



Farmington City Planning Commission

January 14, 2016



# FARMINGTON CITY

H. JAMES TALBOT  
MAYOR

DOUG ANDERSON  
JOHN BILTON  
BRIGHAM N. MELLOR  
CORY R. RITZ  
JAMES YOUNG  
CITY COUNCIL

DAVE MILLHEIM  
CITY MANAGER

## AGENDA PLANNING COMMISSION MEETING January 14, 2016

Public Meeting at the Farmington City Hall, 160 S. Main Street, Farmington, Utah  
**Regular Session: 7:00 p.m. – City Council Chambers (2<sup>nd</sup> Floor)**

*(Please note: In order to be considerate of everyone attending the meeting and to more closely follow the published agenda times, public comments will be limited to 3 minutes per person per item. A spokesperson who has been asked by a group to summarize their concerns will be allowed 5 minutes to speak. Comments which cannot be made within these limits should be submitted in writing to the Planning Department prior to noon the day before the meeting.)*

1. Minutes
2. City Council Report

### SUBDIVISION APPLICATION

3. Jerry Preston – Applicant is requesting preliminary plat approval for the Residences at Farmington Hills (P.U.D) Subdivision consisting of 23 lots on 44.3 acres located at approximately 300 East between 100 and 400 North in an LR-F (Large Residential - Foothill) zone; and a recommendation to annex approximately 20 acres of the 44.3 acres of the proposed development with the zone designation LR-F. (S-8-15 & A-1-15)

### OTHER BUSINESS

4. Miscellaneous, correspondence, etc.
  - a. Motion Adjourning to Closed Session Regarding Potential Property Transaction
  - b. Rainey Homes – Special Exception – Driveway Without Direct Public Street Access
  - c. Farmington Rock Committee Assignment
  - d. Other
5. Motion to Adjourn

*Please Note: Planning Commission applications may be tabled by the Commission if: 1. Additional information is needed in order to take action on the item; OR 2. if the Planning Commission feels there are unresolved issues that may need additional attention before the Commission is ready to make a motion. No agenda item will begin after 10:00 p.m. without a unanimous vote of the Commissioners. The Commission may carry over Agenda items, scheduled late in the evening and not heard to the next regularly scheduled meeting.*

Posted January 7, 2016

Eric Anderson  
Associate City Planner

**FARMINGTON CITY**  
**PLANNING COMMISSION MEETING**  
December 17, 2015

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**STUDY SESSION**

***Present:** Chair Rebecca Wayment, Commissioners Heather Barnum, Kent Hinckley, Alex Leeman and Dan Rogers, Community Development Director David Petersen, Associate City Planner Eric Anderson and Recording Secretary Lara Johnson. Commissioners Brett Anderson and Bret Gallacher were excused.*

**Item #3. Jerry Preston – Requesting Preliminary Plat Approval for the Residences at Farmington Hills (PUD) Subdivision and a Recommendation to Annex Approximately 20 acres with an LR-F Zone Designation**

**Eric Anderson** explained this item is a 2 part motion; one part is the approval or denial of preliminary plat and the second part is the recommendation to City Council on the applicant's request for annexation. He said the preliminary plat is similar to schematic plan, but the previous motion requested a geotech report and a geohazard study on the property. **Eric Anderson** said the information presented at the City Council Study Session on December 15, 2015 included explanation from the applicant's geotech report. An executive summary of the report is included in the staff report. **Eric Anderson** said the report suggests plans on how to mitigate risk for the property. He said staff feels there may be some risk with hillside development; however, it has been done elsewhere in the City and at higher elevation without any issues.

**Heather Barnum** asked if it is within the Commission's purview to say no to the application if the applicant has met all standards of care. **David Petersen** explained that an annexation request is a legislative act; if the City denies the annexation request, then it would be like saying no to the development as the applicant needs the annexation approval to move forward with the current plans. **Eric Anderson** also added that 20 acres of the proposed development is currently within the City boundaries and is zoned LR-F. In theory, the applicant could request for a conservation subdivision on those 20 acres with a similar lot count.

**David Petersen** said the Commission has heard from a geologist and a geotech engineer. He proposed the Commission table the item so the City's geotech consultant can thoroughly review the information.

The Commissioners expressed concern that problems may still occur even if suggestions to mitigate those problems are implemented. The Commissioners asked where the liability falls on those kinds of circumstances, and if there is any risk for the City. The Commissioners and staff discussed the North Salt Lake (NSL) landslide as well as the legal environment that has resulted from it. **David Petersen** suggested the item could also be tabled to discuss liability surrounding this application with the City Attorney. The Commissioners felt they were not for or against the development at this time, but are comfortable moving forward with obtaining more information to ensure the development is in the best interest of the citizens and the City.

**Rebecca Wayment** added that if the development gets to the point of approval, she does want to ensure there is trail access through the project. The Commissioners and staff agreed.

**Item #5. John Wheatley/Symphony Homes – Requesting Recommendation for a Zoning Map Amendment**

**David Petersen** said an email was received by a local resident, Kirt Peterson. He showed Mr. Peterson's home on the aerial map and explained the water flow to Mr. Peterson's property. In the past, this water was to be diverted for other developments; however, Mr. Peterson requested the need to water his stock. The water was routed to ensure he had an adequate amount, but now he feels he has more than he anticipated he would when he made the request. Mr. Peterson expressed concern that Chestnut Farms subdivision will send its water flow into the creek which will cause it to back up and flood his property. **David Petersen** said Chestnut Farms will have its regional detention basin that will meter the flow of the water; however, he is unsure if this could cause problems to neighboring residents.

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**REGULAR SESSION**

***Present:** Chair Rebecca Wayment, Commissioners Heather Barnum, Kent Hinckley, Alex Leeman and Dan Rogers, Community Development Director David Petersen, Associate City Planner Eric Anderson and Recording Secretary Lara Johnson. Commissioners Brett Anderson and Bret Gallacher were excused.*

**Item #1. Minutes**

**Heather Barnum** made a motion to approve the Minutes from the December 3, 2015 Planning Commission meeting. **Dan Rogers** seconded the motion which was unanimously approved.

**Item #2. City Council Report**

**Eric Anderson** gave a report from the December 15, 2015 City Council meeting. He said the City Council talked in length about the completed geotech and geohazard report from GeoStrata, as will be further discussed in Item #3. He also said the extension agreements for the Mercedes Benz and Ascent Construction buildings were approved during the open summary action items.

**SUBDIVISION APPLICATIONS**

**Item #3. Jerry Preston (Public Hearing) – Applicant is requesting preliminary plat approval for the Residences at Farmington Hills (P.U.D.) Subdivision consisting of 23 lots on 44.3 acres located at approximately 300 East between 100 and 400 North in an LR-F (Large Residential-Foothill) zone; and a recommendation to annex approximately 20 acres of the 44.3 acres of the proposed development with the zone designation LR-F. (S-8-15 & A-1-15)**

**Eric Anderson** said the applicant is seeking to develop 44 acres with a road connecting 400 N. and 100 N. The applicant is proposing a conventional subdivision of 20 lots with 3 lots under a PUD. The application obtained Preliminary P.U.D. Master Plan approval at the previous meeting. The two main items before the Commission tonight is the annexation request for approximately 20 acres with a zone designation of LR-F and the preliminary plat. The Commission previously requested the applicant to obtain a geotech report to determine the validity of a foothill development on this property. The applicant hired GeoStrata. **Eric Anderson** said he included excerpts from the study in the staff report.

He said staff is recommending approval of the preliminary plat and a recommendation that the Commission recommends the annexation for approval with a zone designation LR-F.

**Jerry Preston**, 177 N. Main St., thanked the staff and the Commissioners for their hard work and diligence. He clarified staff includes, but is not limited to, the City Planners, City Engineers and the Building Official Department as they review the plans and give recommendations for the project prior to coming before the Commission or City Council. Also, he said a public hearing is not typically held during the preliminary plat process; however, the Commission felt it was appropriate to hold another public hearing as it is a delicate issue being discussed. The Commission felt it was appropriate to keep the public aware of this projects dealings. He said that he has been personally building for 42 years; his first development was 36 years ago. He said there have been significant changes in the building industry since that time. He feels as time goes, developers get better at what they do based on trial and error. He feels the City's Foothill Ordinance is a result of these trials and errors to avoid things like large graded streets (i.e. Cherry Blossom Rd.). He feels the City's Foothill Ordinance is very stringent to ensure properties are developed safely and properly. He feels they have done all the required studies and everything points to this being a viable subdivision.

**Jerry Preston** showed a slideshow of the development. He said they are creating lots big enough so lots will not back one another. This will mean lots will not drain onto adjacent lots. He also showed comparison slides to show the differences between the North Salt Lake (NSL) development that resulted in a landslide and this proposed project. **Jerry Preston** pointed out some of the major differences include lot sizes and lot layout.

**Jerry Preston** said when they sought out a geotech engineer, he sent 4 invitation to bid. 3 of the companies submitted their bids, but 1 company, GeoStrata, would not bid the project until they conducted a visual on the site. Once they reviewed the site and felt comfortable with the location, **Jerry Preston** said GeoStrata provided their bid, and he accepted them to do the work.

**Tim Thompson**, 11668 E. 1000 E., Sandy, said he is a licensed professional geologist, as well as a Sr. Geologist and part-owner of GeoStrata. He said he wanted to speak towards issues surrounding this development and hazards found here versus other areas, like NSL and the outcomes of the hillside development there. He said he was hired by the City of NSL in October 2013 when cracks appeared in the slope of the hillside and it appeared a portion of the hillside was moving. He said the City hired GeoStrata to help them understand the geotech issues surrounding that and how to navigate through those decisions. Unfortunately, it was too late to stop what was going to happen. There are significant differences between that development and what is being proposed. He explained how the North Salt Lake slope was not an actual slope, but was previously a gravel mine. Once the mine closed, a reclamation plan was submitted on how the area would be returned to its previous state. **Tim Thompson** explained the 2003 geotech study that was completed for the whole future development reviewed the native condition of the land, the need for a de-watering system, advisement on the amount of top soil used and a 300' required setback from the crest of the slope. In 2013 a second geotech study was done, but it did not include a geologist study with it. This study resulted in a much less conservative approach, which resulted in removing the 300' setback requirement. Additionally, the 2013 geotech report recommended only a 5' fill be added for houses to be built, but the recommendation was not followed as 35' of fill was added to each lot. He explained that with this particular development everything that slid was not part of the native scarp.

**Tim Thompson** explained that the property being reviewed for Mr. Preston's development is the native slope. There are not any streams or clay that could be observed. The slope is currently at its natural angle. He said that he does still recommend a 75-90' setback from the crest of the slope as opposed to building on the slope. **Tim Thompson** added that in his experience, it is not a successful

approach to try to stop development in the foothills as over time, most of the land gets developed. He feels this development is very low density for the acreage, and it takes advantage of the natural grade of the slope by allowing a limited number of homes around the natural topography.

**Tim Thompson** also said another lesson learned by the City of North Salt Lake and a recommendation he would like to make to Farmington City is that the City should require geotechnical and geological professionals to record and stamp the final designs to ensure they meet the recommendations in the final report. He feels the geotechnical and geological professionals should also do a periodic inspection of the development over time and then submit a letter to the City to ensure recommendations in the reports for the development are being accurately followed. He also added that any study completed is meant to limit risk, not remove risk. He feels the industry would be doing a disservice if citizens believe all risk is removed; however, studies identify hazards, quantify them and ensure there is minimal impact on anything existing as well as provide potential positive improvements for things like drainage as uncontrolled drainage can be very detrimental.

**Kent Hinckley** asked if there is anything that can be improved on, like drainage as Mr. Thompson mentioned, with regards to landslide or earthquake. **Tim Thompson** said this development would not make results of an earthquake worse as it will be the same seismic shaking across the land. He said many homes have been built along the fault line prior to the City reviewing things like that during construction of homes many years ago. As for drainage, it has currently been uncontrolled on the hillside. This development will bring a storm drain system that will collect and manage run off to reduce the impact it could have on other homes. As far as landslide, the required setback will ensure lots are set away from the slope in order to leave the hillside in its native form so there will not be any potential landslide impact.

**Dan Rogers** asked if there is a higher risk of the slope slipping as irrigation will take place with the development and ground water may increase. **Tim Thompson** said he feels property owners do water too much and it has resulted in problems on other slope areas in Utah. He feels there will not be much impact to this property as there will be large lots and fewer residents on this slope which will result in lower impact overall. **Jerry Preston** also added that the CC&Rs can also limit the amount residents water the grass. **David Petersen** said that Weber Basin has recently installed meters on laterals to provide homeowners a report of the amount of water being used. Although there are not restrictions or fines on the amount used, water usage has dropped 25% by making property owners aware of their usage. He suggested requiring Benchland Water, which will be covering the secondary water for this area, to install meters on every lateral in the development to also help manage water.

**Rebecca Wayment** explained to the public in attendance that the Planning Commissioners attended the City Council's Study Session where they heard Mr. Thompson's report as well as a presentation from Dr. Nicoll, a geologist professor from the University of Utah. She invited Dr. Nicoll to share with the public what she previously presented to the Council and the Commissioners.

**Kathy Nicoll**, 1467 Browning Ave., said she is a former oil geologist and land acquisition specialist and is currently a college professor for mountain planning. She said she has spent many years studying why slopes might fail. She expressed that her candid opinion is to keep risk at a minimum and not develop the land, but to consider other creative development options. She feels each landscape, hillside and rocks are different; however, many things can contribute to slopes sliding. She feels building on this property will add more weight to the slope and will enhance its instability. She said in other failures she has studied, many are triggered by the frequency and magnitude of rainfall. **Kathy Nicoll** advised the Commission that weather cannot be predicted or controlled. She has seen many systems fail and slopes fall because of the triggering events taking place. She said if the development is built, there will be enhanced risk.

**Alex Leeman** asked for further clarification as to why she feels this specific area is prone to landslide. **Kathy Nicoll** said the 1998 Utah Geological Survey maps indicate that a landslide hazard is viable for this area. She said there is bedrock that is located within this area which may result in movement so the soil may not support a development. **Alex Leeman** asked if she feels GeoStrata incorrectly identified the type of soil for this property. **Kathy Nicoll** said she feels this area is more slippery than she would personally choose to build on as there are mica minerals located on this property; mica minerals could turn into clay over time.

**Heather Barnum** said she heard during the Study Session with the City Council that there may be more danger for the homes below if this development is built. She asked if Dr. Nicoll felt that this were true. **Kathy Nicoll** said yes, she believes if a development is built above the scarp, it would predispose this area for instability. Although drainage for the development may be according to code, more development results in less infiltration into the ground causing storm run-off which may result in additional debris run-off problems. Enhanced debris flow could result in mud in the base area. If this were to happen, it could likely bypass the recently built homes and cause additional risk to the homes below.

**Kent Hinckley** said GeoStrata mentioned that this development would bring drainage improvements; he asked Dr. Nicoll's opinion on the drainage. **Kathy Nicoll** said she is not a developer, but she studies slope stability. She said storm run-off almost inevitably increases from developments as a result of the increase in cement. The increase in cement results in more water entering the City systems and less entering the natural land. She said Draper has had similar problems which resulted in the need for enhancing their storm run-off systems.

**Heather Barnum** mentioned that Dr. Nicoll is not being compensated by the City or the developer. **Kathy Nicoll** said she is interested in this development as this is something she studies and has watched several homeowners encounter landslides.

**Tim Thompson** expressed frustration that he may be viewed as more willing to allow hazards as a paid consultant. He said he does make his living as a geologist and works on thousands of homes a year; however, it should not discredit his desire to ensure the safety of people and projects he works on. He added that putting approximately 15 houses on a hillside does not add additional weight to the mountain. He said putting water tanks or concrete structures on a sloped grade will; however, those have already been added to the mountain otherwise the valley could not have the water it needed.

**Rebecca Wayment opened the public hearing at 8:16 p.m.**

**Terry Tippetts**, 435 N. 200 E., said he lives right below the proposed development. He said his biggest concern is that Mr. Thompson stated during the Study Session with City Council that he would not build a school or hospital on this property; he does not understand why this property is safe for families if it is not a good place for a school or hospital. He also asked what the increase of liability the City of Farmington or future residents may have if this project does slide years later. He feels the City has the obligation to protect the future citizens. He said he has filled sandbags and shoveled mud multiple times since living here.

**Corey Crowell**, 232 N. 100 E., said he lives below the proposed development. He said he has grown up in the area and has seen slides multiple times in surrounding areas. He said it concerns him as Mother Nature cannot be predicted. He does not want to be in a position to "learn about these things" from experience. He feels the solution to these concerns presented is to simply not build. He has talked with many neighbors and understands their desire to sell. **Corey Crowell** said he is working on obtaining

private funding to purchase the property for approximately \$3.5 million so it can remain a natural park for the community all the way up to the forest line.

**Caroline Parker**, 133 E. 300 N., expressed concern about ground movement, fault lines, wild fires, natural springs and buckling and sinking of new homes and roads built in surrounding areas. She said heavy equipment was required to assist homes in the area a few years after the 1983 mudslide. She said much of the Wasatch Front is moving away from the build anywhere model and is now looking for safer places to build. She also does not like that the proposed development is on the hillside right above the historic quarter of downtown Farmington.

**Gary Harris**, 548 N. 200 E., said he is a licensed professional geologist, and he works for Utah as an environmental scientist. He feels this piece of property is not immune to all the hazards as there is still landslide and mudslide potential where homes and a road will be located. He feels this property is prone to all triggers discussed by Dr. Nicoll. He said the United States Geological Survey designated this as a landslide area as well as the Utah Geological Survey. He questioned the amount of risk the City is willing to take with this development.

**Scott Ezola**, 164 E. 300 N., said he does not own any land in this proposed development. He feels that if the development meets all codes and standards, property owners have the right to do what they would like to do with their land. He asked that more access be available to the trail system if the development is approved.

**Wayne Goodfellow**, 410 N. 200 E., said he lives adjacent to the proposed development. He said he is in favor of property owners' rights; he feels this development is a good idea as there are many long term Farmington residents that own this land that want to develop it. He said he worked with the City's fire department for 13 years and was faced with fighting many fires on the mountain. The biggest problems they faced with these fires was access and water; however, this development would provide solutions to both of those problems. Additionally, the development would provide defensible green spaces to also protect against fires. He said over the years he has had his driveway blocked with people hiking the trail. This development also provides trail access solutions for hikers. He said he feels it is not a matter of if, but when this property will be developed. He feels this low density project is an appropriate way to develop the land.

**Todd Adams**, 242 N. 200 E., said he owns a home located at the bottom of the property, but also owns property on the hill. He said he always envisioned the development to be based on the City's ordinances and standards. He feels the developer has submitted a good plat; he feels it should be approved based on the laws and plans in place. He also mentioned Weber Basin is requiring meters to be placed on all new homes; he feels this helps residents become more responsible. He said he supports this projects and hopes the Planning Commission will too.

