VILLAGE PLAN AREA 2

October 1, 2020

DRAFT

WILDFLOWER

AT SARATOGA SPRINGS

A DAI Community

VILLAGE PLAN

Prepared By

DAI

LEI Engineers & Surveyors

Landmark Design

Hales Engineering

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Findings for Village Plan 2

Village Plan Area 2 includes an 80.89-acre area within the 1,202-acre Wildflower Amended and Restated Community Plan (ARCP) located in Saratoga Springs, Utah. The Wildflower Village Plan Area 2 is compliant with all PC Zone Requirements for Village Plans as defined in ***Section 19.26.09 of the Saratoga Springs Municipal Code***. We find that Village Plan Area 2:

a. Is consistent with the adopted Amended and Restated Wildflower ARCP; Village Plan Area 2 adheres to the development standards, thoroughfare types, and open spaces types and requirements established in the Wildflower ARCP.

b. Does not exceed the total number of Equivalent Residential Units (ERUs) dictated in the adopted Wildflower ARCP;

   » The number of potential ERUs established in the Wildflower ARCP for Village Plan Area 2 is 210. Village Plan Area 2 is comprised of commercial areas and one residential neighborhood.

c. Is consistent with the utility, infrastructure, and circulation plans of the Wildflower ARCP and Master Utility Plan; includes adequately sized utilities, services, and roadway networks to meet demands; and mitigates the fair-share of off-site impacts;

d. Properly integrates utility, infrastructure, open spaces, pedestrian and bicycle systems, and amenities with adjacent properties;

   » Wildflower has been designed to accommodate significant infrastructure elements that are important to the City within the structure of the property. Wildflower was designed to maximize pedestrian, bike, and other mobility options. Open space is highly integrated to provide direct and easy access to residents.

e. The total number of ERUs found in Type 5 neighborhoods are estimates based on anticipated development types and layouts. These assumptions may change. There is not a maximum number of Type 5 (commercial) ERUs allowed.

Contains the required elements as required in ***Section 19.26.10 of the Saratoga Springs Municipal Code***.

02 Legal Description

Legal Description Prepared by LEI

LEI
ENGINEERS
SURVEYORS
PLANNERS

LEGAL DESCRIPTION
PREPARED FOR
DAI
Job No. 13-0902
(April 13, 2020)

