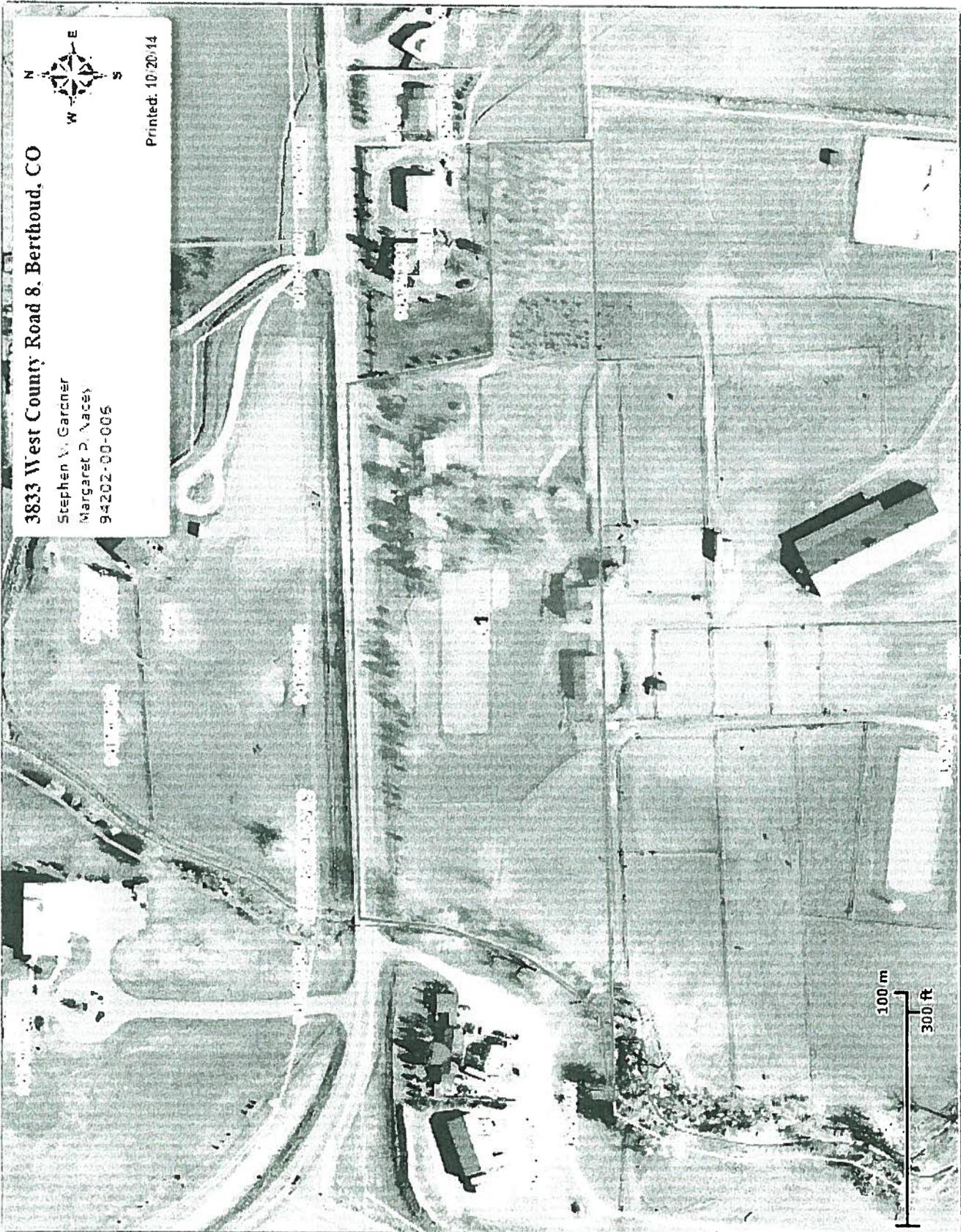
Witness my hand and official seal.