**Bert Margetts**, 500 E. 200 S., said he has lived here for 43 years. He said residents take pride in Farmington and work hard to make it an ideal place to live. He feels the Planning Commission and City Council has done a great job in creating thought out regulations and City planning. He appreciates that Main Street has been watched over and protected against the encroachment of commercialism. He feels the commercial development would be out of place for this area; however, the Farmington Hills Subdivision will add beauty to it. He feels this project should be allowed to move forward.

**Henry Werner**, 127 W. State Street, expressed concern that he received a flyer from the City at his home at 3 p.m. today. He feels more time should have been allowed to prepare for the meeting. **David Petersen** explained it was not a City distributed flyer. A resident attending the public hearing said the flyer was his and his family's effort to inform the public of the meeting to ensure the community was

aware of the project. **David Petersen** explained the City's standards for postings, notices and mailings for agenda items.

**James Stock**, 293 N. 200 E., said he lives directly below the proposed subdivision. He explained his first thought when he heard of the project is that Jerry Preston is the man to do it. He said there is no one more intimately involved in maintaining the feel of Farmington than Jerry Preston. He said different studies and opinions have been presented; however, successful neighbors to the north and south have built higher than this subdivision. He said the reality is there is not a way to stop Mother Nature as Farmington is built under a mountain. He feels, though, that every step has been taken to limit the risk. He said almost half of the proposed project is already zoned for large residential. The applicant is not asking for anything that the City hasn't already planned to do with the property.

**Fern Pies**, 140 E. 400 N., asked who will pay for the damage in the event a landslide does ever take place. She said based on her experience, it is the unsuspecting homeowner that is left with the expense as the City, applicant and insurance will not pay for it.

**Michael Lauterbach**, 46 S. 300 E., asked who owns the approximate 20 acres that may be annexed into the City. **David Petersen** said there are approximately 5-6 property owners that are petitioning the City for the annexation. **Michael Lauterbach** asked if those lots may be able to further subdivide their property for additional lots in the future. **David Petersen** explained the proposed development will be a platted subdivision; he said once platted, lots are very difficult to further divide.

**Don Sims**, 366 N. 200 E., said he feels this development will eventually be approved despite his desire for things to remain the same. He said he has been thinking about the integrity of Farmington; he would ask that the City require the applicant to include in his CC&Rs that homes are to be consistent with the look and feel that Farmington currently has to ensure the development adds beauty to the surround area.

**Rebecca Wayment** also noted that many emails from residents were received by the Commission; the emails were entered into the record.

**Rebecca Wayment closed the public hearing at 8:50 p.m.**

**Heather Barnum** expressed her appreciation for comments received. She explained her biggest concerns are as followed:

1. The homes located below the development may be more at risk;
2. During the Study Session with the City Council, it was discussed that liquefaction studies are not required as standards of care on homes, but they are for hospitals implying more care for hospitals over homeowners;
3. The legal vulnerability and the amount of risk the project may put on the City;
4. The preservation of the historic feel of Farmington.

**Heather Barnum** would like to discuss the City's legal risk with the City Attorney prior to deciding on a recommendation or denial of the project for City Council.

**Dan Rogers** also agreed that he would like to discuss liability with the City Attorney in the event something happened with the development. He said he would also like to check with the City's geotech consultant to represent a third party review of the report.

**Kent Hinckley** said he appreciated the discussion as it was very informative, but he would also like to have a third party consultant on the geotech report. He feels the Commission owes it to the public to obtain as much information as possible as well as to discuss liability with the attorney.

**Alex Leeman** said he personally feels the developer has met the ordinance requirements and has checked every box. He does not feel there is any harm in consulting with an attorney or another geotech engineer, but feels doing so is to ensure the developer has in fact done all they are required to do. If it were being voted upon, he would be in favor of moving forward with the project's approval.

**David Petersen** drew a picture of a bell curve. He explained that a lot of things that happen with a project like this are at the top of the bell curve. He said the developer is demonstrating that the likelihood of something happening with this development is at the base of the curve; however, it is impossible to out rule every possibility. **Kent Hinckley** expressed concern that the opinion shared by Tim Thompson said this project is at the bottom of the bell curve, but Kathy Nicoll's opinion is that this project is at the top. He feels the Commission is faced with deciding between the two opinions. **David Petersen** said Dr. Nicoll is discussing general things that happen within other developments; she is referencing the top of the bell curve. **Tim Thompson** and the GeoStrata team are showing this specific project does not fall at the top of the bell curve. **Alex Leeman** also added that the Utah Geological Survey that has been referenced multiple times states that the map cannot be used to show land stability, but is designed for regional use to determine what areas to look at more closely.

**Kent Hinckley** said there are two things he would like to include on this recommendation (if it gets to a recommendation for approval) or on any other future recommendations. First, he wants to make sure the geologists and geotech professionals "stamp" a development's final designs to ensure it meets the requirements they've put in their studies. Second, he wants to make sure both professions have periodic inspections to make sure what they've "stamped" is what is happening in the development. **Alex Leeman** agreed that those should be conditions added to a motion. He also added that he would like all new homes to have meters installed for their secondary water usage.

**Dan Rogers** agreed that the above recommendations should be included on all new homes going forward. He also feels that the applicant has done a good job on addressing all concerns; however, he would like to hear from the City's geotech engineer consultant as well.

**Rebecca Wayment** explained that the proposed subdivision is what the Commission likes to see with large, open lots. Most developments coming before the Commission propose higher density housing. She said she feels this hillside will be developed someday; she feels this subdivision fits what she would hope the developed hillside would look like. She does still have questions regarding this development. She also would like to hear from the City's geotech consultant to help bring greater peace of mind and to hear from the City Attorney to better understand the City's risk. She added that if this project is developed, she wants to make sure there is trail access open so the community can still access the beautiful hillside.

***Motion:***

**Kent Hinckley** made a motion that the Planning Commission table this application until January 7, 2016 as to consult with the City's attorney and geotech consultant. **Dan Rogers** seconded the motion which was unanimously approved.

**Item #4. John Wheatley/Symphony Homes – Applicant is requesting preliminary plat approval for the Chestnut Farms Phase IV PUD Subdivision consisting of 21 lots on 13.98 acres of property located at approximately 600 South and 1525 West in an A (Agriculture) zone. (S-18-15)**

**Eric Anderson** said this item is Phase IV of the Chestnut Farms PUD Subdivision. This item was previously tabled at the last meeting as the Commissioners wanted the rezone to run concurrently with the preliminary plat approval. The 1525 W. road improvements were also previously discussed. The Commissioners wanted to consult with the attorney to determine if the City can require the applicant to replace half of the road with subgrade road base and asphalt or if they can only require an asphalt extension. The City attorney said requiring the applicant to replace the subgrade road may exceed the City's practice and could be too onerous to require; however, it is left to staff and City Council to make the final decision.

**Eric Anderson** showed the aerial view of the PUD project. He said Phase IV consists of 21 lots and was included in the Preliminary PUD Master Plan that was approved in 2013. Although a schematic plan was not submitted for this phase, staff is asking that the PUD Master Plan count as the schematic plan as it shows lot layouts, road layouts, etc.

**Rebecca Wayment** asked for further clarification on whether or not the Commission should ask the applicant to do half of 1525 W. **David Petersen** said the City Attorney advised that the City has to have reasonable reason to require it. He also said that just because it was not previously required does not mean you don't have to require it of future applicants. **David Petersen** said the Planning Commission may provide any recommendation to the City Council on it; however, the City Council will be the final say on the decision.

The Commissioners and staff discussed this requirement in more detail. The Commissioners expressed concern that the road will eventually need to be improved. 1525 W. will be more widely used once the new elementary and high schools are built so improving it at that time will be significantly more impactful to close the road for improvements. The Commissioners also expressed concern on how the improvements will be paid for if assistance from developers for the improvements is not given over time. There is also concern over what the developer will be required to contribute if they are not rebuilding half of the road.

The Commissioners felt it appropriate to require the applicant to improve half of 1525 W. as it will save the City time and money in the future. **Kent Hinckley** also requested that if condition #5 remain as part of the motion, it needs to be a consistent requirement for all future developments within the City.

***Motion:***

**Dan Rogers** made a motion that the Planning Commission approve the preliminary plat for the Chestnut Farms Phase IV PUD Subdivision subject to all applicable Farmington City ordinances and development standards, and the following conditions:

1. Approval of preliminary plat is subject to the property being rezoned from A to AE;
2. The applicant shall include a P.U.E. along the park and detention basin property;
3. The applicant shall provide storm drain easements in favor of Farmington City connecting phases III and the future phase V as per the City Engineer's requirements;
4. The applicant shall provide a letter from the power company approve the improvements as proposed;
5. The applicant shall improve their half-width of 1525 W. the entire length of their property, unless otherwise directed by the City Council;

6. The applicant shall address any outstanding issues raised by the city DRC prior to final plat approval.

**Heather Barnum** seconded the motion which was unanimously approved.

Findings for Approval:

1. The proposed preliminary plat is consistent with the previously approved Preliminary PUD Master Plan for the subdivision.
2. The proposed subdivision meets and exceeds all the requirements for approval of a preliminary plat as per the ordinance.
3. Because the applicant proposed a final plat not realizing that preliminary plat had not occurred yet, the applicant has received staff approval (via the DRC) up through final plat, including improvement drawings.

**ZONING MAP AMENDMENT APPLICATION**

**Item #5. John Wheatley/Symphony Homes (Public Hearing) – Applicant is requesting a recommendation for zoning map amendment of 30.57 acres of property located at approximately 1525 West and 500 South from an A (Agriculture) to an AE (Agriculture Estates) zone. (Z-7-15)**

**Eric Anderson** said the previous 3 phases for this subdivision have already been rezoned to AE. The Applicant is now requesting a rezone Phase IV and Phase V to AE; he is requesting both phases at this time so he will not have to request it when he is ready to develop the next phase. Staff is recommending approval of this item.

**David Petersen** said resident Kirt Peterson sent an email to the City with water flow concerns with this development. **David Petersen** showed an aerial view of Mr. Peterson's property in relation to the Chestnut Farms Subdivision. He explained the development's proposal to have the regional detention basin located on the south of the property which will then bring the water flow along the ROW, along the Stoddard property line and down into the Frecklton waterway. Mr. Peterson expressed concern that the waterway may become flooded causing water to back up and flood his property. **David Petersen** said he talked with the previous City Engineer, Paul Hirst. Mr. Hirst remembers Mr. Peterson's request to put a diversion on the waterway to ensure his property still had water for his stock. After talking with Paul Hirst, **David Petersen** said he is comfortable moving forward as the water in the detention basin is metered out based on the historical flow of the property. This basin will not be adding more water to what existed previously.

**David Petersen** said he also asked Paul Hirst if he remembers if an easement existed over this waterway. Paul Hirst stated that traditionally, the City does not obtain easements on existing waterways. **David Petersen** said he feels in this circumstance, it would be appropriate to require that the necessary easements to the water way be obtained prior to final plat.

**Russell Wilson**, with Symphony Homes, said they are seeking a rezone for Phase IV that consists of 21 lots and for Phase V. They are also working on obtaining the storm drain easements to get the water over to the creek.

**Rebecca Wayment** opened the public hearing at 9:54 p.m.

**Rebecca Wayment** stated Kirt Peterson’s letter was entered into the record and was also read to the Commission during the Study Session.

**Rebecca Wayment closed the public hearing at 9:54 p.m.**

***Motion:***

**Heather Barnum** made a motion that the Planning Commission recommend that the City Council approve the requested zone change from A (Agricultural) to AE (Agricultural Estates) on 30.5 acres of property as described in Exhibit “A” located at approximately 500 South 1525 West and with the following condition that the easements are secured prior to final plat. **Alex Leeman** seconded the motion which was unanimously approved.

Findings for Approval:

1. The requested zone change is consistent with the General Plan for the area.
2. The requested zone change is associated with the requested subdivision application for Chestnut Farms Phase IV PUD Subdivision. The preliminary plat as submitted is consistent with the rezone application.
3. Staff feels that granting this zone change would allow proportionate size single family homes on all of the property consistent with previous phases of the development.
4. It has been common practice that all agricultural zone land east of the 4218 line will be rezoned to AE.

**OTHER BUSINESS**

**Item #6. Miscellaneous A: 2016 Planning Commission Meeting Calendar**

Staff presented the 2016 Planning Commission schedule to be reviewed.

**Item #6. Miscellaneous B: Planning Commission Elections**

***Motion:***

**Kent Hinckley** nominated Rebecca Wayment to remain as the Planning Commission Chair. **Dan Rogers** seconded the motion which was unanimously approved.

**Heather Barnum** nominated Alex Leeman as the new Planning Commission Vice-Chair. It was approved by acclamation.

**Rebecca Wayment** nominated Kent Hinckley to remain as Planning Commission representative for the Board of Adjustment. **Heather Barnum** seconded the motion which was unanimously approved.

**ADJOURNMENT**

***Motion:***

At 10:16 p.m., **Kent Hinckley** made a motion to adjourn the meeting which was unanimously approved.

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**Rebecca Wayment**  
**Chair, Farmington City Planning Commission**

**WORK SESSION:** A work session will be held at 6:00 p.m. in Conference Room #3, Second Floor, of the Farmington City Hall, 160 South Main Street. The work session will be to discuss the Chestnut Farms rezone and to answer any questions the City Council may have on agenda items. The public is welcome to attend.

## **FARMINGTON CITY COUNCIL MEETING NOTICE AND AGENDA**

Notice is hereby given that the City Council of **Farmington City** will hold a regular City Council meeting on **Tuesday, January 5, 2016, at 7:00 p.m.** The meeting will be held at the Farmington City Hall, 160 South Main Street, Farmington, Utah.

*Meetings of the City Council of Farmington City may be conducted via electronic means pursuant to Utah Code Ann. § 52-4-207, as amended. In such circumstances, contact will be established and maintained via electronic means and the meeting will be conducted pursuant to the Electronic Meetings Policy established by the City Council for electronic meetings.*

The agenda for the meeting shall be as follows:

### **CALL TO ORDER:**

7:00 Roll Call (Opening Comments/Invocation) Pledge of Allegiance

### **PRESENTATIONS:**

7:05 Presentation for Years of Dedicated Service to Jim Young

7:10 Presentation for Years of Dedicated Service to Brett Anderson

7:15 Introduction of new City Council Member/Administration of Oath of Office

### **PUBLIC HEARINGS:**

7:20 Chestnut Farms Phase IV and V Rezone

7:30 Pack Property Rezone and General Plan Amendment for Ivory Homes

### **NEW BUSINESS:**

7:50 Clark Lane Village License Agreement

8:00 Resolution Amending the Consolidated Fee Schedule relating to Activities, Rentals and Contractual Rates

### **SUMMARY ACTION:**

8:10 Minute Motion Approving Summary Action List

1. Cemetery Rules and Regulations
2. Avenues at the Station Phase 2 Improvements Agreement
3. Approval of City Council Minutes from December 15, 2015
4. Bid for Workers Compensation Insurance
5. Approval of Prosecution Services Agreement for Justice Court
6. Resolution appointing the City Recorder and City Treasurer

**GOVERNING BODY REPORTS:**

8:15 City Manager Report

1. Executive Summary for Planning Commission held on December 17, 2015
2. Prop 1 Funding Update
3. Strategic Planning Date – February 4<sup>th</sup> from 4-8 p.m. w/dinner
4. Public Improvements Reimbursement Agreement

8:20 Mayor Talbot & City Council Reports

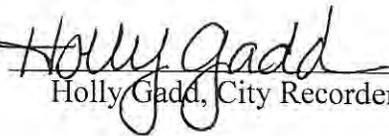
**ADJOURN**

**CLOSED SESSION**

Minute motion adjourning to closed session, if necessary, for reasons permitted by law.

DATED this 31st day of December, 2015.

**FARMINGTON CITY CORPORATION**

By:   
Holly Gadd, City Recorder

**\*PLEASE NOTE:** Times listed for each agenda item are estimates only and should not be construed to be binding on the City Council.

*In compliance with the Americans with Disabilities Act, individuals needing special accommodations (including auxiliary communicative aids and services) during this meeting, should notify Holly Gadd, City Recorder, 451-2383 x 205, at least 24 hours prior to the meeting.*



## Planning Commission Staff Report January 14, 2016

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### Item 3: Preliminary Plat, Annexation and Zone Designation for the Residences at Farmington Hills Subdivision

Public Hearing:	No
Application No.:	A-1-15 and S-8-15
Property Address:	Approx. 300 East between 100 and 400 North
General Plan Designation:	LDR (Low Density Residential)
Zoning Designation:	LR-F (Large Residential - Foothill)
Area:	44.3 Acres
Number of Lots:	23
Property Owner:	Jerry Preston, et. Al.
Agent:	Jerry Preston

Request: *Applicant is requesting preliminary plat approval for the Residences at Farmington Hills (P.U.D) Subdivision; and a recommendation to annex approximately 20 acres of the 44.3 acre development with the zone designation of LR-F.*

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#### **Background Information**

The applicant desires to develop 44+ acres east of 200 E. Access to the site will be via a looped residential street connecting the east end of 100 North Street to the east end of 400 North Street. Two points of access are required if the street is more than a 1,000 feet in length. A steep hillside band separates the buildable area of this site from the relatively flat topography of downtown. The major challenge for the developer is to engineer a road across this steep band to and from the site. The City Engineer is aware of the cuts and fills necessary to construct this street, but it is more typical that the Planning Commission consider aesthetics issues related to these cuts and fills during the next stage of the subdivision process.

The applicant's 20,000 s.f. lot yield plan shows that at least 23 lots are possible on site. He is seeking no lot bonuses as per the conservation subdivision standards set forth in Chapter 12 of the Zoning Ordinance. Nor is he seeking TDR lots because the number of lots set forth on the preliminary plat does not exceed the total lot count on the above referenced yield plan and, for the most part, the lots are well over 20,000 s.f. in size. Nevertheless, Lots 3, 4, and 5 on the preliminary plat are less than 20,000 square feet in size (17,190 s.f., 14,563 s.f., 15,008 s.f. respectively) and each of these is served by a common drive. Therefore, the developer is requesting a PUD overlay (limited to said lots) enabling him to deviate from the standards of the underlying zone, and the City Council approved the preliminary

PUD master plan for these 3 lots as part of their schematic plan consideration on June 30<sup>th</sup>. In order to meet his open space requirement for this small PUD, the applicant is proposing to dedicate trail easements over and across the flag rock trail on the south side of the project, and the lower firebreak road trail on the north side of the development.

The easterly 20 acres of the development is presently located in the unincorporated area of the County. As part of the process, the applicant submitted a petition to annex the acreage into Farmington City and requested the zone designation (LR-F) similar to the rest of his property and adjacent properties in the area that are already located within the city limits. It was brought up at the last public hearing that the ordinance regulating annexation uses an A (Agriculture) zone designation as a default; however, staff feels that assigning an LR-F zone designation is more appropriate. However, if the Planning Commission determines that an A zone designation is more appropriate, it will not affect the preliminary plat, as the lots within the annexation area far exceed the conservation subdivision minimum lot size, and for the most part, exceed the conventional A zone lot size of 2 acres as well. The City Council accepted the petition for annexation study by resolution on May 5, 2015.