WILDFLOWER VILLAGE 2

A PORTION OF THE SOUTHWEST QUARTER OF SECTION 10 AND THE NORTHWEST QUARTER OF SECTION 15, TOWNSHIP 5 SOUTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF SECTION 10, TOWNSHIP 5 SOUTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN; THENCE N0°20’24”E ALONG THE SECTION LINE 928.72 FEET; THENCE N33°57’04”E 556.57 FEET; THENCE N5°03’04”E 230.08 FEET; THENCE S69°16’00”E 15.42 FEET; THENCE N20°44’00”E 10.00 FEET; THENCE N69°16’00”W 18.23 FEET; THENCE N5°03’04”E 527.75 FEET; THENCE N70°41’02”E 64.33 FEET; THENCE ALONG THE ARC OF A 1041.50 FOOT RADIUS CURVE TO THE RIGHT 85.43 FEET THROUGH A CENTRAL ANGLE OF 4°41’58” (CHORD: N73°02’01”E 85.40 FEET); THENCE N75°23’00”E 47.97 FEET; THENCE S14°37’00”E 107.00 FEET; THENCE N75°23’00”E 26.32 FEET; THENCE ALONG THE ARC OF A 15.00 FOOT RADIUS CURVE TO THE RIGHT 26.18 FEET THROUGH A CENTRAL ANGLE OF 100°00’00” (CHORD: S54°37’00”E 22.98 FEET); THENCE S4°37’00”E 28.31 FEET; THENCE N85°23’00”E 83.00 FEET; THENCE NORTHEASTERLY ALONG THE ARC OF A 15.00 FOOT RADIUS NON-TANGENT CURVE TO THE RIGHT (RADIUS BEARS: N85°23’00”E) 20.94 FEET THROUGH A CENTRAL ANGLE OF 80°00’00” (CHORD: N35°23’00”E 19.28 FEET); THENCE N75°23’00”E 448.32 FEET; THENCE ALONG THE ARC OF A 1095.00 FOOT RADIUS CURVE TO THE RIGHT 114.94 FEET THROUGH A CENTRAL ANGLE OF 6°00’51” (CHORD: N78°23’26”E 114.88 FEET); THENCE N81°23’51”E 175.77 FEET TO THE WEST RIGHT-OF-WAY LINE OF MOUNTAIN VIEW CORRIDOR; THENCE ALONG SAID RIGHT-OF-WAY LINE THE FOLLOWING SIX (6) COURSES: S8°56’42”E 158.12 FEET; THENCE ALONG THE ARC OF A 2074.50 FOOT RADIUS CURVE TO THE LEFT 426.55 FEET THROUGH A CENTRAL ANGLE OF 11°46'52" (CHORD: S14°50'08"E 425.80 FEET); THENCE ALONG THE ARC OF A 3400.00 FOOT RADIUS CURVE TO THE RIGHT 353.95 FEET THROUGH A CENTRAL ANGLE OF 5°57'53" (CHORD: S17°44'37"E 353.79 FEET); THENCE S14°45'41"E 361.44 FEET; THENCE S12°37'19"E 764.34 FEET; THENCE ALONG THE ARC OF A 1800.00 FOOT RADIUS CURVE TO THE RIGHT 268.03 FEET THROUGH A CENTRAL ANGLE OF 8°31'54" (CHORD: S8°21'22"E 267.78 FEET) TO THE SOUTH LINE OF SAID SECTION 10; THENCE N89°52'02"W ALONG THE SECTION LINE 586.49 FEET; THENCE S0°07’58”W 112.03 FEET; THENCE N89°52’02”W 80.00 FEET; THENCE NORTHWESTERLY ALONG THE ARC OF A 12.00 FOOT RADIUS NON-TANGENT CURVE TO THE LEFT (RADIUS BEARS: N89°52’02”W) 18.85 FEET THROUGH A CENTRAL ANGLE OF 89°59’55” (CHORD: N44°51’59”W 16.97 FEET); THENCE N89°51’57”W 456.21 FEET; THENCE ALONG THE ARC OF A 429.50 FOOT RADIUS CURVE TO THE RIGHT 299.11 FEET THROUGH A CENTRAL ANGLE OF 39°54’05” (CHORD: N69°54’54”W 293.10 FEET) TO THE SOUTH LINE OF SAID SECTION 10; THENCE N89°52’02”W ALONG THE SECTION LINE 589.57 FEET TO THE POINT OF BEGINNING.

CONTAINS: ±81.40 ACRES

- Civil Engineering
- Structural Engineering
- Surveying
- Land Planning
- Landscape Architecture

www.lei-eng.com

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Salt Lake Office: 14441 South 980 West • Bluffdale, UT 84065 ✆ 801.495.2844 ▤ 801.495.2847
Boise Office: 2040 S. Eagle Road • Meridian, ID 83642 ✆ 208.846.9600

Note: Acreage in legal description varies from Wildflower ARCP. See exhibit on the following page.

Detailed Use

Type 4

The Type 4 area will include up to 210 multi-family ERUs on 14.35 acres and includes approximately 2.81 acres of open space. The current site design is included on the Village Plan 2 exhibits. The final layout and design will be submitted with the Site Plan application, which can be approved by staff. The residents of this neighborhood will be able to use the adjacent trail system to access all the amazing Wildflower amenities detailed in the Wildflower ARCP.

The amenities in the Peony Type 4 Townhome neighborhood include a 1,350 square foot clubhouse and 25' x 50' swimming pool. These amenities provide a minimum of 150 open space points for the Type 4 area.

Type 5

The uses in the Type 5 areas are designated in the Wildflower ARCP as Neighborhood Commercial (NC) and Community Commercial (CC). Site Plan approval is required to further define users, development designs, and open space, as well as solidify ERUs. Commercial pads may be broken up and developed in distinct sections depending on user, location, and market demands. ERUs in these areas will be determined by City Code and end-user types. Approximately 2,165 square feet of non-residential floor area is equal to one ERU. There is not a maximum number of Type 5 (commercial) ERUs allowed.

The commercial pad labeled Phase G-3 on the Master Plan has been sold to Academica West. Academica West is the foremost operator of Charter Schools in Utah. They have 25 schools, 15,000 students, and 2,000 employees. They will initially build a school that will service K through 8th grades with a projected opening in Fall 2021. They have purchased sufficient ground to expand the school to include High School grades in the future. Additional approval will be at staff level and achieved through the site plan process.