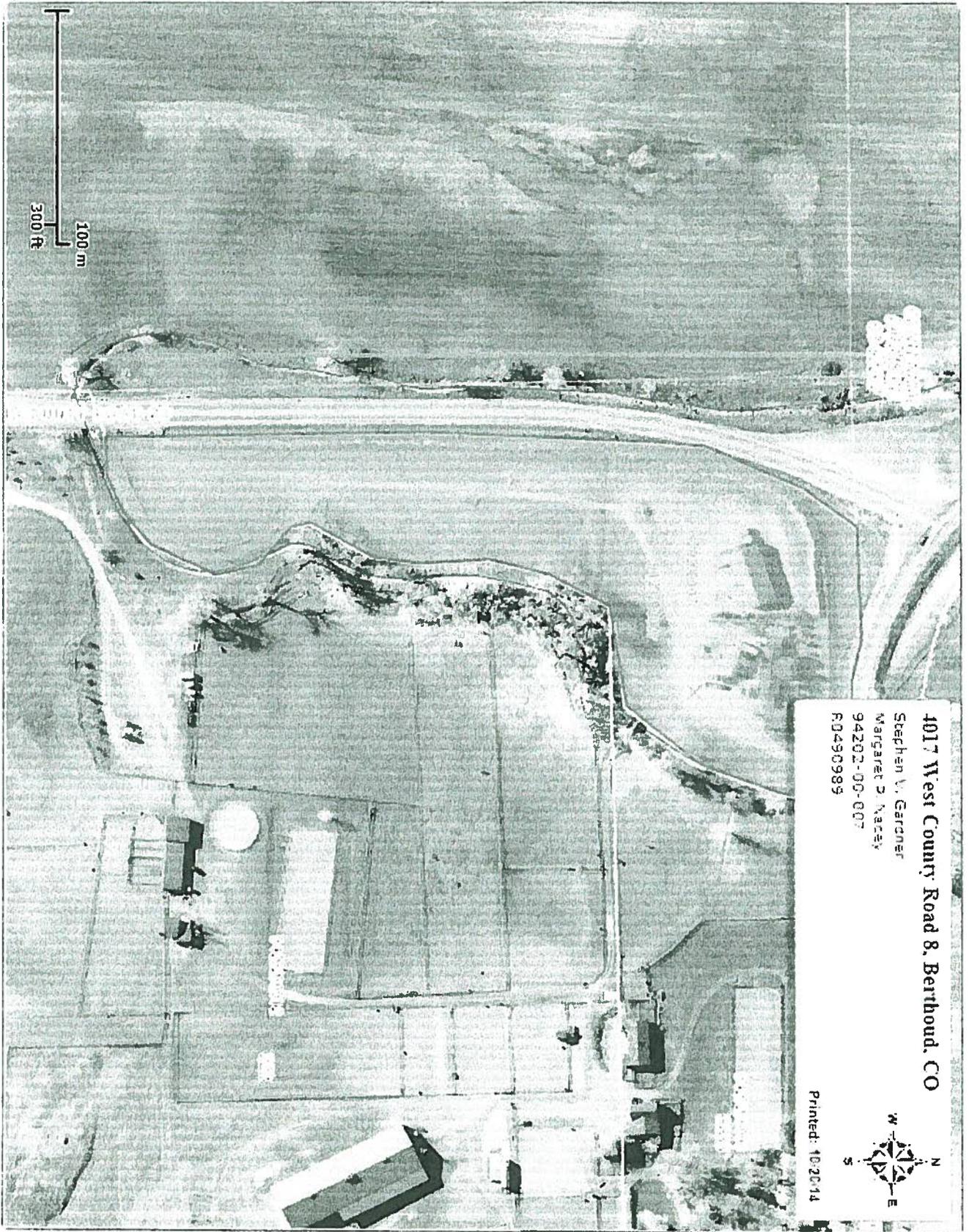
Danielle Hill Lidmark
Notary Public

My commission expires: 1/2/16

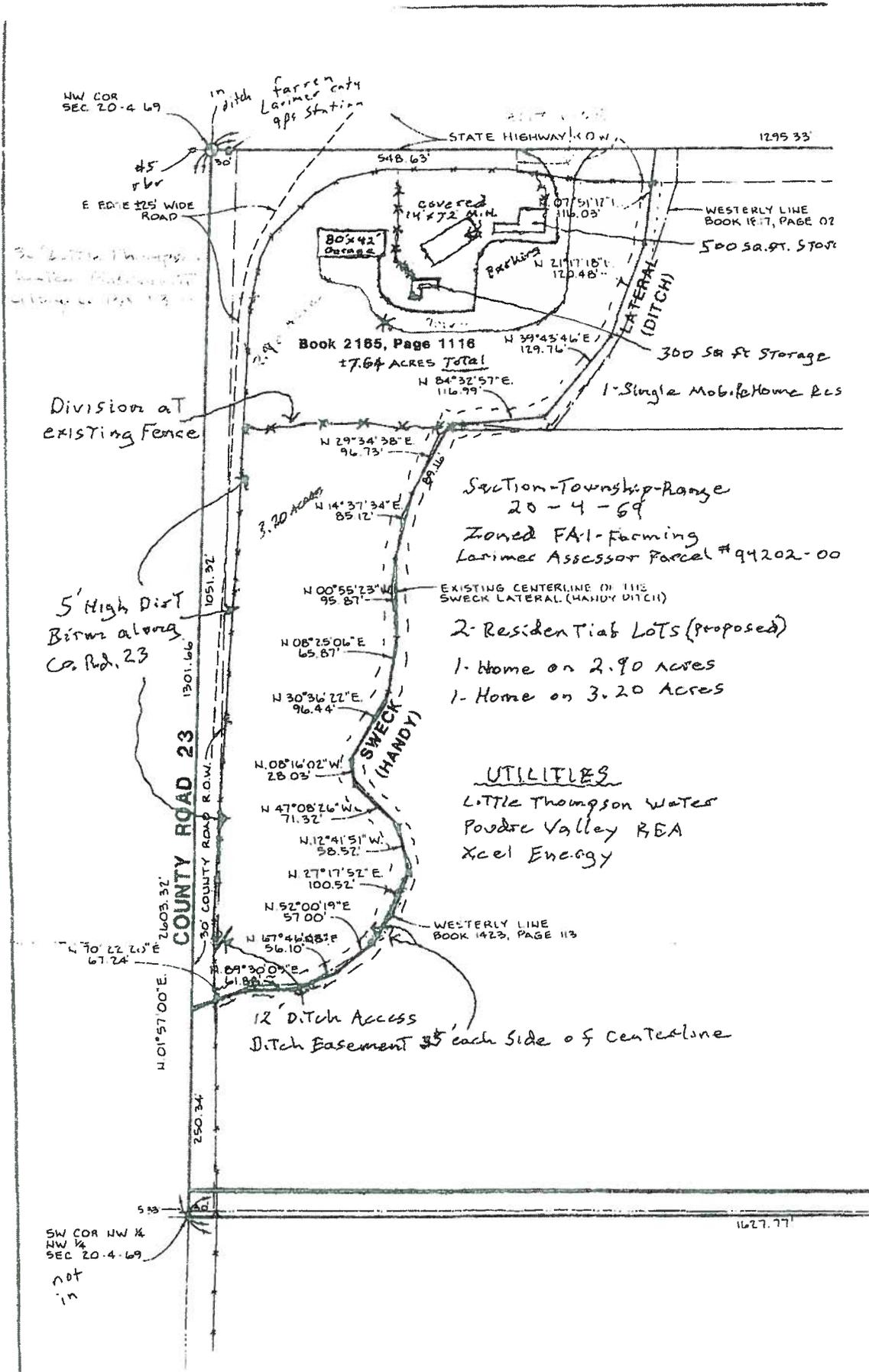








15



NW COR SEC 20-4-69
 in ditch
 farren entry
 Larimer app station

30' Little Thompson
 water laterals
 110' x 125' x 13'

Division at
 existing Fence

5' High Dist
 Birms along
 Co. Rd. 23

SW COR NW 1/4
 NW 1/4
 SEC 20-4-69
 not
 in

Book 2185, Page 1118
 17.64 ACRES Total

Section-Township-Range
 20-4-69
 Zoned FA1-Farming
 Larimer Assessor Parcel #94202-00

2 Residential Lots (proposed)
 1- Home on 2.90 Acres
 1- Home on 3.20 Acres

UTILITIES
 Little Thompson Water
 Poudre Valley REA
 Xcel Energy

12' Ditch Access
 Ditch Easement 35' each Side of Centerline



ENGINEERING DEPARTMENT

Post Office Box 1190
Fort Collins, Colorado 80522-1190

(970) 498-5700
FAX (970) 498-7986

MEMORANDUM

TO: Michael Whitley, Larimer County Planning Department

FROM: Clint Jones, Larimer County Engineering Department *CS*

DATE: August 5, 2015

SUBJECT: Gardner Subdivision – Preliminary Plat

Project Description/Background:

This is a Preliminary Plat review for a two lot subdivision of a 5 acre parcel zoned FA-1 Farming. The site is located southeast of CR8 & 23, at 4017 W County Road 8.