Since the time that the schematic plan was approved by the City Council on June 30, 2015, the applicant has been preparing the studies required to address Section 11-30-105 of the Zoning Ordinance related to the Foothill Development Standards. The most important component of this has been the geotechnical (soils) report and the geo-hazards report. While many of the requirements of the foothill development standards have been met, there are some that will not be required until either the final improvement drawings or building plans have been submitted; these include a drainage and erosion control plan or SWPPP, grading plan, revegetation plan, and streets; all of these outstanding design requirements will be part of the improvement package required at the next step. Excerpts from the geo-hazards and geotech (soils) report have been included as part of this staff report. Both reports state that the property is developable as long as the mitigation methods and engineering guidelines detailed in these reports are followed.

Staff has had a third party geotech engineer (that is a consultant for the City) review the reports, he added a few mitigation requirements, but found the report to be fundamentally sound, however, this review was focused on the structural integrity of the future homes and how to mitigate those risks. At the last Planning Commission, staff was instructed to get a more comprehensive and thorough review of the geo-studies, which has occurred. Staff contracted with AGEC to get an objective, third-party review of the reports, the findings of this report are attached and the recommendations have been included as either conditions for approval, or additional information to be obtained through further study. It is still to be determined when an addendum to the geotech and geohazards study should be performed, but staff feels that it would be prudent to shore up the existing studies with additional information.

Additionally, some concerned residents have acquired a professor of geology from the University of Utah to give her opinion on the applicant's reports. At the City Council meeting held on December 15<sup>th</sup>, the Planning Commission was invited to hear what Dr. Nicoll said; while Dr. Nicoll had many relevant points, the focus of her discussion was on hillside development in general and how the best practice is to not develop on hillsides. Unfortunately, as valid as that input may be, the City currently has an application for a subdivision to review, and this application is what is under consideration, not an application for a nature preserve. Dr. Nicoll did not really address the two GeoStrata reports directly, nor did she address the site specifically; it was a high-level, broad-brushed, and overall look at hillside development in general.

**Suggested Motion:**

Move that the Planning Commission approve the preliminary plat and recommend that the City Council approve the petition to annex approximately 20 acres into Farmington City, and a zone designation of LR-F related thereto, subject to all applicable Farmington City ordinances and development standards and the following conditions:

1. The 20 acres must be annexed prior to the City accepting any application for final plat and/or final (PUD) master plan;
2. All cut and fills shall meet the requirements of Chapter 30 of the Zoning Ordinance;
3. The City Engineer must approve any exception to the maximum street slope of 12%, but in no event shall any exception exceed 14% slope as per the ordinance;
4. The developer must work with the City Manager/City Council to acquire property now owned by the City within the proposed development;
5. The applicant must deed trail rights-of-way, for public access to the City for the Flag Rock Trail and the lower firebreak road trail, and these easements shall be shown on final plat;
6. The applicant shall meet all requirements as set forth in Section 11-30-105 of the Zoning Ordinance, that have not been addressed yet;
7. The applicant shall receive preliminary plat approval prior to the property being annexed;
8. The applicant shall provide any additional information to the geotech and geohazards reports as recommended by the attached *Review of Geologic and Geotechnical Investigation Reports – Farmington Hills Development* in the form of an addendum to the GeoStrata reports;
9. The applicant shall follow all recommended conditions outlined in the attached *Review of Geologic and Geotechnical Investigation Reports – Farmington Hills Development*.
10. GeoStrata shall conduct periodic inspections of development activity on-site to ensure the infrastructure improvements, single-family homes, and other structures are installed and/or constructed consistent with the standards set forth in their studies. All such work must receive approval from GeoStrata in writing, including engineer stamps;
11. The applicant shall set aside necessary land to accommodate the City's water tank and provide all easements necessary to make sure no portion of the City water facilities are outside of said easements including but not limited to off-site water lines connecting to 200 East.

**Findings for Approval:**

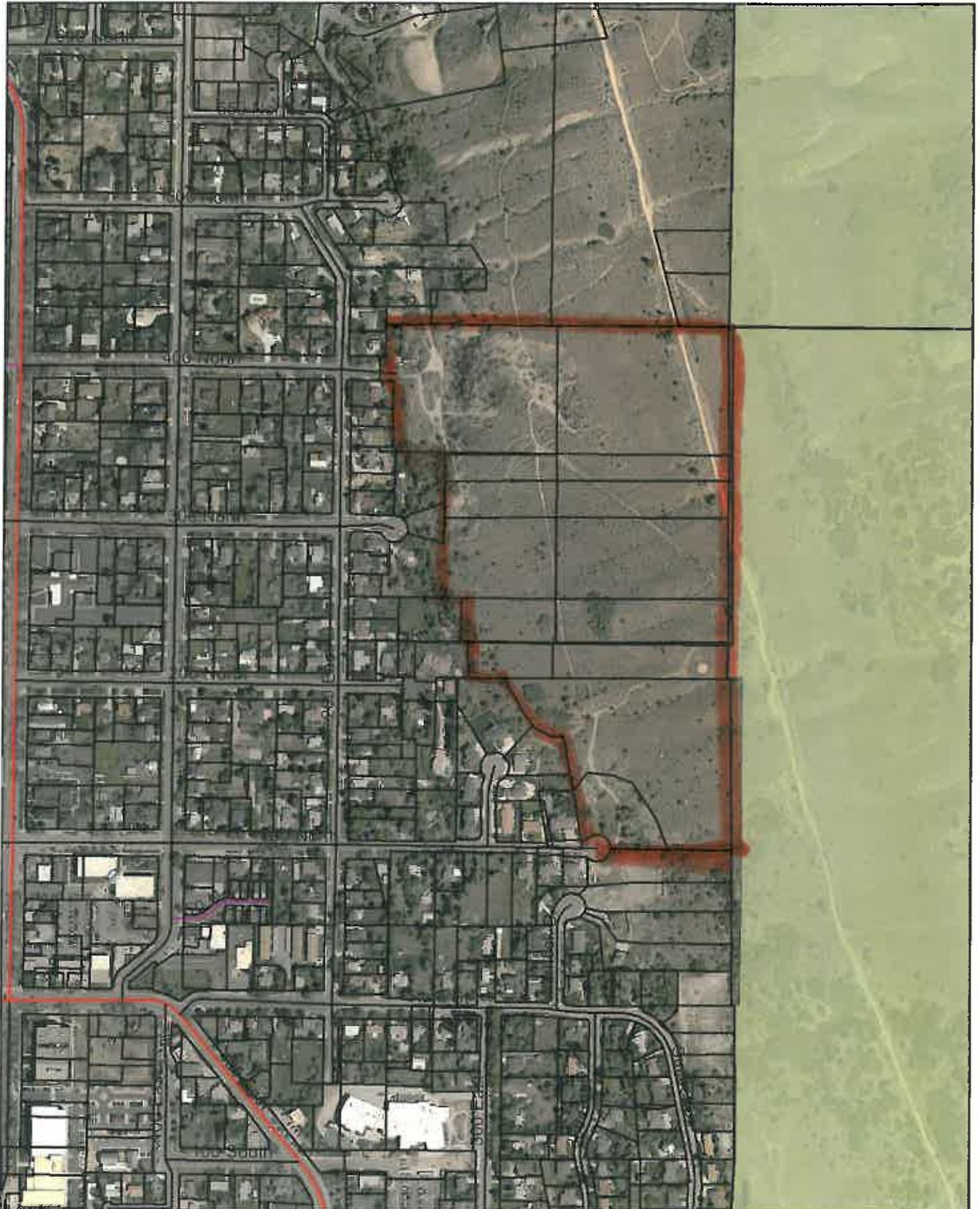
1. The proposed preliminary plat meets the requirements of the subdivision and zoning ordinance.
2. Thus far the developer has demonstrated that the roads providing access to and from the site meet the City's slope standards for such roads.
3. The anticipated trail rights-of-way meet the 10% open space requirement for the PUD, in that only a small area of the project near 100 North will have the PUD overlay, and the developer is not seeking a bonus of lots over and above the lots allowed by the yield plan.
4. The primary responsibility of this small PUD is to maintain the common drive for lots near what is now the east end of 400 North Street.
5. The proposed annexation is within the City's Annexation Declaration area.
6. The requested zone designation of LR-F is consistent with the General Plan and the same as the zone designation for the abutting property.
7. The applicant has provided all of the requirements of Section 11-30-105 that are normally required up to this point in the subdivision process, and will provide the final development standard requirements as part of final plat and improvement drawings.

8. The applicant has provided and will provide additional geotechnical and geohazards studies than what is normally required for foothill development.

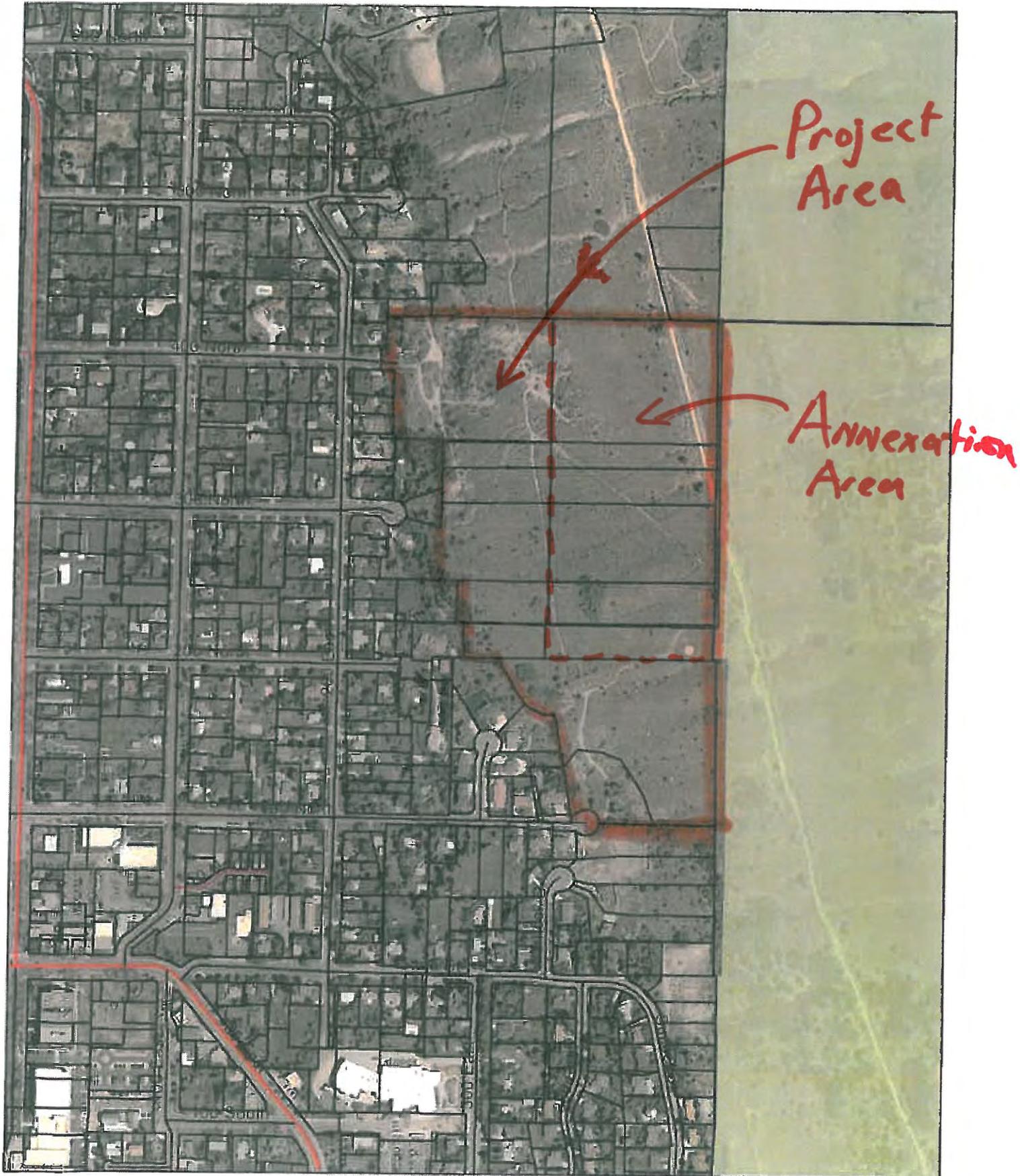
**Supplemental Information**

1. Vicinity Map
2. Annexation Area Map
3. Yield Plan
4. Preliminary Plat
5. Excerpt from GeoTech Report
6. Excerpt from Geological Hazards Report
7. *The Review of Geologic and Geotechnical Investigation Reports – Farmington Hills Development Performed by AGEC on behalf of the City*

# Farmington City

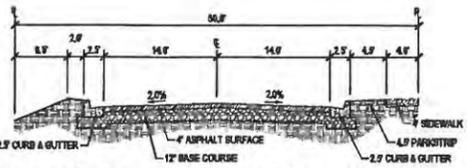


# Farmington City

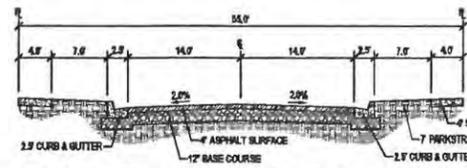




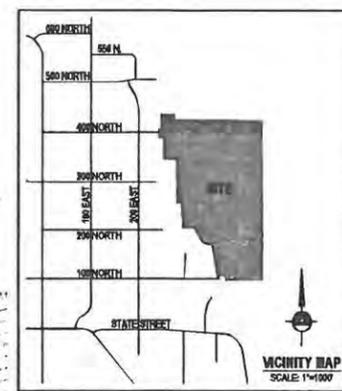
CALL BLUEPRINTS  
 @ 1-800-823-4111 AT LEAST 48  
 HOURS PRIOR TO THE  
 COMMENCEMENT OF ANY  
 CONSTRUCTION.



1 TYPICAL 50' STREET CROSS SECTION  
 SCALE: NONE



2 TYPICAL 55' STREET CROSS SECTION  
 SCALE: NONE



**ENSIGN**  
 LAYTON  
 1485 W. Hill Field Rd. Ste. 204  
 Layton, UT 84041  
 Phone: 801.547.1100  
 Fax: 801.593.8315

**SALT LAKE CITY**  
 Phone: 801.255.0529

**TOOELE**  
 Phone: 435.843.3580

**CEDAR CITY**  
 Phone: 435.885.1453

**RICHFIELD**  
 Phone: 435.896.2963

**COLORADO SPRINGS**  
 Phone: 719.476.0119

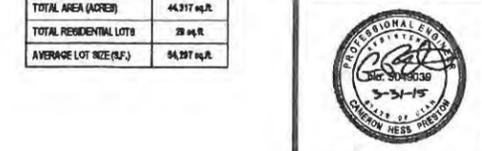
WWW.ENSIGNENG.COM

**LEGEND**

- EXISTING REBAR AND CAP
- SET ENSIGN REBAR AND CAP
- EXISTING WATER METER
- PROPOSED WATER METER
- EXISTING WATER VALVE
- PROPOSED WATER VALVE
- EXISTING FIRE HYDRANT
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- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER LINE
- EXISTING CULINARY WATER LINE
- PROPOSED CULINARY WATER LINE
- EXISTING SECONDARY WATER LINE
- PROPOSED SECONDARY WATER LINE
- EXISTING OVERHEAD POWER LINE
- EXISTING CONTOURS
- EXISTING CONCRETE
- PROPOSED CONCRETE
- SLOPE > 3%

**SITE IMPROVEMENT TABLE**

TYPE	AREA
TOTAL AREA (S.F.)	1,200,443 sq.ft.
TOTAL AREA (ACRES)	44.917 ac.
TOTAL RESIDENTIAL LOTS	28 lots
AVERAGE LOT SIZE (S.F.)	54,287 sq.ft.



**RESIDENCES AT FARMINGTON HILLS  
 SUBDIVISION  
 400 NORTH TO 100 NORTH  
 FARMINGTON CITY, UTAH**

**YIELD PLAN**

NO.	DATE	REVISION	BY
1	12/12/15	FOR CONCEPT APPROVAL	CP
2	2/24/16	FOR CONCEPT APPROVAL	CP

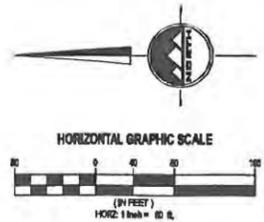
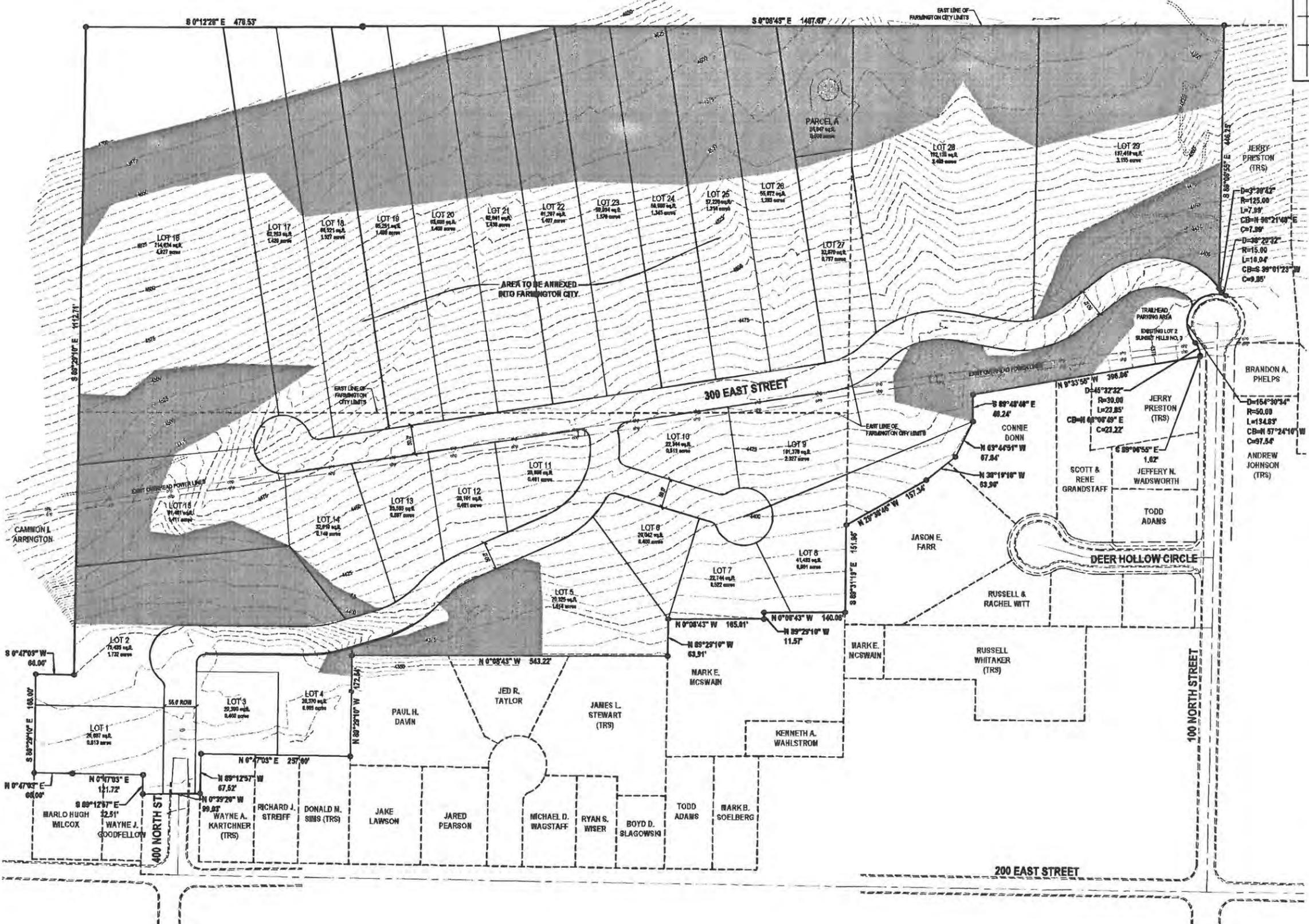
**YIELD PLAN**

PROJECT NUMBER: L2152  
 PROJECT DATE: 3/5/15

DRAWN BY: M. ELBERG  
 CHECKED BY: J. PRESTON

PROJECT MANAGER: J. PRESTON

**2 OF 2**





CALL BLUESTAKES  
@ 1:30:00 PM AT LEAST 48  
HOURS PRIOR TO THE  
COMMENCEMENT OF ANY  
CONSTRUCTION.