Open Space Use

The open-air storage site is an open space use. This outdoor storage site will be a place for owners, residents, and the general public to rent space to store RVs, ATVs, boats, and other toys. This use is a deviation from Code since outdoor storage is not allowed in NC/CC or Residential zones. The area will be enclosed with a 6' white privacy fence and secure access gates. The privacy fence will provide a visual buffer from the open space and roads surrounding the storage area. The parking lot will not have an onsite manager.

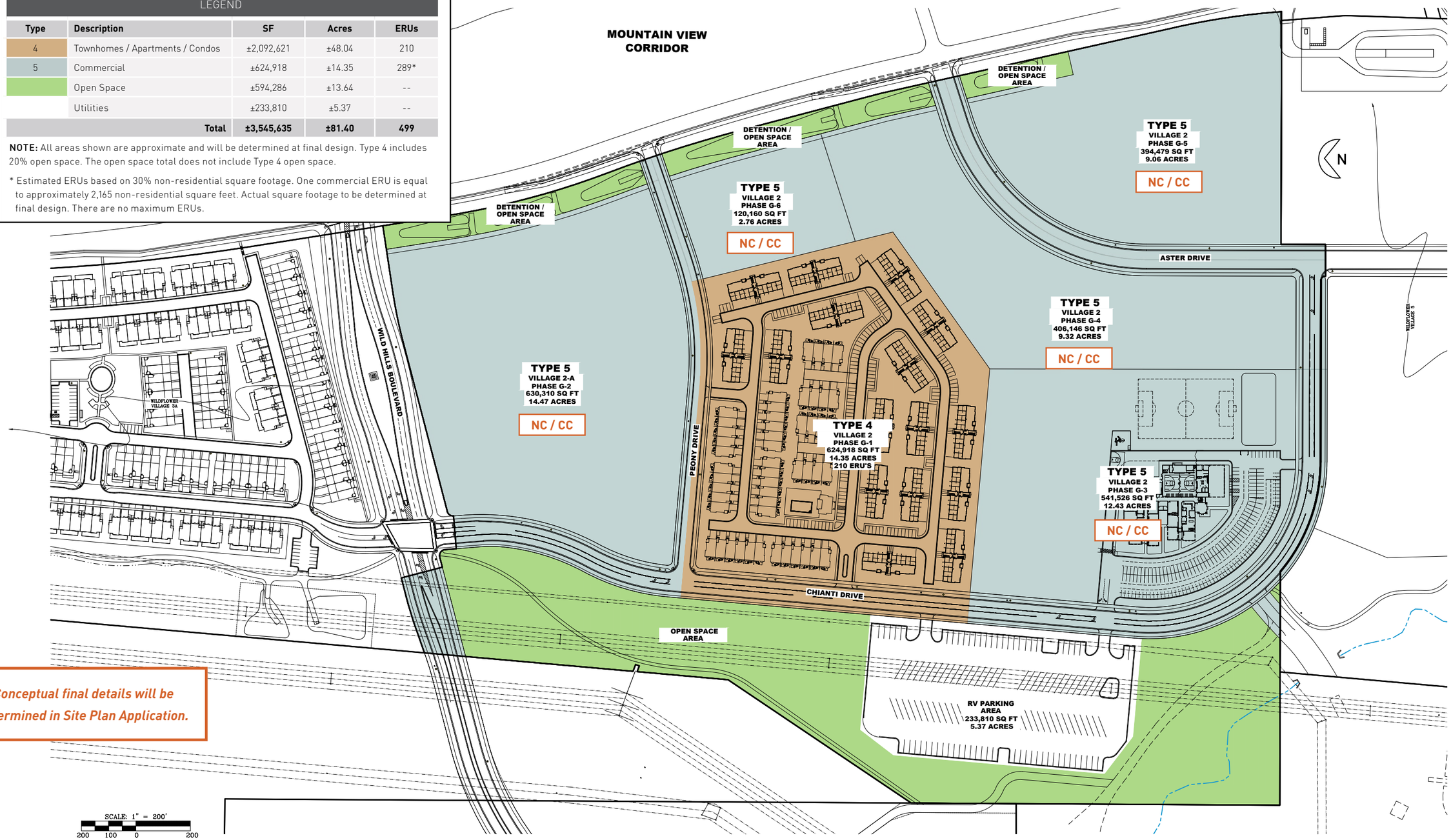
Open-air storage does not count toward the open space percentage or amenity points. Further details will be provided during the Preliminary and Final Plat Applications. These will be reviewed and addressed by the staff.