Review Criteria:

The intent of the Preliminary Plat submittal is to justify the feasibility of the proposal. Larimer County Engineering Department development review staff members have reviewed the materials that were submitted to our office under these guidelines and per the criteria found in the Larimer County Land Use Code (LCLUC), Larimer County Rural Area Road Standards (LCRARS), Larimer County Urban Area Street Standards (LCUASS), Larimer County Stormwater Design Standards (LCSDS) and pertinent Intergovernmental Agreements.

Transportation/Access Issues:

1. This project has frontage on Larimer County Road 8 and County Road 23. The Larimer County Transportation Plan, adopted in November of 2006, functionally classifies these roads as major collector roadways that require a 100 foot right-of-way (50 foot half right-of-way). The submitted plat shows adequate right-of-way being dedicated.
2. The applicant should contact Berthoud Fire to ensure that the building and internal street layout is adequate for their purposes.

Drainage/Floodplain/Erosion Control Issues:

1. A geotechnical report still be required with the next submittal. The geotechnical report needs to discuss groundwater levels and should address any lots that will not be allowed to have basements. The applicant shall take into consideration the groundwater characteristics of the site when the finished floor elevations are set. This department requires that lowest floor levels, including basements, be at least 3 feet above groundwater level. It should be noted that the International Building Code calls for lowest floor levels to be at least 5 feet above groundwater level. Additionally, any proposed subdrains are not allowed in the right-of-way.
2. The applicant will need to provide a drainage memo that outlines the existing and proposed conditions on the site. Any new stormwater flows that are being routed to the ditch will need to be approved by the ditch company.

C:\Documents and Settings\whitlemd\My Documents\Downloads\Gardner Subdivision Preliminary Plat.doc

3. The boundaries of this project include or are adjacent to an irrigation ditch. Therefore, the Ditch Company will need the opportunity to review and comment on this proposal as it relates to their easements, setbacks, access, and site drainage.

Fees and Permits:

1. All the fees and permits outlined in my memo dated November 26, 2014 still apply.

Staff Recommendation:

With the understanding that the review items stated above would be addressed with the next submittal, the Larimer County Engineering Department supports this proposal.

Please feel free to contact me at (970) 498-5727 or e-mail me at cdjones@larimer.org if you have any questions. Thank you.

cc: Stephen Gardner/ Margaret Nacey, 3833 W County Road 8, Berthoud CO 80513
file



DEPARTMENT OF HEALTH AND ENVIRONMENT

1525 Blue Spruce Drive
 Fort Collins, Colorado 80524-2004
 General Health (970) 498-6700
 Environmental Health (970) 498-6775
 Fax (970) 498-6772

To: Michael Whitley
 Larimer County Planning Department

From: Doug Ryan *Doug Ryan*

Date: December 24, 2015

Subject: Gardner Subdivision – Comment on additional materials

The Gardner Subdivision is a proposal to divide a 5 acre parcel into two rural residential lots. I provided comments earlier on the preliminary plat submittal. This memo relates to the additional information about water and sewer that was provided to our office on December 23.

Sewer. Sewer service for both lots will be by individual on-site septic systems. Lot 1 is currently developed with an existing system. Lot 2 is constrained due to its long narrow shape, the location of the Dry Creek Lateral along the east boundary, and mapped soils that indicated the potential for shallow bedrock and slower percolation. In response to these issues, the applicant provided a Preliminary Engineering Report prepared by Schmid Engineering dated October 9, 2015. That report includes a site specific soils evaluation on two test pits. The results indicated that the soil profile and soil texture are appropriate for a conventional sewer system to include a septic tank and soil absorption system. Shallow groundwater was not encountered. Based on the report, I would conclude that adequate information has been presented to indicate that Lot 2 is suitable for an on-site sewer system. Note that the regulations we administer require a minimum 100 foot separation between the soil absorption system and the Dry Creek Lateral ditch bank.

Water. Water is to be supplied by the Little Thompson Water District. In a letter dated July 28, 2015 the District committed to provide standard residential service to the one new lot subject to the terms of the Rules and Regulations of the District. Our office has reviewed those Rules and Regulations, and determined that they offer an equivalent level of service to the standards outlined in Section 8.1.2.A.1 of the Larimer County Land Use Code relating to domestic water service. The letter satisfies our concern regarding this issue.