**BOUNDARY DESCRIPTION**

Beginning at the Southwest Corner of Lot 7, Sunset Hills No. 4 Subdivision, said point being North 89°42'11" East 161.66 feet along the quarter section line and North 0°23'22" West 719.93 feet to the north line of 100 North Street and South 89°39'30" East 166.29 feet along the north line of 100 North Street from the Center of Section 19, Township 3 North, Range 1 East, Salt Lake Base and Meridian (not found), said point of beginning also being South 89°39'30" East 92.19 feet along the centerline of 100 North Street and North 0°23'22" East 30.00 feet from a Farmington City Street Monument in the Intersection of 100 North Street and 300 East Street, (the Basis of Bearing being North 0°17'15" East 1785.51 feet record, 1786.04 feet measured, along the monument line in 300 East Street from a monument in 100 North Street to a monument in 400 North Street as shown on the Farmington Township Re-Survey, and running:  
Thence North 10°06'30" West 199.00 feet along the west line to the Northwest Corner of Lot 7, Sunset Hills No. 4 Subdivision, also being the Southeast Corner of Lot 6, Deer Hollow Run Planned Unit Development;  
Thence North 10°06'30" West 207.87 feet along the east line of Lot 6 and Lot 5 to the Northeast Corner of Lot 5, Deer Hollow Run Planned Unit Development;  
Thence South 89°38'39" West 46.24 feet along the northerly line of Lot 5, Deer Hollow Run Planned Unit Development;

Thence North 64°17'26" West 67.84 feet along the northerly line of Lot 5, Deer Hollow Run Planned Unit Development;  
Thence North 38°51'53" West 63.90 feet along the northerly line of Lot 5 and easterly line of Lot 4, Deer Hollow Run Planned Unit Development;  
Thence North 30°11'21" West 157.34 feet along the easterly line to the Northeast Corner of Lot 4, Deer Hollow Run Planned Unit Development;  
Thence North 0°19'14" East 139.45 feet;  
Thence North 89°59'05" West 23.54 feet;  
Thence North 0°17'15" East 164.31 feet;  
Thence North 52°36'45" East 219.78 feet;  
Thence northwesterly 72.67 feet along the arc of a 175.00 foot radius curve to the right, (center bears North 41°27'43" East and long chord bears North 36°38'28" West 72.15 feet, with a central angle of 23°47'36");  
Thence North 24°44'40" West 125.23 feet;  
Thence North 89°59'05" West 150.22 feet;  
Thence South 89°38'39" West 46.24 feet along the northerly line of Lot 5, Deer Hollow Run Planned Unit Development;

Thence North 10.02 feet;  
Thence North 89°49'58" West 7.86 feet;  
Thence North 0°17'15" East 247.54 feet;  
Thence North 89°42'52" West 247.52 feet;  
Thence North 1°09'15" West 99.03 feet;  
Thence South 89°42'52" East 32.51 feet;  
Thence North 0°17'15" East 187.72 feet;  
Thence South 89°59'05" East 169.00 feet;  
Thence South 0°17'15" West 66.00 feet;  
Thence South 89°59'05" East 112.71 feet to a Bureau of Land Management 3.5" Brass Disk Monument at a 1/16th Corner in Section 19, Township 3 North, Range 1 East;  
Thence South 0°44'21" East 1965.05 feet along the 1/16th line to the Northeast Corner of Lot 3, Sunset Hills No. 4 Subdivision;  
Thence North 89°39'30" West 446.31 feet along the north line of Sunset Hills No. 4 Subdivision;  
Thence southwesterly 8.37 feet along the arc of a 125.00 foot radius curve to the right, (center bears North West and long chord bears South 55°24'30" West 8.37 feet, with a central angle of 3°50'13");

Thence southwesterly 10.07 feet along the arc of a 150.00 foot radius curve to the left, (center bears South 32°42'23" East and long chord bears South 38°03'57" West 9.88 feet, with a central angle of 38°27'19") to the right of way line of 100 North Street;  
Thence northwesterly 133.85 feet along the arc of a 50.00 foot radius curve to the left, (center bears North 71°07'42" West and long chord bears North 57°49'00" West 97.31 feet, with a central angle of 153°22'35") along the easterly and northerly right of way line of 100 North Street;  
Thence southwesterly 23.48 feet along the arc of a 30.00 foot radius curve to the right, (center bears North West and long chord bears South 67°55'06" West 22.89 feet, with a central angle of 44°50'47") along the northerly right of way line of 100 North Street;  
Thence North 89°39'30" West 2.45 feet along the north line of 100 North Street to the point of beginning.  
Contains 1,874,711 square feet, 43.037 acres, 23 lots.  
11-19-15  
Date  
Keith R. Russell  
License no. 164386

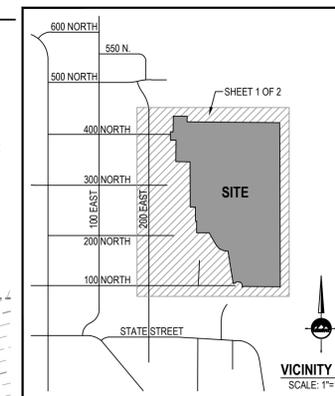
**NOTES**

- BOOSTER PUMPS WITH VAULT PER FARMINGTON CITY STANDARDS WILL BE PROVIDED FOR EACH INDIVIDUAL LOT ON EAST SIDE OF 350 EAST STREET ON THE CULINARY WATERLINE. (POWER PROVIDED BY INDIVIDUAL LOTS)
- ALL LOTS UNABLE TO DRAIN TO CITY RIGHT-OF-WAY WILL PROVIDE ONSITE RETENTION. NO STORM WATER WILL BE ALLOWED TO DRAIN ACROSS PROPERTY LINES.
- ALL AREAS (INCLUDING PROPERTY TO BE ANNEXED) IS PROPOSED TO BE LR ZONE.
- DETENTION POND @ TOP OF 100 NORTH TO PROVIDE ENOUGH STORAGE TO MAINTAIN HISTORICAL RELEASE RATE ONTO 100 NORTH STREET.
- ALL DRIVEWAYS TO INDIVIDUAL PROPERTIES ARE TO 14% SLOPE OR LESS.

**KEYED NOTES**

- INSTALL 1" CULINARY WATER SERVICE
- INSTALL 4" SANITARY SEWER SERVICE
- INSTALL 1-1/2" DUAL TURNOUT SECONDARY WATER SERVICE
- INSTALL 1" SINGLE LOT SECONDARY WATER SERVICE
- INSTALL FIRE HYDRANT AND VALVE
- INSTALL SANITARY SEWER MANHOLE
- INSTALL STORM DRAIN MANHOLE

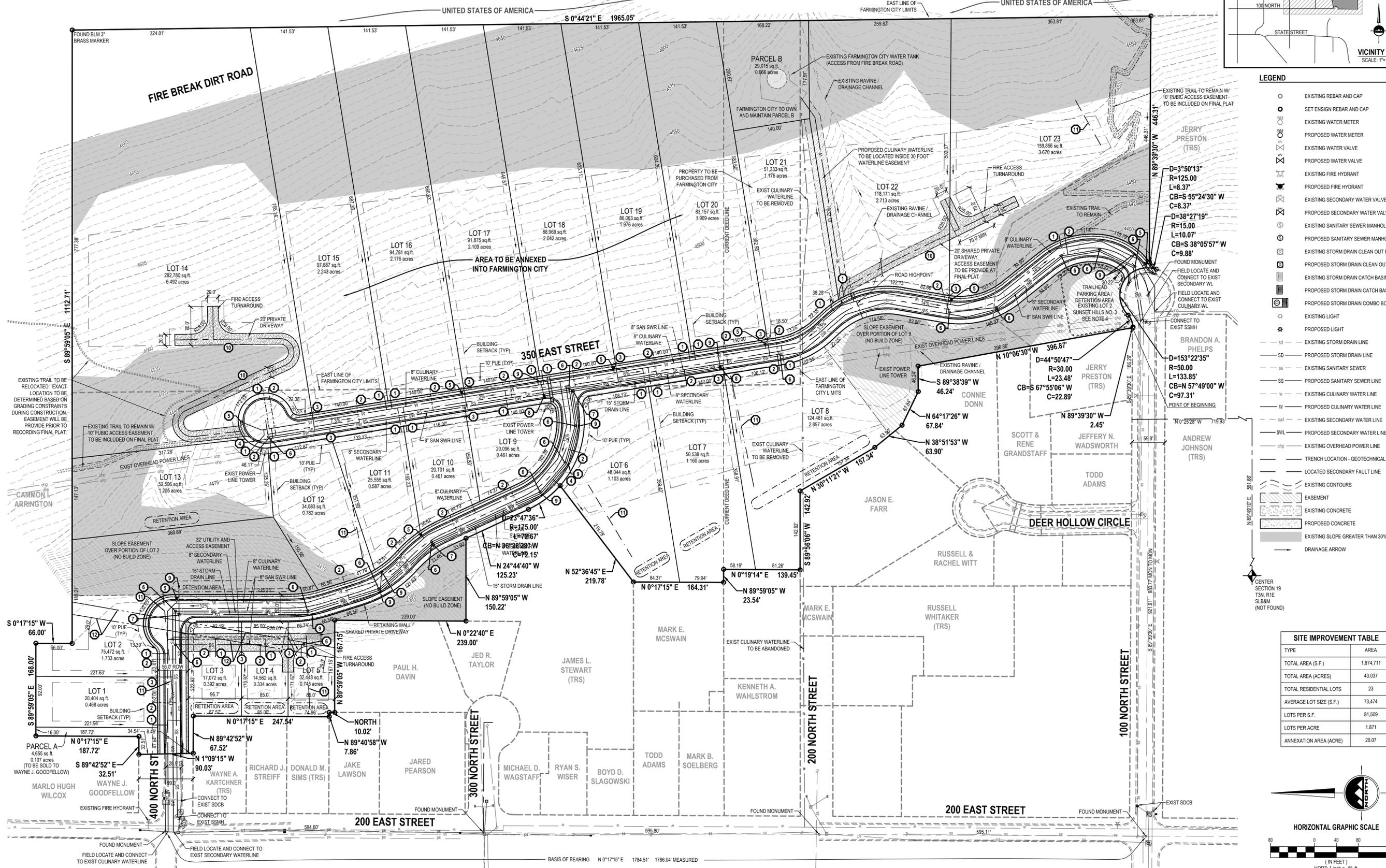
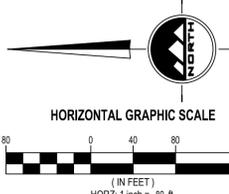
- INSTALL STORM DRAIN COMBO BOX
- INSTALL STORM DRAIN INLET BOX
- INSTALL "NO PARKING FIRE LANE" SIGNS (2" X 18" W/ RED LETTERS ON WHITE REFLECTIVE BACKGROUND)
- EXCAVATED TRENCH FOR GEOTECHNICAL EXPLORATION - SEE GEOTECHNICAL REPORT
- LOCATED SECONDARY FAULT LINE - SEE GEOTECHNICAL REPORT



**LEGEND**

- EXISTING REBAR AND CAP
- SET ENSIGN REBAR AND CAP
- EXISTING WATER METER
- PROPOSED WATER METER
- EXISTING WATER VALVE
- PROPOSED WATER VALVE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- EXISTING SECONDARY WATER VALVE
- PROPOSED SECONDARY WATER VALVE
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- EXISTING STORM DRAIN LINE
- PROPOSED STORM DRAIN LINE
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER LINE
- EXISTING CULINARY WATER LINE
- PROPOSED CULINARY WATER LINE
- EXISTING SECONDARY WATER LINE
- PROPOSED SECONDARY WATER LINE
- EXISTING OVERHEAD POWER LINE
- EXISTING OVERHEAD POWER LINE
- TRENCH LOCATION - GEOTECHNICAL REPORT
- LOCATED SECONDARY FAULT LINE
- EXISTING CONTOURS
- EASEMENT
- EXISTING CONCRETE
- PROPOSED CONCRETE
- EXISTING SLOPE GREATER THAN 30%
- DRAINAGE ARROW

SITE IMPROVEMENT TABLE	
TYPE	AREA
TOTAL AREA (S.F.)	1,874,711
TOTAL AREA (ACRES)	43.037
TOTAL RESIDENTIAL LOTS	23
AVERAGE LOT SIZE (S.F.)	73,474
LOTS PER S.F.	81,509
LOTS PER ACRE	1.871
ANNEXATION AREA (ACRE)	20.07



**ENSIGN**  
LAYTON  
1485 W. Hill Field Rd., Ste. 204  
Layton, UT 84041  
Phone: 801.547.1100  
Fax: 801.593.6315  
SALT LAKE CITY  
Phone: 801.255.0529  
TOOELE  
Phone: 435.843.3590  
CEDAR CITY  
Phone: 435.865.1453  
RICHFIELD  
Phone: 435.896.2983  
COLORADO SPRINGS  
Phone: 719.476.0119  
WWW.ENSIGNENG.COM

FOR:  
JPC CONTRACTING  
40 NORTH 100 EAST  
FARMINGTON, UT 84025  
CONTACT:  
JERRY PRESTON  
PHONE: 801-451-6525  
FAX:

**RESIDENCES AT FARMINGTON HILLS SUBDIVISION  
PRELIMINARY PLAT - NOT TO BE RECORDED  
400 NORTH TO 100 NORTH  
FARMINGTON CITY, UTAH**



**PRELIMINARY PLAT**

PROJECT NUMBER: 12162  
PRINT DATE: 11/20/15  
DRAWN BY: MELMER  
CHECKED BY: C.PRESTON  
PROJECT MANAGER: C.PRESTON

**1 OF 2**



14425 South Center Point Way Bluffdale, Utah 84065  
Phone (801) 501-0583 | Fax (801) 501-0584

**Geotechnical Investigation  
Farmington Hills Development  
Farmington, Utah**

GeoStrata Job No. 1039-002

October 19, 2015

Prepared for:

**Elite Craft Homes  
40 North 100 East  
Farmington, Utah  
Attention: Mr. Jerry Preston**



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## 1.0 EXECUTIVE SUMMARY

This report presents the results of a geotechnical investigation conducted for the Farmington Hills residential development located in Farmington, Utah. The purposes of this investigation were to assess the nature and engineering properties of the subsurface soils at the proposed site and to provide recommendations for general site grading and the design and construction of foundations, slabs-on-grade, and pavements.

Based on the subsurface conditions encountered at the site, it is our opinion that the subject site is suitable for the proposed construction provided that the recommendations contained in this report are complied with. Subsurface conditions were investigated through the excavation of six exploratory test pits that extended to depths ranging from 6 to 13 feet below the site grade as it existed at the time of our investigation. The subject property is overlain by 1 to 2½ feet of topsoil composed of silt, sand, and gravel. Underlying the topsoil we encountered Pleistocene-aged lacustrine sand and gravel deposits.

All fill placed for the support of structures, concrete flatwork or pavements should consist of structural fill. Structural fill may consist of native sand and gravel soils with particles larger than 4 inches in diameter removed or an imported material. Structural fill may also consist of the native clay and silt soils, however the contractor should be aware that it can be difficult to moisture condition and compact the clay and silt soils to the specified maximum density. All structural fill should be free of vegetation, debris or frozen material, and should contain no inert materials larger than 4 inches nominal size. Alternatively, an imported structural fill meeting the specifications presented in the report may be used.

The foundation for the proposed structures may consist of conventional strip and/or spread footings founded on undisturbed native silty sand or gravel soils or on structural fill. Conventional strip footings founded entirely on undisturbed native silty sand and gravel soils, non-collapsible clayey sand, clay and silt soils, or on properly compacted structural fill may be proportioned for a maximum net allowable bearing capacity of **2,500 psf**.

An assumed CBR of 10.0 for near surface soils was utilized in the pavement design. Based on assumed traffic loads, we recommend a pavement section consisting of 3 inches of asphalt over 8 inches of untreated base for pavements on sand and gravel soils. Alternatively, a pavement section consisting of 3 inches of asphalt over 6 inches of untreated base over 6 inches of subbase may be used for pavements on sand and gravel soils.

**NOTE: This executive summary is not intended to replace the report of which it is part and should not be used separately from the report. The executive summary omits a number of details, any one of which could be crucial to the proper application of this report.**

## 2.0 INTRODUCTION

### 2.1 PURPOSE AND SCOPE OF WORK

This report presents the results of a geotechnical investigation conducted for the proposed Farmington Hills residential development located in Farmington, Utah. The purposes of this investigation were to assess the nature and engineering properties of the subsurface soils at the proposed site and to provide recommendations for general site grading and the design and construction of foundations, slabs-on-grade, and pavements.

The scope of work completed for this study included a site reconnaissance, subsurface exploration, soil sampling, laboratory testing, engineering analyses, and preparation of this report as in accordance with our signed proposal dated June 19, 2015. The recommendations contained in this report are subject to the limitations presented in the "Limitations" section of this report.