Detailed Use Exhibit

LEGEND				
Type	**Description**	**SF**	**Acres**	**ERUs**
4	Townhomes / Apartments / Condos	±2,092,621	±48.04	210
5	Commercial	±624,918	±14.35	289*
	Open Space	±594,286	±13.64	--
	Utilities	±233,810	±5.37	--
	Total	**±3,545,635**	**±81.40**	**499**

NOTE: All areas shown are approximate and will be determined at final design. Type 4 includes 20% open space. The open space total does not include Type 4 open space.

* Estimated ERUs based on 30% non-residential square footage. One commercial ERU is equal to approximately 2,165 non-residential square feet. Actual square footage to be determined at final design. There are no maximum ERUs.



Conceptual final details will be determined in Site Plan Application.

Detailed Allocation of All Acreage

The following information details the allocation of all acreage within Village Plan Area 2. Refer to the *Detailed Use Exhibit* on page 3.01, *Open Space Tabulation Exhibit* on page 12.06, and *Lotting Map Exhibit* on page 6.01.

Area	Type	Description	Land Use	Acres	ERUs in VP2	ERUs/ Gross Acre
Goldenrod	Type 5	Commercial	Lots/ROW	14.33	TBD	TBD
			Open Space	TBD		
			Total	14.33		
Peony	Type 4	Multi-Family	Lots/ROW	11.25	210	14.94
			Open Space	2.81		
			Total	14.06		
Aster School Of Dreams	Type 5	Commercial	Lots/ROW	12.13	TBD	TBD
			Open Space	TBD		
			Total	12.13		
Aster	Type 5	Commercial	Lots/ROW	21.14	TBD	TBD
			Open Space	TBD		
			Total	21.14		
Open Air Storage		Commercial	Lots/ROW	5.84	TBD	TBD
			Open Space	N/A		
			Total	5.84		
		Detention Open Space		2.27		
		Open Space		11.63		
		Grand Total		81.40	210	14.94
		Total Open Space		16.45*		
		Net Residential Acres		33.8		

* The total open space area is 16.45 acres. Refer to Open Space Tabulation Exhibit on page 12.06.

- 210 ERUs are assigned to Village Plan 2 residential neighborhood.
- All areas shown are approximate, areas to be determined at final design.
- Refer to the *Lotting Map Exhibit* for Neighborhood Breakdown on page 6.01.

Type 4

Front-load and rear-load townhomes are defined in the Wildflower ARCP under the Type 4 category. Village Plan 2 development standards for Type 4 are consistent with standards established for the community. In addition, all building and landscape designs adhere to the design guidelines established in the ARCP.

Type 5

Type 5 site plan and design standards are subject to WDRC approval. The City is required to receive a copy of the WDRC approval before permits are issued. In addition to the WDRC standards, all other City standards, including setbacks, must be met for site plan approval. Staff may approve site plans without additional Planning Commission or City Council approval as long as site plans are consistent with the Village Plan. Commercial designs are meant to be cohesive and consistent across the community, and approval is required by the WDRC.

One commercial ERU is equal to approximately 2,165 non-residential square feet. Actual square footage to be determined at final design. There are no maximum ERUs.