Thank you for the opportunity to comment on this proposal. I can be reached at 498-6777 if there are questions about any of these issues.

cc: Stephen Gardner and Margaret Nacey

DEPARTMENT OF NATURAL RESOURCES

• Visitor Services

• Open Lands

• Weed Management & Forestry

1800 South County Road 31

Loveland, CO 80537

(970) 679-4570/ (970) 679-4574 FAX

www.larimer.org/naturalresources

July 22, 2015

Stephen V. Gardner
3833 West County Road 8
Berthoud, CO 80513

RE: Gardner Subdivision

Dear Mr. Gardner:

As the Park Fees Administrator for Larimer County, I assess the Regional Park In-Lieu Fees for each residential development planned in Larimer County. I read your proposal and provided a table below listing the Park fees associated with each type of residential development. These county fees are assessed due to the residential development proposed and will be due when a building permit is issued.

The purpose of the Regional Park In-Lieu Fee program is to allow new residential growth to pay a proportionate share of the impacts to Regional Parks and Open Lands. These fees are kept by the County and are dedicated for the acquisition of Regional Parks and publicly accessible Open Lands, such as Fossil Creek Reservoir and Horsetooth Mountain Open Space.

| Type of Residence | Larimer County Regional Park Fee |
|------------------------|----------------------------------|
| Single Family Attached | \$701 |
| Single Family Detached | \$547 |
| Duplex | \$526 |
| Multi-family | \$456 |
| Mobile Home | \$540 |

If you have any questions about these fees, feel free to contact me at 970-619-4569 or the Planning Department representative assigned to this project.

Sincerely,

Jeffrey Boring
Resource Specialist II
Larimer County Natural Resources Department

cc: Michael Whitley, Planning Department



Parks and Open Lands Department

1800 South County Road 31
 Loveland, CO 80537
 (970) 679-4570
 (970) 679-4574 -Fax

Regional Park Fee Worksheet
 for Properties in Unincorporated Larimer County

Date: 7/22/2015
Application Name: Gardner Subdivision
Planning Case #: 14-S3262
Planning Staff: Michael Whitley
Location: Unincorporated County 20-04-69
Applicant Information: Stephen Gardner and Nacey Marg
 3833 West County Road 8

Parks and Open Lands Staff Contact: Jeffrey Boring
 (970) 679-4569
 jboring@larimer.org

Berthoud, CO 80513-

Project Description:

Preliminary plat for a two-lot subdivision of a 7.64-acre parcel some FA-1 farming and an appeal to section 8.14.1.H of the Larimer County Land Use Code regarding lot with and depth ratio.

Note: Larimer County Natural Resources has reviewed this proposal and has no comment at this time.

- Fees for regional parks are assessed on all new residential developments in Larimer County.
- The fee amount depends on the type of structure being built (see fee schedule below).
- Park fees are collected by the building department at the time of building permit issuance.
- Please note, fee amounts may vary over time. The building department will collect the park fee that is in effect on the date the building permit is issued.

| <i>Regional Park Fee Schedule:</i> | |
|------------------------------------|----------------------|
| | Fee Effective |
| Type of Residence | May 15, 1999 |
| Single Family Detached | \$701.00 |
| Single Family Attached | \$547.00 |
| Duplex | \$526.00 |
| Multi Family | \$456.00 |
| Mobile Home | \$540.00 |

To calculate the park fees that will be assessed to this development, locate the fee for the type of home to be constructed and multiply that number by the number of homes to be constructed. If the development includes more than one type of residence, calculate the fee for each type and add them all together to determine the total park fees assessed.

$$\frac{\text{Fee for home type}}{\text{Fee for home type}} \times \frac{\text{Number of homes to be constructed}}{\text{Number of homes to be constructed}} = \frac{\text{Total amount regional park fees assessed}}{\text{Total amount regional park fees assessed}}$$

If you have any questions about this form calculating these fees please contact Parks and Open lands staff at **BCG 02/08/16** address above.

GARDNER SUBDIVISION



COMMUNITY DEVELOPMENT DIVISION

P.O. Box 1190
 Fort Collins, CO 80522-1190
 Planning (970) 498-7683 Planning Fax (970) 498-7711
 Building (970) 498-7700 Building Fax (970) 498-7667
<http://www.larimer.org/building>

ADDRESSING REVIEW COMMENTS

PROJECT NAME: GARDNER SUBDIVISION

CASE NUMBER: 14-S3262

DATE: 07/30/2015

Project Scope: PRELIMINARY PLAT FOR A TWO LOT SUBDIVISION OF A 7.64 ACRE PARCEL ZONED FA-1 FARMING AND AN APPEAL TO SECTION 8.14.1.H OF THE LARIMER COUNTY LAND USE CODE REGARDING LOT WIDTH TO DEPTH RATIO.