### 2.2 PROJECT DESCRIPTION

The subject project consists of an approximately 44 acre parcel located in Farmington, Utah (See Plate A-1, *Site Vicinity Map*). We understand that the development will consist of 29 residential building lots occupied by single-family residential buildings one to two stories in height with basements. We anticipate footings loads on the order of 3 to 5 klf. Several residential roads along with associated utilities, curb & gutter, and sidewalks within the development will also be a part of the proposed construction. We assume that the loads associated with these structures will be relatively light.

### 3.0 METHOD OF STUDY

#### 3.1 SUBSURFACE INVESTIGATION

As part of this investigation, subsurface soil conditions were explored by excavating six exploratory trenches at representative locations across the site. Representative faces of each of these trenches were logged as part of a geotechnical investigation. The trenches were excavated to depths ranging from 6 to 13 feet below the site grade as it existed at the time of our investigation. The approximate locations of the explorations are shown on the *Exploration Location Map*, Plate A-2 in Appendix A. Exploration points were selected to provide a representative cross section of the subsurface soil conditions in the anticipated vicinity of the proposed structures. Subsurface soil conditions as encountered in the explorations were logged at the time of our investigation by a qualified geotechnical engineer and are presented on the enclosed Test Pit Logs, Plates B-1 to B-6 in Appendix B. A *Key to USCS Soil Symbols and Terminology* is presented on Plate B-7.

The trenches were advanced using a trackhoe. Both relatively undisturbed and bulk soil samples were obtained in each of the test pit explorations. Bulk samples were collected from each trench location placed in bags and buckets. Due to the relatively granular nature of the soils exposed during our investigation, it was not feasible to collect undisturbed soil samples. All samples were transported to our laboratory for testing to evaluate engineering properties of the various earth materials observed. The soils were classified according to the *Unified Soil Classification System* (USCS) by the Geotechnical Engineer. Classifications for the individual soil units are shown on the attached Test Pit Logs.

#### 3.2 LABORATORY TESTING

Geotechnical laboratory tests were conducted on samples obtained during our field investigation. The laboratory testing program was designed to evaluate the engineering characteristics of onsite earth materials. As mentioned previously, due to the relatively granular nature of the subsurface soils, it was not feasible to obtain relatively undisturbed samples, and as such our laboratory testing was limited. Laboratory tests conducted during this investigation include:

- Grain Size Distribution (ASTM D422)
- Direct Shear Test (ASTM D3080)

The results of laboratory tests are presented on the Test Pit Logs in Appendix B (Plates B-1 to B-6), the Laboratory Summary Table and the test result plates presented in Appendix C (Plates C-1 and C-4).

### 3.3 ENGINEERING ANALYSIS

Engineering analyses were performed using soil data obtained from the laboratory test results and empirical correlations from material density, depositional characteristics and classification. Appropriate factors of safety were applied to the results consistent with industry standards and the accepted standard of care.

## 4.0 GENERALIZED SITE CONDITIONS

### 4.1 SURFACE CONDITIONS

At the time of our subsurface investigation, the subject property existed as vacant hillside property. No structures were observed on the property at the time of our investigation, and the only improvements were unpaved roadways largely oriented in a north-south direction. The site was covered in moderate amounts of vegetation consisting of native weeds, sagebrush, and small trees. The eastern portion of the site slopes moderately to the west at an approximate 4:H:1V before steepening to a 1.5H:1V slope near the western portion of the site, although this value varies locally. Total topographic relief across the site is approximately 370 feet. The site is located at an approximate elevation ranging from 4,415 to 4,785 feet above mean seal level

### 4.2 SUBSURFACE CONDITIONS

The subsurface soil conditions were explored at the subject property by excavating six exploratory trenches to depths ranging from 6 to 13 feet below the existing site grade. Subsurface soil conditions were logged during our field investigation and are included on the test pit logs in Appendix B (Plates B-1 to B-6). The soil and moisture conditions encountered during our investigation are discussed below.

#### 4.2.1 Soils

Based on our observations and geologic literature review, the subject property is overlain by 1 to 2½ feet of topsoil composed of silt, sand, gravel, and cobble with occasional boulders. Undocumented fill soils were not observed during our field investigation. Underlying the topsoil, we encountered Pleistocene-aged lacustrine sand deposits associated with both the transgressive and regressive phases of the Bonneville lake cycle. These deposits extended to the maximum depths explored as part of this investigation. Descriptions of the soil units encountered are described below:

Topsoil: Where observed, these soils consisted of moist, dark brown Silty SAND (SM) with gravel, cobble and occasional boulders. This unit has an organic appearance and texture, with roots throughout. Topsoil was encountered in each of the test pits excavated as part of this investigation.

Pleistocene-Aged Lacustrine Deposits: These soils typically consist of sand with some silt and rounded gravel deposited in beaches corresponding to the transgressive and regressive phases of Lake Bonneville. The soils we encountered largely consisted of coarse-grained sediment including Poorly Graded GRAVEL (GP-GM) with silt and sand, Poorly Graded GRAVEL (GP) with sand, Poorly Graded SAND (SP) with gravel, Silty GRAVEL (GM) with sand, and Silty SAND (SM) with gravel. Fine-grained sediments were encountered interbedded with the coarse-grained material, and consisted of SILT (ML), SILT (ML) with gravel, Sandy SILT (ML), and Sandy Lean CLAY (CL). In general, these fine-grained sediments had low to no plasticity, and contained occasional iron staining.

The stratification lines shown on the enclosed Test Pit Logs represent the approximate boundary between soil types. The actual in-situ transition may be gradual. Due to the nature and depositional characteristics of the native soils, care should be taken in interpolating subsurface conditions between and beyond the exploration locations.

#### 4.2.2 Groundwater Conditions

Groundwater was not encountered in any of the test pits excavated for this investigation. Seasonal fluctuations in precipitation, surface runoff from adjacent properties, or other on or offsite sources may increase moisture conditions; groundwater conditions can be expected to rise several feet seasonally depending on the time of year. However, it is not anticipated that groundwater will impact the proposed development.

## 5.0 GEOLOGIC CONDITIONS

### 5.1 GEOLOGIC SETTING

The site is located at an approximate elevation ranging from 4,415 to 4,785 feet above mean sea level, within the eastern boundary of the Great Salt Lake basin and the Wasatch Mountain Range. The Great Salt Lake basin is a deep, sediment-filled structural basin of Cenozoic age flanked by the Wasatch Range to the east and the Promontory Mountains, the Spring Hills, and the West Hills to the west (Hintze, 1980). The southern portion of the Salt Lake Basin is bordered on the west by the east shore of the Great Salt Lake. The Wasatch Range is the easternmost expression of pronounced Basin and Range extension in north-central Utah.

The near-surface geology of the Salt Lake Basin is dominated by sediments, which were deposited within the last 30,000 years by Lake Bonneville (Scott and others, 1983; Hintze, 1993). As the lake receded, streams began to incise large deltas that had formed at the mouths of major canyons along the Wasatch Range, and the eroded material was deposited in shallow lakes and marshes in the basin and in a series of recessional deltas and alluvial fans. Sediments toward the center of the valley are predominately deep-water deposits of clay, silt and fine sand. However, these deep-water deposits are in places covered by a thin post-Bonneville alluvial cover. Surface sediments are mapped at the site, and include Late Pleistocene lacustrine sand and gravel deposits (Machette, 1992).

### 5.2 SEISMICITY AND FAULTING

The site lies within the north-south trending belt of seismicity known as the Intermountain Seismic Belt (ISB) (Hecker, 1993). The ISB extends from northwestern Montana through southwestern Utah. An active fault is defined as a fault that has had activity within the Holocene (<11ka). Several splays of the Weber segment of the Wasatch Fault zone are mapped as being located throughout the site (Black et. al, 2003, Hecker, 1993). In order to assess the nature of the faults and delineate their location, GeoStrata is concurrently completing a fault trench investigation. The results of that investigation will be presented in a separate report. The most recent movement along the Weber Segment of the Wasatch Fault Zone occurred during the Quaternary period, and there is evidence that as many as 10 to 15 earthquakes have occurred along this segment in the last 15,000 years (Hecker, 1993). A location near Kaysville Utah indicated that the Weber Segment has a measurable offset of 1.4 to 3.4 meters per event (McCalpin, and others, 1994). The Weber Segment may be capable of producing earthquakes as

large as magnitude 7.5 (Ms) and has a recurrence interval of approximately 1,200 years. The site is also located approximately 20 miles east of the East Great Salt Lake Fault Zone (Hecker, 1993). Evidence suggests that this fault zone has been active during the Holocene (0 to 30,000 yrs) and has segment lengths comparable to that of the Wasatch Fault Zone, indicating that it is capable of producing earthquakes of a comparable magnitude (7.5 Ms). Analyses of ground shaking hazard along the Wasatch Front suggests that the Wasatch Fault Zone is the single greatest contributor to the seismic hazard in the Wasatch Front region. Each of the faults listed above show evidence of Holocene-aged movement, and is therefore considered active.

Seismic hazard maps depicting probabilistic ground motions and spectral response have been developed for the United States by the U.S. Geological Survey as part of NEHRP/NSHMP (Frankel et al, 1996). These maps have been incorporated into both *NEHRP Recommended Provisions for Seismic Regulations for New Buildings and Other Structures* (FEMA, 1997) and the *International Building Code (IBC)* (International Code Council, 2012). Spectral responses for the Maximum Considered Earthquake ( $MCE_R$ ) are shown in the table below. These values generally correspond to a two percent probability of exceedance in 50 years (2PE50) for a “firm rock” site. To account for site effects, site coefficients which vary with the magnitude of spectral acceleration are used. Based on our field exploration, it is our opinion that this location is best described as a Site Class D which represents a “stiff soil” profile. The spectral accelerations are shown in the table below. The spectral accelerations are calculated based on the site’s approximate latitude and longitude of  $40.9856^\circ$  and  $-111.8804^\circ$  respectively and the United States Geological Survey U.S. Seismic Design Maps tool version 3.1.0 (USGS, 2013). Based on the IBC, the site coefficients are  $F_a=1.00$  and  $F_v= 1.30$ . From this procedure the peak ground acceleration (PGA) is estimated to be 0.55g.

**$MCE_R$  Seismic Response Spectrum Spectral Acceleration Values for IBC Site Class D<sup>a</sup>**

<b>Site Location:</b> <b>Latitude = 40.9856 N</b> <b>Longitude = -111.8804 W</b>	<b>Site Class C Site Coefficients:</b> <b><math>F_a = 1.00</math></b> <b><math>F_v = 1.30</math></b>
<b>Spectral Period (sec)</b>	<b>Response Spectrum Spectral Acceleration (g)</b>
0.2	$S_{MS}=(F_a*S_s=1.00*1.37) = 1.37$
1.0	$S_{M1}=(F_v*S_1=1.30*0.56) = 0.73$
<sup>a</sup> IBC 1613.3.4 recommends scaling the $MCE_R$ values by 2/3 to obtain the design spectral response acceleration values; values reported in the table above have not been reduced.	

### 5.3 LIQUEFACTION

Certain areas within the intermountain region possess a potential for liquefaction during seismic events. Liquefaction is a phenomenon whereby loose, saturated, granular soil deposits lose a significant portion of their shear strength due to excess pore water pressure buildup resulting from dynamic loading, such as that caused by an earthquake. Among other effects, liquefaction can result in densification of such deposits causing settlements of overlying layers after an earthquake as excess pore water pressures are dissipated. The primary factors affecting liquefaction potential of a soil deposit are: (1) level and duration of seismic ground motions; (2) soil type and consistency; and (3) depth to groundwater.

Based on our review of the *Liquefaction Special Study Areas, Wasatch Front and Nearby Areas, Utah*, the site is located in an area currently designated as having a “Very Low” liquefaction potential. “Very Low” liquefaction potential indicates that there is less than a 5 percent probability of having an earthquake within a 100-year period that will be strong enough to cause liquefaction. Groundwater was not encountered in any of the test pits excavated as part of our investigation. As such, the near-surface soils are not considered to be susceptible to liquefaction. It is possible that potentially liquefiable soils are also present at depths greater than those covered in our investigation. A liquefaction analysis was beyond the scope of the project; however, if the owner wishes to have greater understanding of the liquefaction potential of the soils at greater depths, a liquefaction analysis should be completed at the site.



14425 South Center Point Way Bluffdale, Utah 84065  
Phone (801) 501-0583 | Fax (801) 501-0584

**Geologic Hazards Assessment  
Farmington Hills Development  
Farmington, Utah**

GeoStrata Job No. 1039-002

October 15, 2015

Prepared for:

**Elite Craft Homes  
40 North 100 East  
Farmington, Utah  
Attention: Mr. Jerry Preston**



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## 1.0 EXECUTIVE SUMMARY

The purpose of this investigation and report is to assess the proposed Farmington Hills Subdivision for the presence of geologic hazards that may impact the planned development of the site. The Weber segment of the Wasatch fault zone is mapped trending through or adjacent to the western side of the subject site. Surface fault ruptures associated with the Weber segment of the Wasatch fault zone were observed in Trenches 1 and 2 excavated as a part of this investigation. It is our opinion that the observed faults are active surface fault ruptures. No surface fault ruptures were observed in Trenches 3 through 6. Since the observed faults are considered to be active a setback area was established on either side of the observed faults. Setback distances of 24 feet on the upthrown side of the faults and 29 feet on the downthrown side of the faults were used to develop the setback areas. No structures or any portions of any structures intended for human occupancy should be located within the setback areas. It is generally accepted practice to allow roadways, landscaping, driveways, and non-habitable structures such as detached garages and sheds to be located within the setback areas.

No Holocene-aged alluvial fan deposits are located within the proposed Farmington Hills development. Minor debris flow sediments were observed within the channel of an ephemeral drainage located immediately south of the existing Farmington City water tank on the southeastern portion of the site. It is considered possible that debris flow events may occur within this drainage. The potential flood and debris flow hazard associated with this ephemeral drainage channel, to the proposed Farmington Hills development, is considered low as long as the natural course and geometry of the drainage channel is maintained and considered during the development. These hazards are considered high with respect to the existing residences west of the mouth of the drainage channel.

Rock fall hazard was also assessed as part of this investigation. Our field observation would indicate that the rock fall hazard at the site is moderate. Our modeling would indicate the rock fall hazard for the subject property to be low. It is recommended that mitigation structures upslope from the subject site be design and constructed to further reduce the potential for rock-fall events from impacting the proposed development.

**NOTICE: The scope of services provided within this report are limited to the assessment of the subsurface conditions for the proposed development. This executive summary is not intended to replace the report of which it is part and should not be used separately from the report. The executive summary is provided solely for purposes of overview. The executive summary omits a number of details, any one of which could be crucial to the proper application of this report.**

## 2.0 INTRODUCTION

### 2.1 PURPOSE AND SCOPE OF WORK

The purpose of this investigation and report is to assess the proposed Farmington Hills Subdivision residential development located at approximately 300 East 100 North to 400 North in Farmington City, Utah for the presence of geologic hazards that may impact the planned development of the site. The work performed for this report was performed in accordance with our proposal, dated June 19, 2015 and signed July 14, 2015. Our scope of services included the following:

- Review of available references and maps of the area.
- Stereographic aerial photograph interpretation of aerial photographs covering the site area.
- Review of the sub-meter Wasatch Front LiDAR elevation data (2013 to 2014) obtained from the State of Utah AGRC.
- Geologic reconnaissance of the site by an engineering geologist to observe and document pertinent surface features indicative of possible surface rupture fault hazards, debris flow hazards or other geologic hazards.
- Subsurface investigation consisting of trenching across portions of the site exposing the soil stratigraphy and observing the exposed soil for evidence of surface fault rupture or other geologic hazards.
- Preparation of hand drawn logs to document any fault structures, debris flow deposits or evidence of geologic hazards encountered during our subsurface investigation; and
- Evaluation of our observations combined with existing information and preparation of this written report with conclusions and recommendations regarding possible surface rupture hazards or any other geologic hazards observed to affect the site.

The recommendations contained in this report are subject to the limitations presented in the Limitations section of this report.

### 2.2 PROJECT DESCRIPTION

The project site is located in the foothills of the Wasatch Mountains at approximately 300 East between 100 North to 400 North in Farmington City, Utah. Proposed development, as currently planned, will consist of twenty three residential building lots as well as associated roadways and landscape areas. The subject property currently exists as undeveloped hillside property accessed

through unpaved trails and roadways. The subject site slopes moderately to the west throughout most of the subject site and steeply to the west along the western margin of the site. The subject site has an estimated topographic change of approximately 430 feet from east to west. The project site is shown on the Site Vicinity Map included in the Appendix of this report (Plate A-1). The Appendix also includes a Site Vicinity Geologic Map (Plate A-2 and A-2b) and an Exploration Location Map (Plate A-3).

### 3.0 METHODS OF STUDY

#### 3.1 OFFICE INVESTIGATION

To prepare for the investigation, GeoStrata reviewed pertinent literature and maps listed in the references section of this report, which provided background information on the local geologic history of the area and the locations of suspected or known geologic hazards (Nelson and Personius, 1993; Black and others, 2003; Christenson and Shaw, 2008; U.S. Geological Survey, 2006). A detailed knowledge of the stratigraphic units expected in the area provided a useful time-stratigraphic framework for interpreting the units exposed in the trench excavated for this geologic hazards assessment. In addition, the presence of specific stratigraphic units is also very useful in determining the presence and severity of other geologic hazards that may be present on the subject property.

A stereographic aerial photograph interpretation was performed for the subject site using three sets of stereo aerial photographs obtained from the UGS as shown in Table 1.

**Table 1**

<b>Source</b>	<b>Photo Number</b>	<b>Date</b>	<b>Scale</b>
USFS	USFS-F-161	May 30, 1983	1:5,000
USFS	USFS-F-162	May 30, 1983	1:5,000
USFS	USFS-F-163	May 30, 1983	1:5,000
USFS	USFS-F-164	May 30, 1983	1:5,000
UGS OFR-548	WF1-6-079	1970	1:12,000
UGS OFR-548	WF1-6-080	1970	1:12,000
UGS OFR-548	WF1-6-081	1970	1:12,000
UGS OFR-548	WF2-5-121	1970	1:12,000
UGS OFR-548	WF2-5-122	1970	1:12,000
UGS OFR-548	WF2-5-123	1970	1:12,000

GeoStrata also conducted a review of the sub-meter Wasatch Front LiDAR elevation data (2013 to 2014) obtained from the State of Utah AGRC to assess the subject site for visible lineations or other surface fault rupture related geomorphology. The LiDAR elevation data was used to create hillshade imagery that could be reviewed for assessment of geomorphic features related to geologic hazards (Plates A-4 and A-5). We used this hillshade imagery and the stereographic

aerial photographs to map the location of the Weber segment of the Wasatch fault zone along the subject site for as part of preparing the Site Specific Geologic Map (Plate A-6).