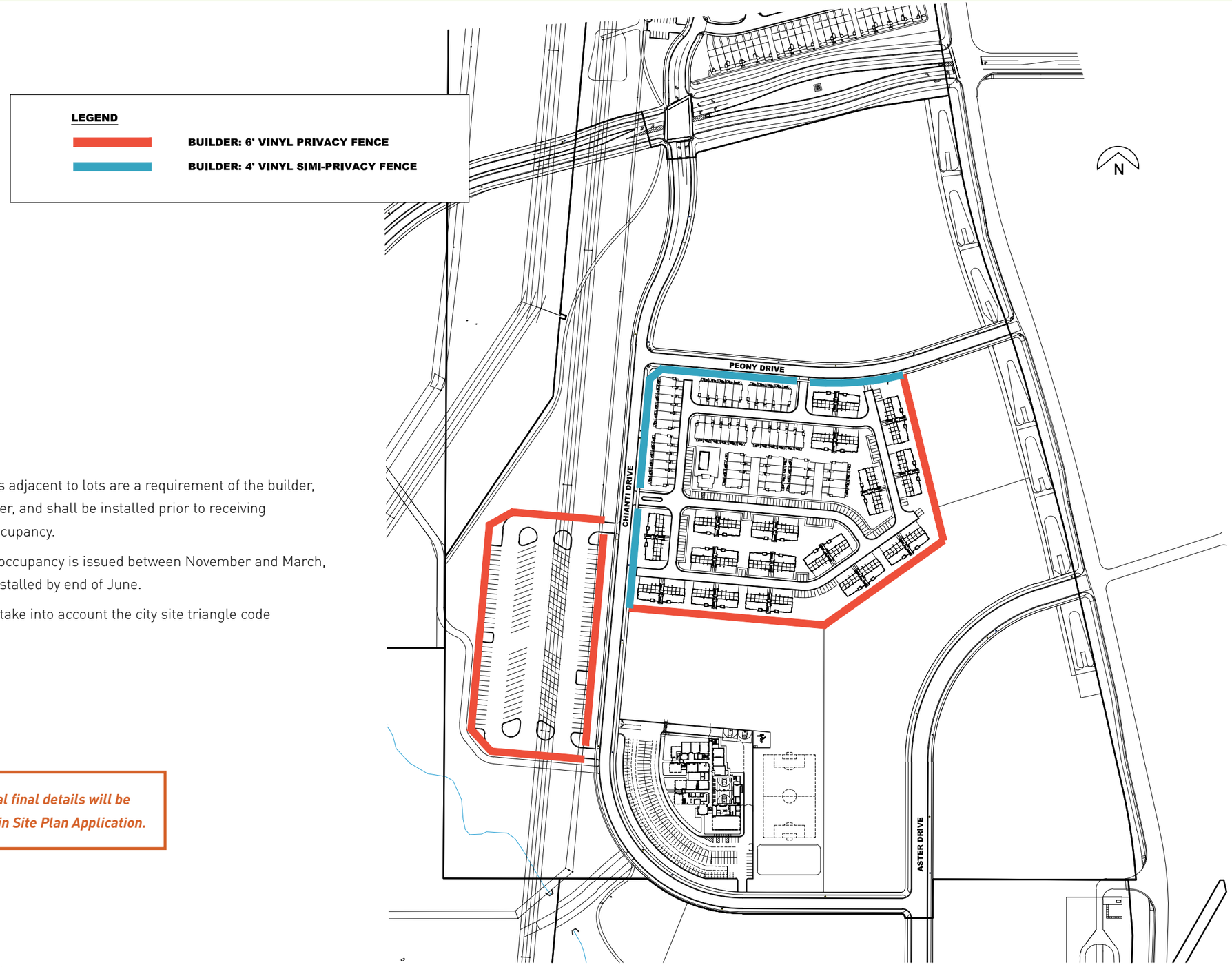
Master Homeowners Associations

In accordance with City Code ***Section 19.26.03,2,d of the Planned Community Zone*** ordinance, a Master Homeowners Association (HOA) has been established to review, approve, and enforce architectural requirements and restrictions, as well as address common area maintenance obligations as outlined in the Wildflower ARCP. Additional HOAs may be created based on end builder preferences. Master Homeowners Association will still be in affect over all parts of Wildflower. All sub HOAs shall be obligated to follow all Master Homeowners Association and WDRC regulations.

Wildflower Design Review Committee (WDRC)

All builders are required to submit exterior elevations, materials, colors, and landscaping plans for a Design Review Process by the Wildflower Development Review Committee (WDRC). The WDRC must review and approve all residential site plans and building permits prior to City submittal as outlined in the Wildflower ARCP.

Fencing Plan Exhibit



Notes

1. Required fences adjacent to lots are a requirement of the builder, not the developer, and shall be installed prior to receiving certificate of occupancy.
2. If certificate of occupancy is issued between November and March, fencing to be installed by end of June.
3. All fencing will take into account the city site triangle code requirements.

Conceptual final details will be determined in Site Plan Application.