Staff Comments on Addressing: IF THIS SUBDIVISION IS APPROVED BY LARIMER COUNTY, LOT 1 WILL REMAIN ADDRESSED 4017 W COUNTY ROAD 8. LOT 2 WILL BE SITE ADDRESSED 240 N COUNTY ROAD 23, BOTH IN BERTHOUD, CO 80513.

Addressing submittal requirements: NONE.

Sent to: MICHAEL WHITLEY-PLANNER II, JILL WILSON-CITIZEN RESOURCES TECHNICIAN, STEPHEN GARDNER-OWNER/APPLICANT

Respectfully submitted,

DAN KUNIS
 GEOGRAPHIC INFORMATION SPECIALIST
 LARIMER COUNTY COMMUNITY DEVELOPMENT DIVISION
 970-498-7680
dkunis@larimer.org



Michael Whitley <whitlemd@co.larimer.co.us>

Gardner Subdivision...Case # 14-S3262

1 message

Jim Frick <frickj@co.larimer.co.us>

Mon, Jul 20, 2015 at 12:03 PM

To: Michael Whitley <mwhitley@larimer.org>

Cc: Todd Juergens <tjuergens@larimer.org>

Micahel,

There are no conflicts with Road & Bridge for this proposal.

Thanks,

Jim

--

Jim Frick
Non-Paved Roads Group Manager
Road and Bridge Department
2643 Midpoint Drive, Suite C
P.O. Box 1190
Fort Collins, CO 80522-1190
970-498-5663
970-498-5678 Fax



Michael Whitley <whitlemd@co.larimer.co.us>

Gardner Subdivision - Case 14-S3262

1 message

Sue Bowles <sbowles@berthoud.org>
To: "mwhitley@larimer.org" <mwhitley@larimer.org>

Wed, Jul 22, 2015 at 10:05 AM

Morning Michael,

Staff has reviewed this proposal. The property is located outside the Town's GMA. We have no conflicts or comments.

Thank you,

Sue Bowles

Town of Berthoud

Planning and Building Technician

(970) 532-2643

(970) 344-5808 (Direct Line)

(970) 532-0640 (fax)

Berthoud Fire Protection District

Date: 07/20/2015

Michael Whitney, Planner II
Larimer County Planning and Building Services Division
P.O. Box 1190
Fort Collins Colorado, 80522-1190

Re: Gardener Subdivision 14-S3262

Berthoud Colorado 80513

Dear Sir:

I have reviewed the second proposal for the Gardener Subdivision. On the plans that Fire Department Access is shown.

Per the adopted 2012 International Fire Code Section 503.2.3 Surface. Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be surfaced so as to provide all-weather driving capabilities. Larimer County Standards apply.

If you have any questions, please direct them to me at your earliest opportunity.

Respectfully,

P. Michael Bruner
Fire Marshal

CC: Stephen V Gardener/Margaret P Nacey
CC: File

Box 570, 275 Mountain Ave, Berthoud CO 80513
(970)532-2264 Phone, (970)5324744 Fax, www.berthoudfire.org

Directors:

Bill Szmyd, President
 Bob Acker
 Larry Brandt
 Peter Bridgman
 Paul Bukowski
 Kathy Gallivan-Crist
 Ed Martens



Little Thompson Water District

July 28, 2015

District Manager:

James C Hibbard
 835 E Highway 56
 Berthoud, CO 80513

P 970.532.2096
 F 970.532-3734
www.LTWD.org

Steve Gardner
 3833 West County Road 8
 Berthoud, CO 80513

Dear Mr. Gardner:

This letter is in response to your request for a water service commitment for one additional residential lot, in the location described as follows:

PORTIONS OF NW 1/4, SEC.20, T4N, R68W -- LARIMER COUNTY, CO.

The District provides water service within its service area as defined by the District. The provision of water service by extension of existing water lines of the District to the above property and the installation of taps for lots is done under the terms of the Rules and Regulations of the District established by the Board of the District from time to time. You may obtain a copy of the Rules and Regulations from the District. This letter outlines the provisions of the Rules and Regulations, however this letter does not change any provisions of the Rules and Regulations. The Board of the District may alter and amend the Rules and Regulations at any time, and the provisions of this letter are subject to alteration and amendment based on changes in the Rules and Regulations of the District.