The Exploration Location Map (Plate A-3) was produced to plan our assessment of the geologic hazards identified during our office research. One critical factor in the placement of exploration trenches across the site was the assessment of the surface fault rupture hazard along the western side of the subject site that was identified during our office research. The portion of the site that falls within the Surface Fault Rupture Special Study Zone needed to be assessed by means of trenching to assess the near surface geologic units for the presence or absence of active surface fault rupture hazards. No current Surface Fault Rupture Special Study Zone map is identified in the Farmington City Municipal Code (Chapter 30, 11-30-105 Development Standards, (4) Geologic Report). Christenson and others (2003) state that where special-study areas have not been defined, the UGS recommends that the width of special-study areas vary depending on whether the fault is well defined, buried (concealed) or approximately located. The recommended special-study areas for a well defined fault extend horizontally 500 feet (153 m) on the downthrown and 250 feet (76 m) on the upthrown side of mapped fault traces or outermost faults in a fault zone. In areas of high scarps where 250 feet (76 m) on the upthrown side does not extend to the top of the scarp, the special-study area is increased to 500 feet (153 m) on the upthrown side (Robison, 1993). A well-defined fault is defined as a fault where the fault trace is clearly detectable by a geologist qualified to conduct surface-fault rupture investigations as a physical feature at or just below the ground surface (typically shown as a solid line on a geologic map). Nelson and Personius (1993) map the portion of the Weber segment of the Wasatch fault zone trending through the subject site as a well defined fault trace (Plate A-2). The U.S. Geological Survey and Utah Geological Survey, 2006, Quaternary fault and fold database also report this section of the Weber segment of the Wasatch fault zone as a well defined fault trace (Plate A-3).

During our stereographic aerial photograph interpretation and our review of the sub-meter Wasatch Front LiDAR elevation data (2013 to 2014) obtained from the State of Utah AGRC to assess the subject site for visible lineations or other surface fault rupture related geomorphology we mapped the portion of the Weber segment along the western side of the subject site as a well defined fault (Plate A-4; Plate A-5; Plate A-6). The main trace of the Weber segment of the Wasatch fault zone, in the area of the subject site, was observed to correspond to a steeply west dipping escarpment that divided the site into a lower portion (in the northwest corner of the site) and an upper portion (throughout the remainder of the site). This escarpment was assessed to comprise the main fault scarp of the Weber segment. The base of the fault scarp defined a clear

liniment that we interpreted and mapped as the location of the location of the main Weber segment. It should be noted that the Weber segment is mapped further west of our mapped location on the U.S. Geological Survey and Utah Geological Survey, 2006, Quaternary fault and fold database (Plate A-3; Plate A-4). Plate A-3 also shows the special study area associated with the Weber segment across the subject site as we assessed it for this study. The fault location as assessed by GeoStrata was utilized to create the surface fault rupture special study zone, as shown on Plate A-3.

Several other lineations were also observed during our stereographic aerial photograph interpretation and our review of the sub-meter Wasatch Front LiDAR elevation data (2013 to 2014). These lineations were oriented generally east to west and are interpreted to comprise a number of small drainage swales eroded into the west dipping slope that makes up the subject site above and east of the Weber segment fault escarpment. These swales can be seen on Plate A-4 and Plate A-5. The Weber segment fault escarpment was also observed to be incised by several of these drainage swales within the subject site. One drainage located just south of and adjacent to the existing Farmington City water tank is down-cut approximately 10 to 20 feet into a well defined ephemeral drainage channel. This ephemeral drainage is associated with a small unnamed drainage basin canyon on the mountain front east of the subject site as can be seen on Plate A-2.

### 3.2 FIELD INVESTIGATION

An engineering geologist investigated the geologic conditions within the general site area. A field geologic reconnaissance was conducted to observe existing geologic conditions and to assess existing surficial evidence of surface fault ruptures, debris flow deposits or evidence other geologic hazards. Based on the results of our office research and field observations, six locations were selected for subsurface investigation by means of trenching. While conducting our fieldwork for the surface fault rupture hazard assessment we conducted site observations to assess what other geologic hazards might impact the site.

### 3.3 SUBSURFACE INVESTIGATION

Six exploratory trenches were excavated along the western side of the proposed development in order to expose and observe the subsurface soils and to assess the subject site for surface fault rupture hazards within the Surface Fault Rupture Special Study Area as shown on Plate A-3. The locations of the six trenches are shown on the Exploration Location Map (Plate A-3). Our trench excavations extended between approximately 30 feet to 130 feet farther east than the Surface

Fault Rupture Special Study Area to aid in assessing the proposed development for other geologic hazards and to assess the near surface soil conditions as part of our geotechnical assessment of the subject site. The geology exposed in these trenches will be described and interpreted in subsequent sections of this report.

## 4.0 GEOLOGIC CONDITIONS

### 4.1 GEOLOGIC SETTING

The site is located in Farmington City, Utah at an elevation ranging from 4400 to 4830 feet above mean sea level within the eastern portion of the Salt Lake Basin. The Salt Lake basin is a deep, sediment-filled structural basin of Cenozoic age flanked by the Wasatch Range and Wellsville Mountains to the east and the Promontory Mountains, the Spring Hills, and the West Hills to the west (Hintze, 1980). The southern portion of the Salt Lake Basin is bordered on the west by the east shore of the Great Salt Lake. The Wasatch Range is the easternmost expression of pronounced Basin and Range extension in north-central Utah (Stokes, 1986).

The near-surface geology of the Salt Lake Valley is dominated by sediments, which were deposited within the last 30,000 years by Lake Bonneville (Scott and others, 1983; Hintze, 1993). As the lake receded, streams began to incise large deltas that had formed at the mouths of major canyons along the Wasatch Range, and the eroded material was deposited in shallow lakes and marshes in the basin and in a series of recessional deltas and alluvial fans. Sediments toward the center of the valley are predominately deep-water deposits of clay, silt and fine sand. However, these deep-water deposits are in places covered by a thin post-Bonneville alluvial cover.

Surface sediments within the subject site are mapped as uppermost Pleistocene lacustrine sand (lbp) mapped below the Provo shoreline where deposits cannot be correlated with a specific phase of the Bonneville Lake Cycle (Nelson and Personius, 1993). This unit is reported to consist of sand, silty sand, gravelly sand, and minor silt. Often consists of a thin, discontinuous veneer of Provo regressional deposits, overlying Bonneville transgressional deposits. Numerous shorelines developed on these deposits usually cannot be identified as either transgressional or regressional.

### 4.2 TECTONIC SETTING

The majority of the subject site is located on the west dipping bench located along the western foothills of the Wasatch Mountain Range. The Weber segment of the Wasatch fault zone is mapped trending through or adjacent to the western side of the subject site. A steeply west dipping scarp trends along the Weber segment. The Weber segment extends for about 35 miles from its southern terminus to northern terminus (Nelson and Personius, 1993). The southern terminus of the Weber Segment occurs at the Salt Lake Salient, a ridge of Paleozoic and Tertiary bedrock that extends west of the Wasatch Front at the northern end of the Salt Lake rupture

segment. The geometry of linkage between the main rupture zones in the Weber segment and faults in the interior of the Salt Lake salient is not clear. Surface scarps at the southern margin of the salient are discontinuous but apparently extend into the large normal fault along the eastern boundary of the segment. There is no reported evidence for Quaternary movement on this fault in the interior of the salient, so presumably the Quaternary ruptures have not reactivated most of this fault. The Pleasant View Salient marks the boundary between the Weber Segment and the Brigham City Segment to the north (Personius, 1986, Zoback, 1983). Prior paleoseismic studies report that the Weber segment of the Wasatch fault is thought to have experienced four surface faulting seismic events since the middle Holocene. Nelson and others (2006) report four surface faulting seismic events since the middle Holocene with the most recent event being a partial segment rupture which occurred approximately 500 years ago resulting in a 1.6 feet surface rupture displacement. DuRoss and others (2009) report evidence from the 2007 Rice Creek trench site of as many as six surface faulting seismic events during the Holocene with four surface faulting events in approximately the past 5,400 years. This data from DuRoss and others (2009) supports the partial segment surface rupture timing reported by Nelson and others (2006). A location near Kaysville, Utah indicated that the Weber Segment has a measureable offset of 1.4 to 3.4 meters per event (McCalpin and others, 1994). The Weber Segment may be capable of producing earthquakes as large as magnitude 7.5 (Ms). The consensus preferred recurrence interval for the Weber segment, determined by the Utah Quaternary Fault Working Group, is approximately 1,400 years for the past four surface fault rupture earthquakes (Lund, 2005).

The site is also located approximately 9 miles east of the East Great Salt Lake fault zone (Hecker, 1993). Evidence suggests that this fault zone has been active during Holocene times (0 to 10,000 years) and has segment lengths comparable to that of the Wasatch fault zone, indicating that it is capable of producing earthquakes of a comparable magnitude (7.5 Ms).

Analysis of the ground shaking hazard along the Wasatch Front suggests that the Wasatch Fault Zone is the single greatest contributor to the seismic hazard in the Salt Lake City region. Each of the faults listed above show evidence of Holocene-aged movement, and is therefore considered active.

# AGEC

## Applied GeoTech

January 6, 2016

Farmington City - Planning Commission  
160 South Main Street  
Farmington, Utah 84025

Attention: Eric Anderson  
EMAIL: [eanderson@farmington.utah.gov](mailto:eanderson@farmington.utah.gov)

Subject: Review of Geologic and Geotechnical Investigation Reports  
Farmington Hills Development  
400 North to 100 North 350 East  
Farmington, Utah  
Project No. 1151090

Gentlemen:

Applied Geotechnical Engineering Consultants, Inc. (AGEC) was requested to review the geologic hazards assessment report for the Farmington Hills development in Farmington, Utah prepared by Geostrata for Elite Craft Homes under Geostrata Job No. 1039-002 dated October 15, 2015. We were requested to review the geotechnical investigation report prepared by the same company for the same client under Geostrata Job No. 1039-002 dated October 19, 2015. The preliminary plat dated November 19, 2015 was provided.

### GEOLOGIC HAZARDS ASSESSMENT REVIEW

The geologic hazards assessment report addresses surface-fault-rupture, rockfall and alluvial-fan-flooding/debris-flow hazards. The geotechnical report addresses liquefaction and slope-stability hazards.

1. Surface-fault-rupture Hazard

The surface-fault-rupture hazard is generally adequately addressed in the report. Plate A-7 shows a non-buildable area, which we assume is primarily associated with slope stability and faulting. However, the non-buildable area has a gap just west of the Geostrata-mapped fault shown on the plate, which we expect should be designated as a non-buildable area. A clarification should be provided by Geostrata indicating what is intended by this gap in the non-buildable area.

We recommend that building excavations within the surface-fault-rupture-hazard, special-study area be observed at the time of construction by a geologist to determine if there are potentially active faults which extend into this area. Building locations should be modified accordingly.

2. Alluvial-fan Flooding/Debris Flow

The study indicates that debris flow is a potential hazard within a drainage that cuts through Lot 22 and may be a concern for driveways at Lots 22 and 23 which are proposed to cross the drainage. It is stated that modifications to the drainage could have an influence on the extent of the debris-flow-hazard area. We recommend that the area of debris-flow hazard be delineated on plans for the proposed development. The expected debris-flow volume should be quantified to allow for appropriate mitigation design as needed.

Condition

3. Rockfall

The report indicates that rockfall is a potential hazard in the eastern portion of the property. The area of potential hazard should be delineated on a map to identify the area of concern.

Construction of a chainlink fence or other form of deflection structure is recommended in the report. The location, design and size of the rock fall mitigation structures should be provided.

4. Landslides

The geologic hazards assessment report does not address landslides. We recommend that the geologist review aerial photographs, geologic literature, Lidar data and other information along with site reconnaissance to determine if there is evidence of landslides on or near the property. The geologist should be involved in selecting appropriate cross sections and subsurface conditions for the slope stability analysis provided in the geotechnical study.

further study

## GEOTECHNICAL INVESTIGATION REVIEW

The geotechnical investigation report generally addresses geotechnical concerns associated with the project with the exception of slope stability and the selection of a granular subgrade for design of the pavement section. Subsurface exploration in the eastern portion of the property appears to be lacking.

1. Slope Stability

Subsurface investigation to a depth of 13 feet for a reported slope height of 370 feet and slopes of up to 1 ½ horizontal to 1 vertical is typically not considered adequate to characterize subsurface conditions for slope stability evaluation. We recommend deeper subsurface investigation be performed in key areas where slope stability may be a concern for the proposed development. Cut and fill slopes for the roads planned to extend up the relatively steep slope in the western portion of the property should be evaluated from a slope stability standpoint. Retaining systems for both cut and fill slopes should be appropriately designed.

further study

conditions



The friction value used in the stability analysis is high considering the presence of sand and unknown soil conditions below the investigated depth. Deeper subsurface investigation and likely more laboratory testing along with correlations of strength to material types given in published literature will provide a better understanding of subsurface material strengths and allow for selection of suitable strength values.

Further study

The model for the slope stability analysis does not include a water table. This might be an appropriate assumption, however, the depth of exploration is not great enough to identify whether or not there is a water table. The geotechnical engineer should consider the potential for a water table to develop in the slope due to water infiltration from landscape watering and other factors that may result in a change in subsurface water conditions due to the proposed development.

Condition ?

The locations of slope profiles used for the stability analysis are not shown.

Condition

2. Pavement Design

The pavement recommendations given in the report are based on a granular subgrade although clay was encountered in the western portion of the site. Recommendations for an alternative pavement section should be provided for areas of clay subgrade.

Condition

3. Subsurface Investigation

There are no reported test pits, borings or trenches for the eastern portion of the property. As previously noted, the depth of investigation for the slopes in western portion of the property is not considered adequate. Additional subsurface investigation is recommended.

Further study

4. Lateral Earth Pressures

It appears a friction angle of 40 degrees and soil unit weight of 120 pounds per cubic foot were used for lateral earth pressure recommendations. Such values may be low for backfill types and compaction methods that may be used. The amount of movement required to develop the passive pressure recommended may be more than what is considered acceptable for some structures. The recommended seismic increases do not appear to be consistent with IBC 2012.

?

5. Clay

Clay was encountered in some of the test pits. It appears the clay was not considered in most geotechnical recommendations.

Condition ?

6. Seismic Design Information

The values provide for the mapped acceleration parameters are not consistent with the IBC 2012 values. The table on page 8 mixes Site Class D with Site Class C information.

?

Farmington City  
January 6, 2016  
Page 4

**PRELIMINARY PLAT REVIEW**

The preliminary plat provided to us does not incorporate recommendations provided in the geologic and geotechnical studies. The subdivision layout should be modified to include recommendations from these studies along with additional information developed by the geologic/geotechnical consultant with completion of additional studies recommended herein.

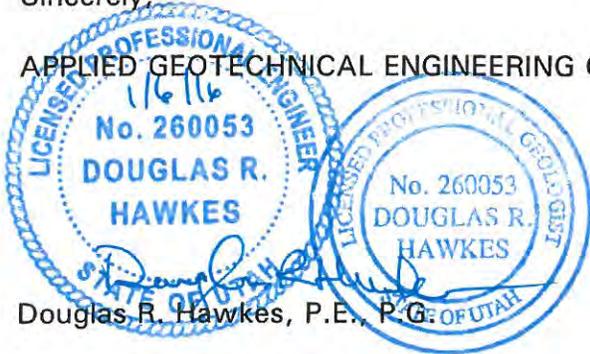
**LIMITATIONS**

This letter has been prepared in accordance with generally accepted geologic and geotechnical engineering practices in the area for the use of the client. The conclusions and recommendations included in the letter are based on our understanding of the site and review of the consultant's reports. We have not performed an independent study for the proposed development.

If you have questions or if we can be of further service, please call.

Sincerely,

APPLIED GEOTECHNICAL ENGINEERING CONSULTANTS, INC.



Douglas R. Hawkes, P.E., P.G.

Reviewed by JRM, P.E.

DRH/rs



## Planning Commission Staff Report January 14, 2016

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### Miscellaneous Item: Special Exception for Rainey Homes

Public Hearing: No  
Application No.: M-1-16  
Property Address: 1615 South and 200 East  
General Plan Designation: LDR (Low Density Residential)  
Zoning Designation: LR-F (Large Residential - Foothill)  
Area: 2 Acres  
Number of Lots: 2  
Property Owner: Rainey Homes  
Agent: Brock Johnston

Request: *Applicant is requesting a special exception related to access requirements from a public street.*

---

#### **Background Information**

The applicant is currently going through a boundary adjustment to move the property lines for two existing parcels in order to create two buildable parcels at approximately 1 acre each in size. The resulting "Lot 2" abuts 200 East, and in normal circumstances, the applicant would be required to provide access off of that street because it does not abut any other public right-of-way. However, 200 East is a UDOT road, and UDOT is reticent to provide access and/or curb cuts on their right-of-way, and the approach from 200 East is very steep. Additionally, there may be wetlands that are encumbering the property abutting 200 East. As a solution, the applicant is proposing that "Lot 2" have frontage on 200 East and that the home face that direction, but the access to the lot will come from the rear through "Lot 1" by way of a 20' reciprocal access easement that will be recorded against the property.

Section 11-32-106(1)(e) of the Zoning Ordinance states:

*"Driveways shall have direct access to a public street for a building lot. Subject to satisfaction of the provisions of Section 11-3-045 of the City Zoning Ordinances and the grant of a special exception, direct access for a building lot may include access over one adjacent building lot provided both building lots have full frontage on a public street, an access easement has been recorded acceptable to the City, and the full face of any dwelling unit located on both building lots fronts or is fully exposed to the public street."*

The proposed boundary adjustment does meet all of the criteria for the special exception as both lots face a public street (“Lot 2” – 200 East & “Lot 1” – Tuscany Cove Drive) and the homes will fully face these public streets. The applicant is planning on recording a reciprocal access easement as is required by the ordinance, however, staff has included this as a condition of approval to ensure that this will occur prior to or concurrent with the recordation of the boundary adjustment.

Sections 11-3-045(4)(b)(4) and 11-3-045(5)(b) of the Zoning Ordinance states:

*“(4) The Planning Commission shall hold a public meeting and thereafter shall approve, approve with conditions or deny the application pursuant to the standards set forth in Section 11-3-045(5) below. Any conditions of approval shall be limited to conditions needed to conform to the special exception to approval standards”*

*(b) The Planning Commission shall not authorize a special exception unless the evidence presented establishes the proposed special exception:*

*(i) Will not be detrimental to the health, safety, or general welfare of persons residing or working in the vicinity, or injurious to property or improvements in the vicinity;*

*(ii) Will not create unreasonable traffic hazards;*

*(iii) Is located on a lot or parcel of sufficient size to accommodate the special exception.”*

**Suggested Motion:**

Move that the Planning Commission approve the special exception, subject to all applicable Farmington City ordinances and development standards and the following condition: the applicant shall record a reciprocal access easement on “Lot 1” prior to or concurrent with the recordation of the boundary adjustment, and such easement shall be acceptable to the City as determined by the City Planner.