05 Phasing & Maintenance Plan

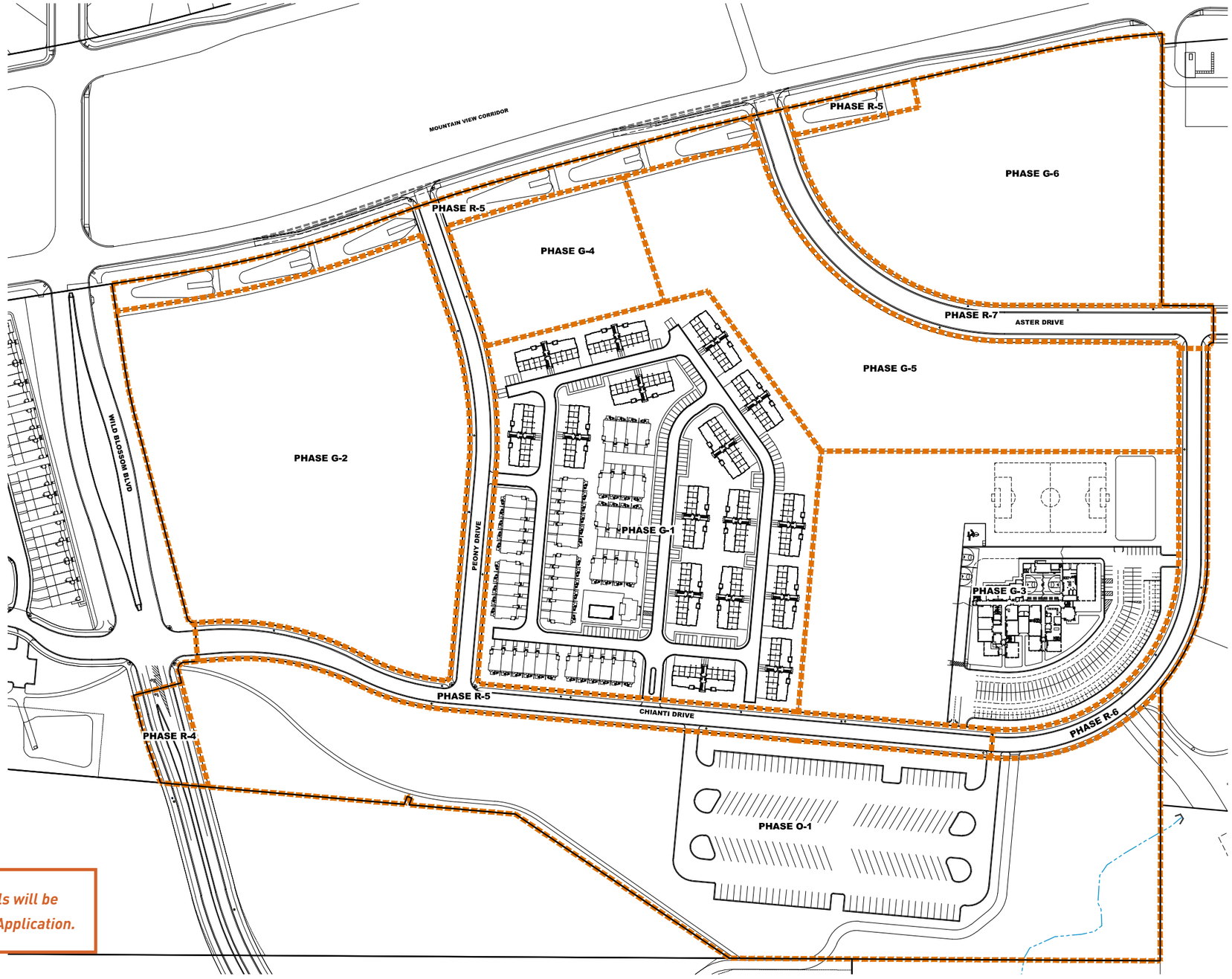
Maintenance

Maintenance for all common open space areas within Wildflower Village Plan 2, including park strips, private parks, and developed and natural open space, will be provided by the Master Homeowners Association (HOA) and/or Sub Homeowners Associations as described in the Wildflower ARCP.