We currently have a 12" diameter water line located along LCR 23 with additional capacity available. Therefore, we can commit to provide service to the above property, subject to the limitations in this letter, for one standard residential 5/8" X 3/4" water tap; and the following additional limitations on the provision of water service are:

1. All improvements to District facilities required to provide service will be the financial responsibility of the developer in accordance with the District Rules and Regulations.
2. **Little Thompson Water District does not currently accept cash in lieu payments for water rights for developments.** You will be required to provide water rights to meet the projected needs of the proposed development. LTWD requires .7 acre-ft of FIRM yield water for each standard residential 5/8" x 3/4" tap. This would be the equivalent of 1.4 shares of CBT water per tap. Several native ditch system water shares can also be utilized to meet these needs. You would need to provide historical usage information to evaluate the ditch shares for dedication for this project. You will also be responsible for some water share fees and a dry up covenant for the dedicated shares.

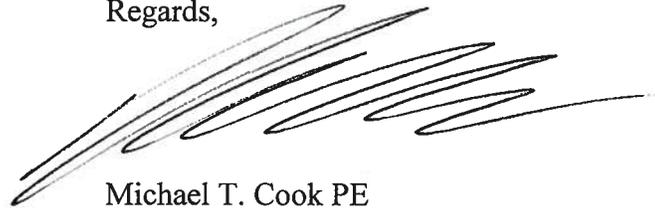
Per your request to use shares of CBT to satisfy the water dedication requirement: We could accept 2 shares of CBT water, to meet the .7 acre-ft dedication requirement and that would leave a credit of \$7,800 toward the remaining \$12,500 tap fees. In addition to the two CBT shares you would need to bring \$4,700 in to purchase the tap. This water credit is based on the attached calculation sheet we use for determining the value of the water credits.

3. There is a \$2,000 per hydrant fee that needs to be paid prior to installation of the fire hydrant. You will be responsible for any improvements or upgrades needed to meet the required fire flows in your subdivision.
4. Prior to initiating water service, you will need to provide evidence that the property is included in the Municipal Sub District of the Northern Colorado Water Conservancy District. You can find information on having your property included at the offices of the Northern Colorado Water Conservancy District.
5. The design, installation and total cost of the project will be the responsibility of the developer. No water line construction will be required to serve the single residential tap at this location.

This commitment letter will expire two years from the date of this letter if the tap has not been purchased, paid for and installed by that date of expiration. The current fee for the domestic 5/8" X 3/4" tap is \$30,700. **YOU ARE HEREBY ADVISED THAT THE RULES, REGULATIONS AND TARIFFS OF THE DISTRICT ARE SUBJECT TO CHANGE WITHOUT NOTICE; AND THIS LETTER IS ISSUED WITH THE SPECIFIC LIMITATION THAT THE DISTRICT MAY CHANGE THE RULES, REGULATIONS AND TARIFFS APPLICABLE TO THE ABOVE PROPERTY AT ANY TIME WITHOUT NOTICE TO YOU OR ANY PERSON.**

If you have questions, please contact me.

Regards,

A handwritten signature in black ink, appearing to read "Michael T. Cook", written over a series of horizontal, wavy lines that serve as a background for the signature.

Michael T. Cook PE
District Engineer

COLORADO GEOLOGICAL SURVEY

1801 19th Street
Golden, Colorado 80401
303.384.2655



August 6, 2015

Karen Berry
State Geologist

Michael Whitley
Community Development Division
Larimer County
P.O. Box 1190
Fort Collins, CO 80522

Location:
W½ NW¼ NW¼ Section 20,
T4N, R69W of the 6th P.M.
40.3032, -105.1498

Subject: Gardner Subdivision – Preliminary Plat
Case Number 14-S3262; Larimer County, CO; CGS Unique No. LM-16-0001

Dear Michael:

Colorado Geological Survey has reviewed the Gardner Subdivision preliminary plat referral. I understand the applicant proposes two single family residential lots on 7.64 acres located at 4017 W. CR8, west of Berthoud. With this referral, I received a Site Data Sheet (July 16, 2015), a Project Description (undated), and a Preliminary Plat and Site Inventory Map (Intermill Land Surveying, May 13, 2015). No geologic or geotechnical information, other than notes on the Site Inventory Map, was included with the referral. Proposed Lot 1, 3.08 acres, contains an existing home, outbuildings, and large shop/garage. A new single-family home and septic system are planned on proposed Lot 2, 2.94 acres and currently undeveloped.