**Findings for Approval:**

1. The proposed special exception is desirable in that it does not put driveway access onto a busy UDOT street, and avoids the steep slopes found on the western portion of “Lot 2”.
2. The proposed special exception is not detrimental to the health, safety, or general welfare of persons residing or working in the vicinity.
3. The proposed special exception does not create unreasonable traffic hazards, and the parcel where the special exception is located is sufficient in size to accommodate the use.

**Supplemental Information**

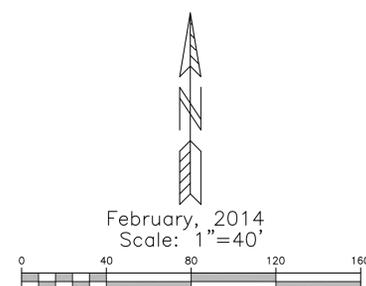
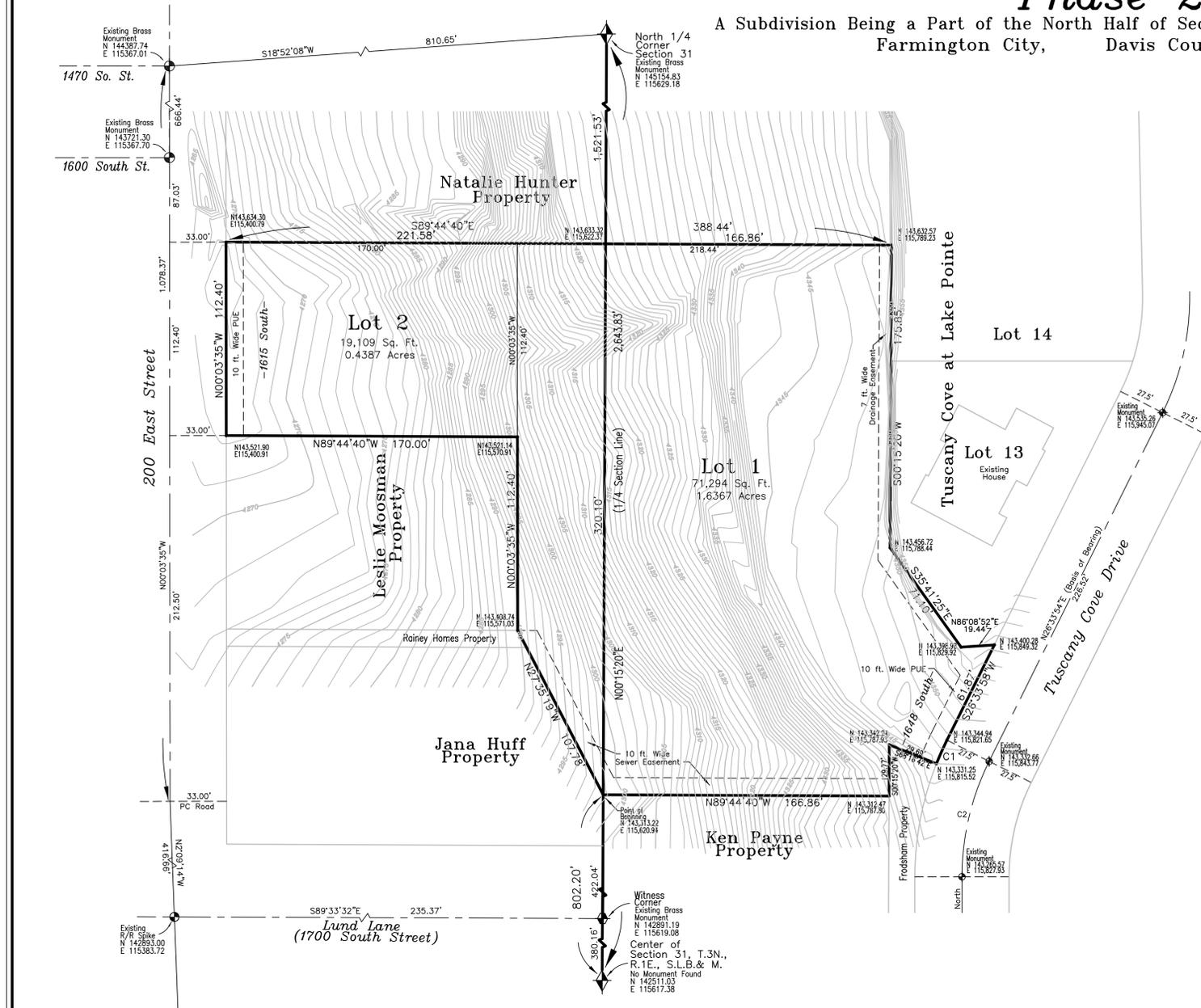
1. Vicinity Map
2. Existing Parcel Map
3. Proposed Boundary Adjustment

**Applicable Ordinances**

1. Title 11, Chapter 3 – Planning Commission
2. Title 11, Chapter 32 – Off-Street Parking, Loading, and Access

# Tuscany Cove at Lake Pointe Phase 2

A Subdivision Being a Part of the North Half of Section 31, T.3N., R.1E., S.L.B. & M.  
Farmington City, Davis County, Utah



### Narrative

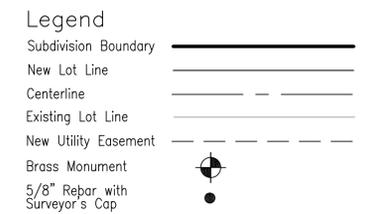
**Purpose of Survey**  
To subdivide property into Residential Lots as shown hereon.

**Found Monuments**  
Existing Brass Monuments are found at the following locations:  
North Quarter Corner of Section 31, T.3N., R.1E.  
Witness Corner to the Center of Section 31, T.3N., R.1E.  
Intersection of State Highway 106 and 1470 South St.  
Intersection of State Highway 106 and 1600 South St.  
Two Monuments on the Centerline of Tuscany Cove Drive  
In addition a Railroad Spike was found at the intersection of Lund Lane and State Highway 106.

**Basis of Establishment**  
Using GPS Technology we located all of the above mentioned monuments and calibrated to a residual error of less than 0.10 ft. from this control all corners were radially located and marked as shown hereon.

### Curve Information

Curve	Radius	Angle	Length	Chord	Chd Bearing
C1	177.50'	4°50'36"	15.00'	15.00'	S24°08'40"W
C2	150.00'	26°33'54"	69.55'	68.93'	N13°16'57"E



### Boundary Description

Beginning at a point which is N0°15'20"E 802.20 ft. along the Quarter Section Line from the Center of Section 31, T.3N., R.1E. S.L.B. & M. and running thence N27°35'19"W 107.78 ft.; thence N0°03'35"W 116.11 ft. along a line which is 170.00 ft. East of the East Boundary of State Highway 106 (a 66 ft. wide road); thence N89°44'40"W 170.00 ft.; thence N0°03'35"W 112.40 ft. along said East Boundary of Highway 106; thence S89°44'40"E 221.58 ft. to a point which is N0°15'20"E 1,122.30 ft. along said Quarter Section Line from said Center of Section 31; thence S89°44'40"E 166.86 ft.; thence S0°15'20"W 175.85 ft. along the West Boundary of the Tuscany Cove at Lake Pointe Subdivision; thence along the boundary of the property described in Book 5398, Page 1186 of Davis County Records in the following four courses (i) S35°41'25"E 71.10 ft., (ii) N86°08'52"E 19.44 ft., (iii) Southwesterly 15.00 ft. along the West Boundary of Tuscany Cove Drive (a 55.00 ft. wide road as defined in said Tuscany Cove at Lake Pointe Subdivision along the arc of a 177.50 ft. radius curve to the left through a central angle of 4°50'36" (chord bears S24°08'40"W 15.00 ft.), (iv) N68°6'42"W 29.69 ft.; thence S0°52'2"W 29.77 ft.; thence N89°44'40"W 188.26 ft. to the point of beginning. Containing 2.0754 Acres.

### Surveyor's Certificate

I, J. Scott Balling, a Registered Land Surveyor holding Certificate No. 162195 as prescribed under the laws of the State of Utah, do hereby certify that by the authority of the owners I have made a survey of the tract of land shown on this plat and described herewith and have subdivided said tract of land into lots and streets hereafter to be known as "Tuscany Cove at Lake Pointe, Phase 2" and that the same has been correctly surveyed and staked on the ground as shown.

Date: January 27th, 2014 Utah Surveyor No. 162195

### Owner's Dedication

Known all men by these presents that we the undersigned owners of the above described tract of land having caused the same to be subdivided into lots and streets to hereafter be known as "Tuscany Cove at Lake Pointe, Phase 2" and do hereby dedicate for perpetual use of the public all parcels of land shown on this plat for public use and do warrant and defend and save the city harmless against any encumbrances on the dedicated streets which will interfere with the city's use, maintenance and operation of the streets.

In witness whereof we have hereunto set our hand this \_\_\_\_\_ day of \_\_\_\_\_ 2014

Joe M. Rainey, President  
RAINEY HOMES, INC.

Joe M. Rainey, Managing Member  
JMR LAND AND DEVELOPMENT, LLC

### Acknowledgement

On the \_\_\_\_\_ day of \_\_\_\_\_, 2014, there personally appeared before me, the undersigned Notary Public, JOE M. RAINEY, signer of the Owner's Dedication who duly acknowledged to me that he is the President of RAINEY HOMES, INC. a Utah corporation and a Managing Member of JMR LAND AND DEVELOPMENT, LLC, a Utah Limited Liability Company and that he signed it freely and voluntarily on behalf of said entities which executed the same for the uses and purposes therein mentioned.

Notary Public: \_\_\_\_\_  
Residence: \_\_\_\_\_ My Commission Expires: \_\_\_\_\_

### Notes

- All easements are 10.0 ft. wide public utility easements unless noted otherwise
- All coordinates are based on Davis County Surveyor's Office datum
- A soils report has been prepared and submitted to Farmington City for this subdivision in accordance with the provisions of the Farmington City Subdivision Ordinance.

<b>Benchland Pressure Irrigation District Approval</b> Recommended for Approval this _____ day of _____, 2014 by the Benchland Pressure Irrigation District. District Engineer: _____	<b>Central Davis Sewer District Approval</b> Recommended for Approval this _____ day of _____, 2014 by the Central Davis Sewer District. District Engineer: _____	<b>Farmington City Planning Commission Approval</b> Recommended for Approval this _____ day of _____, 2014 by the Farmington City Planning Commission. Chairman: _____ Farmington Planning Commission	<b>Farmington City Engineer's Approval</b> Approved this _____ day of _____, 2014 by the Farmington City Engineer. Farmington City Engineer: _____	<b>Farmington City Attorney's Approval</b> Approved this _____ day of _____, 2014 by the Farmington City Attorney. Farmington City Attorney: _____	<b>Farmington City Council Approval</b> Presented to the City Council of Farmington City, Utah, this _____ day of _____, 2014 at which time this subdivision was approved and accepted. City Recorder Attest: _____ Mayor: _____	<b>Davis County Recorder</b> Entry No. _____ Fee Paid _____ Filed for Record and Recorded this _____ day of _____, 2014 at _____ in Book _____, Page _____ _____ Davis County Recorder By: _____ Deputy
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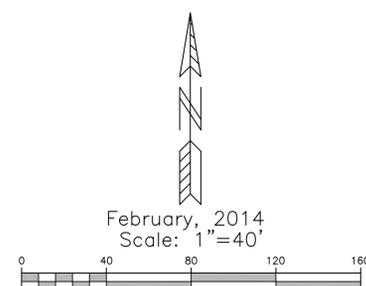
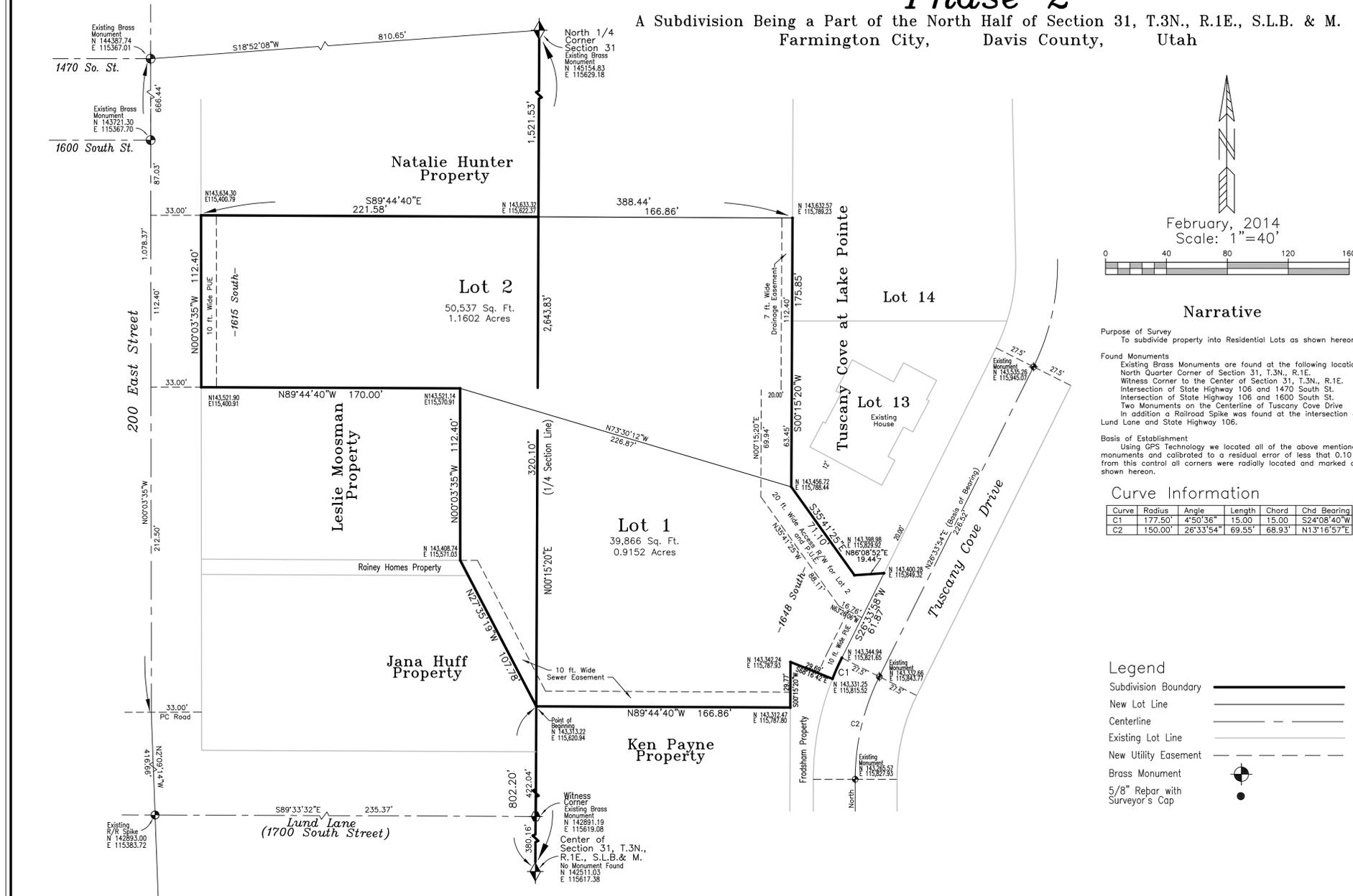
**Balling Engineering**  
Civil Engineering \* Surveying \* Planning  
323 E. Pages Lane  
Centerville, Utah 84014  
Phone: (801) 295-7237  
Fax: (801) 299-0419

**Tuscany Cove Phase 2**  
Final Plat  
For Rainey Homes

Revisions		Date	By
	Description		

# Tuscany Cove at Lake Pointe Phase 2

A Subdivision Being a Part of the North Half of Section 31, T.3N., R.1E., S.L.B. & M.  
Farmington City, Davis County, Utah



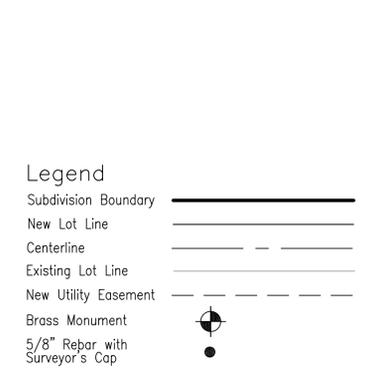
February, 2014  
Scale: 1"=40'

**Narrative**  
Purpose of Survey  
To subdivide property into Residential Lots as shown hereon.  
Found Monuments  
Existing Brass Monuments are found at the following locations:  
North Quarter Corner of Section 31, T.3N., R.1E.  
Witness Corner to the Center of Section 31, T.3N., R.1E.  
Intersection of State Highway 106 and 1470 South St.  
Intersection of State Highway 106 and 1600 South St.  
Two Monuments on the Centerline of Tuscany Cove Drive  
In addition a Railroad Spike was found at the intersection of Lund Lane and State Highway 106.

**Basis of Establishment**  
Using GPS Technology we located all of the above mentioned monuments and calibrated to a residual error of less than 0.10 ft. from this control all corners were radially located and marked as shown hereon.

**Curve Information**

Curve	Radius	Angle	Length	Chord	Chd Bearing
C1	177.50'	4°50'36"	15.00'	15.00'	S24°08'40"W
C2	150.00'	26°33'54"	69.55'	68.93'	N13°16'57"E



**Boundary Description**  
Beginning at a point which is N0°15'20"E 802.20 ft. along the Quarter Section Line from the Center of Section 31, T.3N., R.1E. S.L.B. & M. and running thence N27°35'19"W 107.78 ft.; thence N0°03'35"W 116.11 ft. along a line which is 170.00 ft. East of the East Boundary of State Highway 106 (a 66 ft. wide road); thence N89°44'40"W 170.00 ft.; thence N0°03'35"W 112.40 ft. along said East Boundary of Highway 106; thence S89°44'40"E 221.58 ft. to a point which is N0°15'20"E 1,122.30 ft. along said Quarter Section Line from said Center of Section 31; thence S89°44'40"E 166.86 ft.; thence S0°15'20"W 175.85 ft. along the West Boundary of the Tuscany Cove at Lake Pointe Subdivision; thence along the boundary of the property described in Book 5398, Page 1186 of Davis County Records in the following four courses (i) S35°41'25"E 71.10 ft., (ii) N86°08'52"E 19.44 ft., (iii) Southwesterly 15.00 ft. along the West Boundary of Tuscany Cove Drive (a 55.00 ft. wide road as defined in said Tuscany Cove at Lake Pointe Subdivision along the arc of a 177.50 ft. radius curve to the left through a central angle of 4°50'36" (chord bears S24°08'40"W 15.00 ft.), (iv) N68°6'42"W 29.69 ft.; thence S0°52'2"W 29.77 ft.; thence N89°44'40"W 188.26 ft. to the point of beginning. Containing 2.0754 Acres.