Phasing

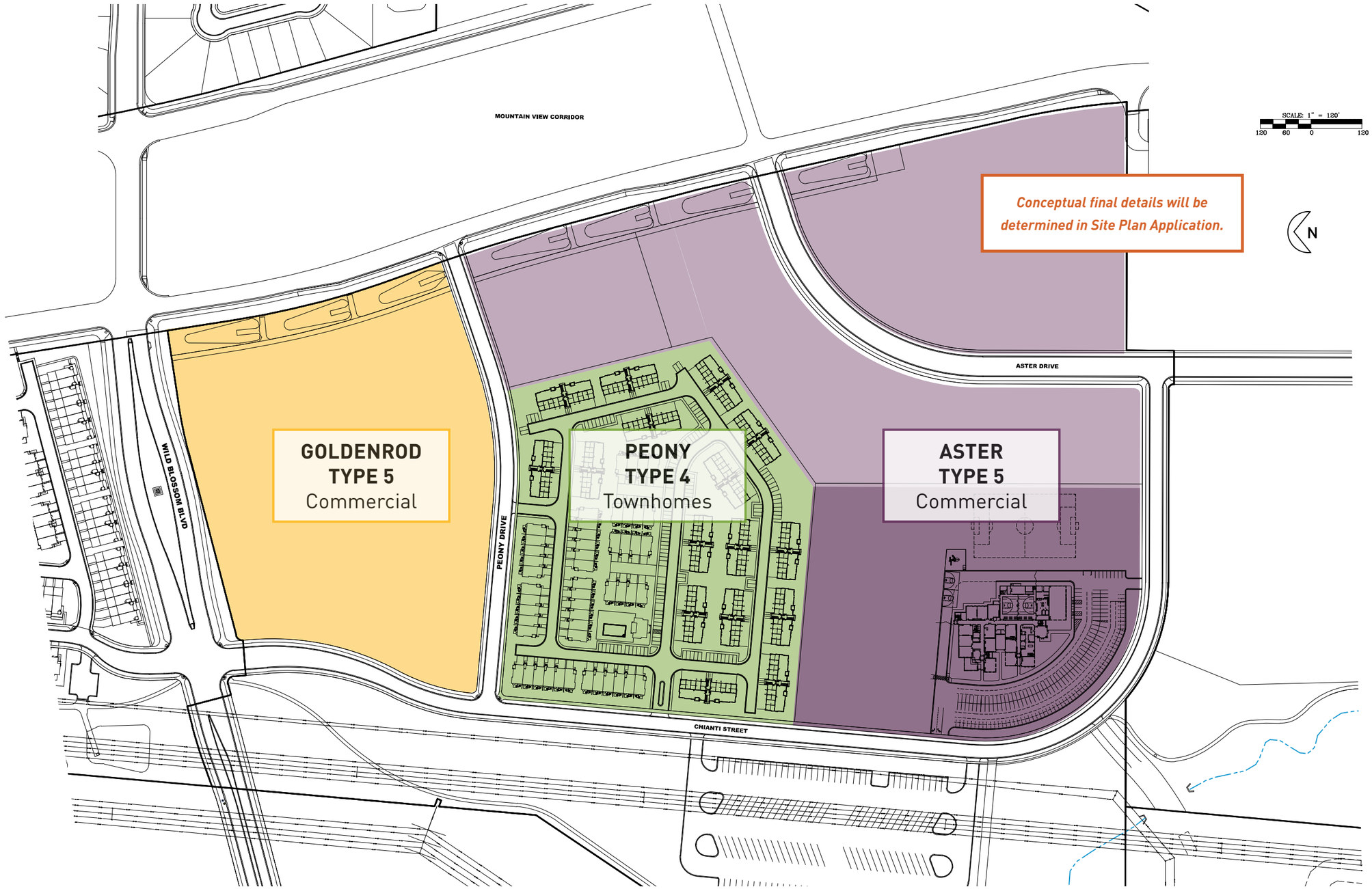
Wildflower Village Plan Area 2 may be developed in 5 or 6 phases. The Type 4 pad is currently slated to be sold and developed by a separate homebuilder. Wildflower Developers LLC will process the Site Plan submittal, but will allow the homebuilder to independently seek plat approvals and building permits. The homebuilder is required to adhere to all Wildflower ARCP and Village Plan requirements. In addition to the Type 4 area, there are potentially three Type 5 areas. The Type 5 areas will be developed as directed in the Wildflower ARCP and according to City Code.