The Dry Creek Lateral Ditch is located along the eastern property boundary. The site contains localized slopes associated with berms and the ditch, but is outside of any mapped FEMA flood hazard zones, is not undermined, and does not appear to be exposed to or located within any identified geologic hazard areas that would preclude the proposed residential use and slight increase in density. **CGS therefore has no objection to approval of the subdivision as proposed.** Potential development constraints include:

Expansive soils bedrock. According to Larimer County Soil Survey data, the site soils are somewhat limited in suitability for dwellings due to shrink-swell and shallow, low-strength bedrock. Geologic mapping for this area (Braddock et al, 1988, Geologic map of the Carter Lake Reservoir quadrangle, Boulder and Larimer Counties, Colorado: U.S. Geological Survey, Geologic Quadrangle Map GQ-1628, scale 1:24,000) indicates that the site is underlain by Kpm, the middle shale member of the Pierre Shale. The Pierre Shale, and soils derived from it, often contain moisture-sensitive clay minerals and clayey pockets, layers and lenses, potentially exhibiting structurally damaging volume changes (shrink-swell) in response to changes in water content. If claystone capable of producing high swell pressures is present within a few feet of foundation bearing depths, it can cause severe structural damage if not properly characterized and mitigated.

A lot-specific geotechnical investigation, consisting of drilling, sampling, lab testing and analysis, will be needed, once a building location has been identified on proposed Lot 2 and prior to issuance of a building permit, to characterize soil and bedrock engineering properties such as density, strength, water content, and swell/consolidation potential; identify potentially moisture-sensitive (expansive and collapsible) soils and expansive claystone bedrock; determine depths to groundwater and bedrock;

Michael Whitley
August 6, 2015
Page 2 of 2

verify the feasibility of a full-depth basement, if planned; and provide earthwork, foundation, floor system, subsurface drainage, and pavement recommendations for design purposes.

Shallow groundwater and perched water. Based on the close proximity of surface water features, including the unlined Dry Creek Lateral Ditch, groundwater should be expected to occur at relatively shallow depths beneath the site, at least seasonally, at depths that may preclude full-depth basement construction on proposed Lot 2. A full-depth basement should be considered only if site-specific water level observations indicate that the minimum required separation distance of three feet (preferably five feet) between lowermost floor levels and shallowest anticipated groundwater levels can be maintained year round. This will help reduce the risk of water infiltration into below-grade spaces, damp conditions, hydrostatic loads on below-grade walls and floors, and excessive wetting, softening and shrink-swell movement of soils adjacent to and beneath foundation elements.

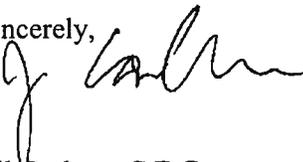
Perched water conditions are likely to form above less permeable soil layers, on top of the bedrock surface, and within foundation excavations (which tend to be more loosely backfilled), as a result of landscape irrigation, runoff from roofs and paved areas, and OWS infiltration, causing wet or moist conditions in the soils immediately surrounding basement/crawl space walls and foundations. Regardless of whether a basement is determined to be feasible, an individual foundation perimeter drain will be necessary to control perched water. The perimeter drain must be sloped to discharge to an interior pumped sump or a gravity outlet that discharges water as far as possible away from all structures.

Slow percolation rates and onsite wastewater system (OWS). According to the Larimer County Soil Survey, the site is very limited in suitability for a conventional septic tank absorption field due to low-permeability soils (slow percolation rates) and shallow bedrock. The planned septic system may need to be designed by an engineer. Since engineered OWS typically require more maintenance and have shorter lifespans than conventional systems, a backup OWS location should be identified on proposed Lot 2.

Corrosive soils. According to NRCS soil survey data, the site soils are highly corrosive to steel, and moderately corrosive to concrete. Steel that will be in contact with native soils should be epoxy-coated to reduce the risk of corrosion, and the need for additional corrosion protection should be evaluated as part of the geotechnical investigation. Sulfate attack-resistant Type II or Type V cement should be used in all project concrete that will be in contact with site soils.

Thank you for the opportunity to review and comment on this project. If you have questions or require further review, please call me at (303) 384-2643, or e-mail carlson@mines.edu.

Sincerely,



Jill Carlson, C.E.G.
Engineering Geologist