**Surveyor's Certificate**  
I, J. Scott Balling, a Registered Land Surveyor holding Certificate No. 162195 as prescribed under the laws of the State of Utah, do hereby certify that by the authority of the owners I have made a survey of the tract of land shown on this plat and described herewith and have subdivided said tract of land into lots and streets hereafter to be known as "Tuscany Cove at Lake Pointe, Phase 2" and that the same has been correctly surveyed and staked on the ground as shown.  
Date: January 27th, 2014 Utah Surveyor No. 162195

**Owner's Dedication**  
Known all men by these presents that we the undersigned owners of the above described tract of land having caused the same to be subdivided into lots and streets to hereafter be known as "Tuscany Cove at Lake Pointe, Phase 2" and do hereby dedicate for perpetual use of the public all parcels of land shown on this plat for public use and do warrant and defend and save the city harmless against any easement or other encumbrances on the dedicated streets which will interfere with the city's use, maintenance and operation of the streets.  
In witness whereof we have hereunto set our hand this \_\_\_\_\_ day of \_\_\_\_\_ 2014

Joe M. Rainey, President  
RAINEY HOMES, INC.  
Joe M. Rainey, Managing Member  
JMR LAND AND DEVELOPMENT, LLC

**Acknowledgement**  
On the \_\_\_\_\_ day of \_\_\_\_\_, 2014, there personally appeared before me, the undersigned Notary Public, JOE M. RAINEY, signer of the Owner's Dedication who duly acknowledged to me that he is the President of RAINEY HOMES, INC., a Utah corporation and a Managing Member of JMR LAND AND DEVELOPMENT, LLC, a Utah Limited Liability Company and that he signed it freely and voluntarily on behalf of said entities which executed the same for the uses and purposes therein mentioned.

Notary Public: \_\_\_\_\_  
Residence: \_\_\_\_\_ My Commission Expires: \_\_\_\_\_

**Notes**  
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**Balling Engineering**  
Civil Engineering \* Surveying \* Planning  
323 E. Pages Lane  
Centerville, Utah 84014  
Phone: (801) 295-7237  
Fax: (801) 299-0419

**Tuscany Cove Phase 2**  
Final Plat  
For Rainey Homes

Revisions		Date	By
	Description		

To: Farmington City Planning Commission  
From: Tim Matthews  
Date: January 7, 2016  
Subject: Conditional Use Clarification

The purpose of this communication is to obtain clarification from the Planning Commission as to whether our considered additional use of our property fits within a conditional use.

Our family has a small 3-acre ranch located at 495 West Glover Lane (across from where the new Farmington High School is being built). Our small ranch consists of some barns, pasture, animals, farm equipment, road/driveways and parking areas. There is not a residence on the property.

We are wondering if the zoning provisions permit us to allow families, from time to time, to rent our facilities to conduct western style/farm themed functions and events on the property? These functions may include family reunions, birthday parties, holiday events, weddings, and similar activities. These types of western style/farm themed functions and events would be primarily outdoor but may also utilize our barns and facilities.

The property is zoned AE (Agriculture Estate). According to the City's Agriculture Zones and Schedule of Uses (11-10-020), AE allows with "conditional use" approval: *Commercial outdoor recreation, minor (i.e. family reunion center, outdoor reception facilities, equestrian facilities, picnic grounds, tennis courts, etc.).*

We believe that families would enjoy holding activities at our small ranch from time to time, as we have received a few requests. We also believe that our desired expanded use compliments the area and city of Farmington.

Thank you for your consideration and time.



USE	AGRICULTURE ZONES		
	AA	AE	A
Accessory Dwellings	C	C	C
Accessory Living Quarters	C	X	X
Agriculture	P	P	P
Boarding kennel	X	X	C
Class "A" animals (small animals)	P	P	P
Class "B" animals (large animals)	P	P	P
Class "C" animals (commercial farming)	P	C	P
Class "D" animals (dangerous animals)	X	X	X
Commercial outdoor recreation, minor (i.e., family reunion center, outdoor reception facilities, equestrian facilities, picnic grounds, tennis courts, etc.)	C	C	C
Day-care, preschool	X	C	C
Greenhouse/Garden Center (retail or wholesale) less than 5 acres	C	C	C
Fruit and vegetable stands for sale of produce grown on the premises	P	P	P
Home occupations complying with provisions of the Home Occupation Chapter of this Title except as specified in Section 11-35-104	P	P	P
Home occupations specified in Section 11-35-104	C	C	C
Private school, Public School, or hospital	X	C	C
Public uses	X	C	C
Trails and Parks	C	C	C
Public utility installations (not including lines and rights-of-way)	C	C	C
Quasi-public uses	X	C	C
Radio, television, and telephone transmission and relay towers and facilities except as specified in Section 11-28-190	C	C	C
Residential facilities for the elderly	X	C	C
Residential facilities for the handicapped	X	C	C
Signs complying with Title 12	P	P	P

# Design Ideas for Strengthening Downtowns

Drawing from his new book, *Rural by Design*, an experienced observer of rural and small town design reports on some of the more successful downtown revitalization strategies in use around the U.S.

By RANDALL ARENDT, FRTPA

CREATIVE DESIGN INITIATIVES have helped enliven and strengthen downtowns in many communities, and are often part of broader strategies. The central lesson from Holland, Michigan (pop. 33,644), whose downtown is particularly successful and vibrant, is that no single action or approach will provide the answer. Complete solutions require initiatives on several different fronts. Many of them involve physical improvements, but intangibles such as commitments, relationships, and trust are equally important. The examples described here focus on the physical aspects, many containing important design components.

## Maintaining traditional form and function

Town centers inevitably change over time, but such changes need not erase a community's special character.

According to Phil Walker, AICP, author of APA's *Downtown Planning for Smaller and Midsize Communities*, "One of the greatest victories a downtown plan can achieve is a clear set of development policies to ensure that the traditional urban form of a downtown is protected and reinforced by future development." Here is a close corollary: A pleasant and useful mix of uses and activities must also be achieved and maintained.

Officials should think through the possible unintended consequences of current regulations. Better zoning provisions include establishing "maximum front setbacks" (or a "build-to" line), minimum height (or a "build-up" line), and requiring buildings to have traditional windows and front doors facing streets, plus off-street parking located behind buildings. (Alcoves are an exception to maximum setback rules; see photo on this page)

When multistory infill replaces single-story buildings, downtowns benefit in several ways. Such an approach is offered by form-based coding, detailed in "Simplify That Code!" (June), although a combination of basic form-related design standards can provide excellent protection as well. In Davidson, North Carolina, zoning requires all new commercial buildings to have at least two functional stories above grade, with floor space that can be occupied.

Promoting upper-story uses, particularly residential, is key. Most of the upper floors along Hol-

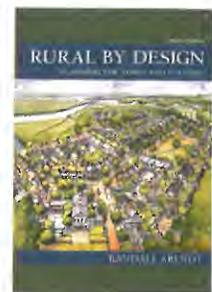


An exception to the "build-to" (or "maximum front setback") line is illustrated by this alcove in Southern Pines, North Carolina, where a recessed building arrangement allows for two shade trees and a bench—and also increases the number of shop windows visible to pedestrians, benefiting both customers and shopkeepers.

land's main street are occupied. Not counting two large senior housing blocks with about 750 units, nearly half of that floor space is residential, ensuring that downtown streets stay lively after shops close.

## Metrics that work

One of the more remarkable small town examples is Oxford, Ohio (pop. 21,782), where a dozen new multistory mixed use buildings have been built downtown since 2007. One basic rule is that at least 70 percent of the front facade must meet the right-of-way line, and a minimum height of two stories is required. In practice, however, most new infill proj-



**Rural by Design**  
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(APA members \$79.95).

ects have been taller, better matching the scale of many three- to four-story buildings.

Results are impressive: 12 new mixed use, multistory infill buildings providing 97 residential units housing 331 occupants (mostly students from Miami University), with eight new units housing 43 more residents in redeveloped buildings, above a total of 81,600 square feet of new ground floor commercial space. Although building height is limited to four floors, four-story slabs are avoided by limiting building area to three times the lot area. The upshot: Top floors are smaller than the rest, often stepped back beyond prominent third floor cornices, creating variety in apparent building heights. Limiting residential density to one occupant per 200 square feet of lot area allows more variety in the number of bedrooms in each dwelling unit.

Ground-floor commercial must cover at least 70 percent of the lot area, and 30 percent more may be located above or below that. Because downtown land is valuable, there are no on-site parking requirements, a key aspect of Oxford's approach. Although some residents do not own cars, many who do park them in lots they can either walk to or reach by the free local bus service. These metrics have worked very well, according to local architect Scott Webb, de-



The two photos above show an inappropriately low infill building from the 1960s in downtown Oxford, Ohio, that was replaced by a new four-story mixed use building. With a shared vision and cooperation between officials and entrepreneurs, downtown streetscapes can be restored to their previous form and function.

signer of many of the new infill buildings. Notably, these results have been achieved without form-based coding.

Holland has provided parking on land behind its main street buildings, with maintenance provided by the municipality or by a business improvement district. These rear parking lots have been created, expanded, and landscaped over the years as parcels have become available or as buildings have come down. The city controls some parking through ownership and several lots through leases. The downtown development authority maintains all city-owned and leased lots and a relatively new downtown parking deck, which are funded through an annual assessment program. All on-street and public lot parking is free, although residents pay overnight parking fees.

Many merchants increase their business by opening rear doorways, allowing customers to enter from parking lots. Even when people use shops as shortcuts to the street, some retailers see this as an opportunity to display their wares and say hello. Interviews with shopkeepers have shown that most of them like the idea, and they report virtually no increase in shoplifting.

Creating attractive environments helps increase the number of downtown visitors and the frequency and length of their visits. Shade trees and benches are basic; they should be supplemented with colorful planters, widened sidewalks to accommodate dining tables, and a small fountain or two. Street musicians, performance artists, and public art help create a welcoming ambience, inviting shoppers and others to linger and enjoy their surroundings.

Holland attracts thousands of visitors every year during its annual springtime tulip festival; it also closes several blocks of its main street to cars every Thursday evening during the summer, converting it into a popular pedestrian promenade. Crowds of residents and visitors fill the street, enjoying food, music, aromas, shops, and each other's company.

When large downtown buildings become vacant, creative solutions are essential. In Northampton, Massachusetts (pop. 28,554), a three-story department store with 55,000 square feet of floor space was sensitively reconfigured (preserving its historic staircase, tin ceilings, and woodwork). Rechristened as Thorne's Mar-



Attractively paved and landscaped footpaths along municipal parking lots behind "main street" shops in Holland, Michigan, lead into many businesses through rear entryways.

ketplace, it leases individual spaces to dozens of small retailers and food purveyors, creating what has been described as a “contemporary bazaar.” This imaginative and highly successful conversion has brought customers back to the downtown shopping and dining district. According to town planner Wayne Feiden, FAICP, “Thorne’s was the single most important retail pioneer that helped bring downtown back alive.”

### Public space is valuable

Whether in new mixed use areas or retrofitted town centers, creating comfortable public spaces can provide economic as well as aesthetic benefits. A 1989 study of 21 rural towns in Georgia conducted by James Kenyon of the University of Georgia found that the vitality of the centers (expressed by their peak pedestrian volumes) was related, in part, to the physical form of the central business district. Of four broad physical forms identified (courthouse square, multiblock, cruciform, and stem), pedestrian activity was by far the strongest in the towns with courthouse squares.

In the West, plazas created by Spanish settlers anchor hundreds of downtowns, where artists display and sell their jewelry, pottery, weaving, and other works, fulfilling an age-old need for meaningful public places.

Such a need was recognized in Lewisburg, West Virginia (pop. 3,939), after a corner building dating from 1897 burned down in 1997. A 5,600-square-foot park was built in stages between 2005 and 2013, a result of joint efforts by citizens, officials, and two local foundations. Downtown foot traffic near the park—the heart of the shopping district—increased dramatically, according to Mayor John Manchester.

In the city of Bainbridge Island, Washington, a similar, but less elaborate, amenity was created when three buildings were replaced by a mixed use development designed in an L shape, facing a four-way intersection across a newly created green. Notably, this park

would have been impossible had the new building maintained a traditionally close relationship to the streets, underscoring the need for flexibility in building siting.

### Public art

Sheridan, Wyoming (pop. 17,916), is one of many communities recognizing that public art displays help revitalize downtowns. In any given year between 20 and 30 sculptures, on loan from artists around the country, are displayed in Sheridan’s public spaces. In addition, the city has acquired 42 permanent sculptures for its parks and downtown. Those sculptures were donated by local businesspeople and residents, or purchased with commissions from sculpture sales, or funds raised by an annual golf tournament and the county’s one percent sales tax.

Artists whose work is selected for display receive a \$500 honorarium from the city, which collects a 25 percent commission on works sold during exhibition periods. Even in a slow year such as 2011, loaned sculptures were sold for \$104,000, generating \$26,000, which the city spent on new sculpture acquisitions. Similar programs exist in Grand Junction and Loveland, Colorado; Lewiston and Coeur d’Alene, Idaho; Sioux Falls, South Dakota; and Gillette and Green River, Wyoming.

### Small parks and parklets

Even modest downtown spaces can become much more special, as shown by the conversion of a remnant triangle of asphalt at a wide intersection in downtown Auburn, California (pop. 13,960).



Grass, shade trees, brick paving, benches, planters, public art, and a children’s play fountain have transformed a vacant parcel at one of the main intersections in Lewisburg, West Virginia.



This statue of a heron was one of more than 20 pieces of art on display in 2010 in Sheridan, Wyoming, which recognizes that public art helps revitalize its downtown.



Nevada City, California, installed a moveable wooden platform to create a sidewalk seating area to test the public's acceptance of parklets.

A small triangular park built in 2009 has greatly improved the attractiveness of a formerly very broad intersection with three small traffic islands. It is now filled with outdoor seating, trees, landscaping, a fire pit, and a rain garden to pretreat stormwater. The park became a possibility when an awkwardly angled intersection was rectified, freeing about 6,000 square feet of land for music, movies, square dancing, and service club events.

Having seen successful parklets in curbside parking spaces in other downtowns, Nevada City, California (pop. 3,068), has approved a removable boardwalk seating area as a multiyear experiment, occupying three parking spaces on Commercial Street. The 50-foot-long parklet, with eight-foot-wide wooden planks level with the sidewalk, and separated from vehicles by bollards, provides space for benches, planters, and bike racks.

These small oases create synergy when located in front of businesses such as coffeehouses and sandwich shops. They work best on streets with low speed limits and in mid-block locations away from corners, where they could block views and impede turning movements. Parklets can help create innovative new public space, and their low cost allows cities to experiment with various forms and locations.

### A tale of two bridges

Turning lemons into lemonade, a local women's club transformed an abandoned trolley bridge into a major tourist attraction in Shelburne Falls, Massachusetts (pop. 1,731). Since the late 1920s, lush plantings have lined both sides of a central meandering footpath crossing this bridge, whose surface is covered by several feet of soil. This "Bridge of Flowers" attracts as many as 36,000 visitors annually from more than 100 countries.

Spanning Sand Creek in downtown Sandpoint, Idaho (pop. 7,365), is the Cedar Street Bridge, reconstructed as an enclosed linear retail walkway in 1982 by local entrepreneur Scott Glickenhau. An outside walkway, four feet wide and roofed, allows pedestrian access when the shops are closed. This historic bridge at the end of Cedar Street, linking downtown businesses

with the train depot, was closed to vehicular traffic in 1971, and condemned nine years later.

This project was influenced by Glickenhau's visit to Florence's Ponte Vecchio ("old bridge"), and by the transformation of Boston's historic Faneuil Hall Marketplace into a lively urban space for meeting and eating. "People like to sit; they love sun, shade, and water," Glickenhau says. "Those are the things you need to have a vibrant downtown, the colors and the smells. Those were the ingredients that went into (and) helped create the flavor of the bridge."

This addition to the downtown business district is thoroughly modern. The southern wall was built with 4,500 square feet of insulated glazing, creating a long solarium that lights and heats the space on sunny days. The north side resembles a traditional covered bridge, wood-clad with few openings. About 100,000 square feet of insulated concrete flooring absorbs the sun's energy and serves as a passive heat sink. In the winter, when the sun is lower on the horizon, its rays warm the enclosed airspace. The overall effect of walking through or sitting inside the bridge is extremely peaceful, with food aromas circulating throughout.

The bridge, 60 to 80 feet wide and more than 400 feet long, contains 26,500 square feet of retail space, divided into numerous shops and restaurants. A long, wide ramp provides easy access to the second floor. According to the Sonoran Institute, upon completion the bridge became an instant landmark and tourist attraction, drawing new customers to Sandpoint's downtown business district. The Cedar Street Bridge has evolved into a collection of cart vendors, restaurants, gift shops, jewelers, and boutiques.

### Daylighting a downtown creek

After several decades of gradual economic decline—the result of Interstate 84 bypassing town—officials in Caldwell, Idaho (pop.



Landscaping has transformed a disused trolley bridge (above and immediate right) into a major tourist attraction in Shelburne Falls, Massachusetts. It is now called the Bridge of Flowers.



The reconstructed Cedar Street Bridge in Sandpoint, Idaho, is now an enclosed linear retail walkway linking the train depot to downtown businesses.

46,237), a once-thriving industrial center, identified Indian Creek as a potential key to downtown revitalization. They subsequently requested assistance from the U.S. Army Corps of Engineers to determine the feasibility of uncovering, or daylighting, Indian Creek as it flows through the city center. This impressive municipal effort, involving several departments, restored the creek to its former natural openness, creating a 120-foot-wide greenway with six acres of open space, paths for walking and biking, natural rock features, and a vastly improved natural habitat.

The creek corridor defines the geometry of downtown development and creates a framework for special districts and placemaking spaces with paved walkways, interpretive nodes, and historic lighting for people-centered and community-supported development in front of the restored train depot, according to the *Downtown Framework Master Plan*.

The large number and variety of creative approaches initiated by individual entrepreneurs, municipal governments, and volunteer groups interested in strengthening small downtowns across



the country are extremely encouraging. In addition to the extra care taken in regulating the height and setbacks of new infill buildings, promoting residential occupancy and creating new and inviting public spaces are key aspects of successful strategies.

From displaying public art and daylighting covered waterways to finding new uses for vacant department stores or old bridges, there is virtually no limit to what can be accomplished when challenges are met creatively and cooperatively.

Randall Arendt is the author of *Rural by Design: Planning for Town and Country*, published by APA Planners Press. This article is adapted from the completely revised, second edition of the book, issued in April: [planning.org/store/product/?ProductCode=BOOK\\_ARDP](http://planning.org/store/product/?ProductCode=BOOK_ARDP).

## RESOURCES

### FROM APA

*Downtown Planning for Smaller and Midsize Communities*, Phil Walker, AICP. In print and e-book format, available at [planning.org/store/product/?ProductCode=BOOK\\_AE1450](http://planning.org/store/product/?ProductCode=BOOK_AE1450).

"Simplify That Code!" Randall Arendt, *Planning*, June 2015, [planning.org/planning/2015/jun/simplifythatcode.htm](http://planning.org/planning/2015/jun/simplifythatcode.htm).