Phasing Plan Exhibit

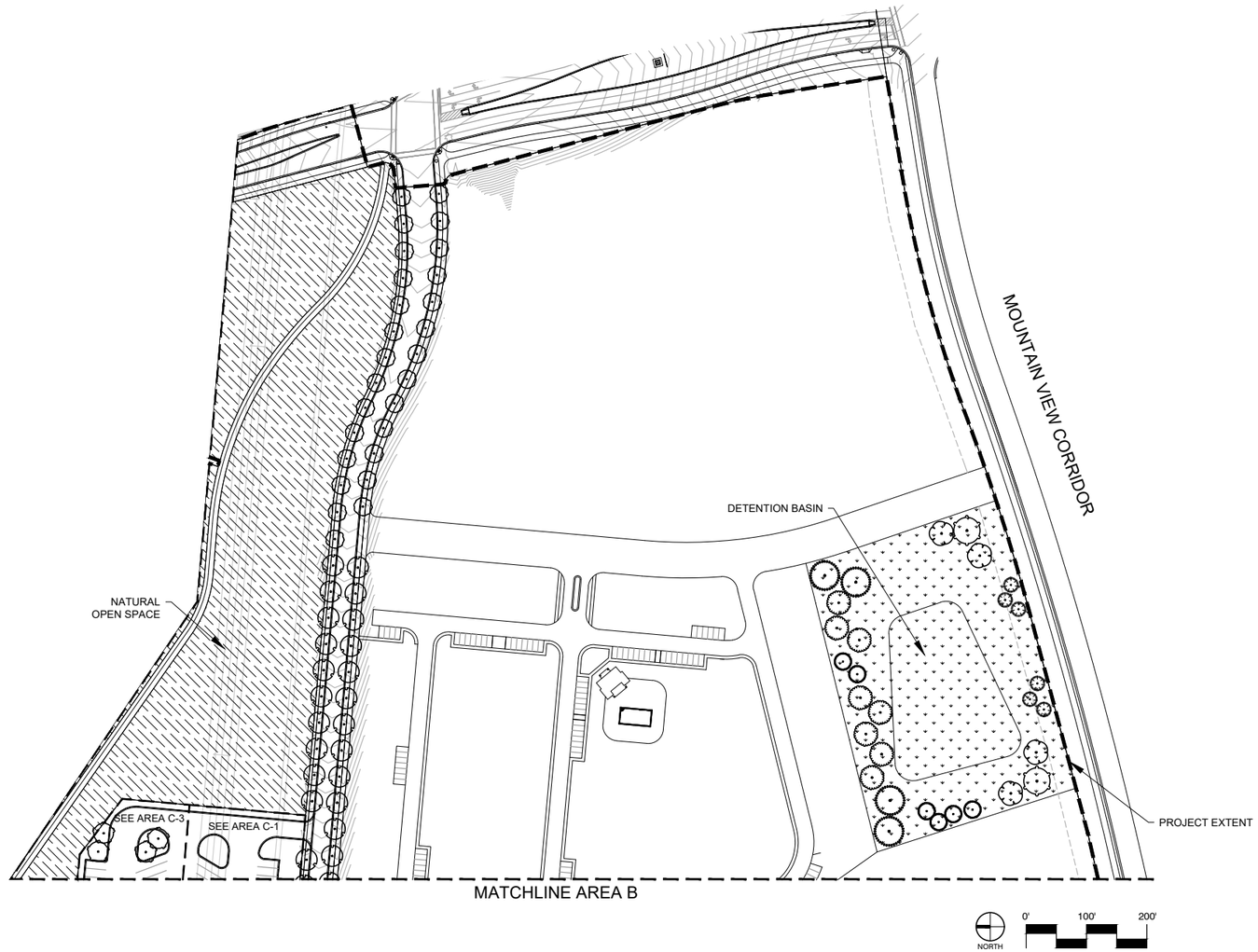


Note: Phases may be built out of order and boundary lines may change. Phases that depend on future improvements are not allowed.

Conceptual final details will be determined in Site Plan Application.


MOUNTAIN VIEW CORRIDOR
SCALE: 1" = 120'
120 60 0 120
Conceptual final details will be determined in Site Plan Application.
N
GOLDENROD
TYPE 5
Commercial
PEONY
TYPE 4
Townhomes
ASTER
TYPE 5
Commercial
WILD BLOSSOM BLVD
PEONY DRIVE
ASTER DRIVE
CHIANTI STREET

Landscape Concept Plan Exhibit - Area A



Concept Plan Schedule

TREES	BOTANICAL NAME	COMMON NAME	QTY
	Celtis occidentalis	Common Hackberry	49
	Ginkgo biloba `Shangri La`	Shangri La Ginkgo	27
	Gleditsia triacanthos inermis `Harve`	Northern Acclaim Honeylocust	50
	Juglans nigra	Black Walnut	4
	Pinus ponderosa	Ponderosa Pine	6
	Pinus sylvestris	Scotch Pine	6
	Quercus bicolor	Swamp White Oak	4
	Quercus velutina	Black Oak	2
	Tilia cordata `Greenspire`	Greenspire Littleleaf Linden	48
	Ulmus americana `JFS-Prince II`	Colonial Spirit American Elm	8
	Zelkova serrata `Wireless`	Sawleaf Zelkova	9

LAWN BLEND — 30,070 sf
Lolium perenne / Perennial Ryegrass
Poa pratensis / Kentucky Bluegrass

NATURAL OPEN SPACE — 1,614,673 sf
REPAIR AND/OR REVEGETATE AS REQUIRED WITH PLANTINGS SIMILAR TO EXISTING FOOTHILL PLANT COMMUNITY.

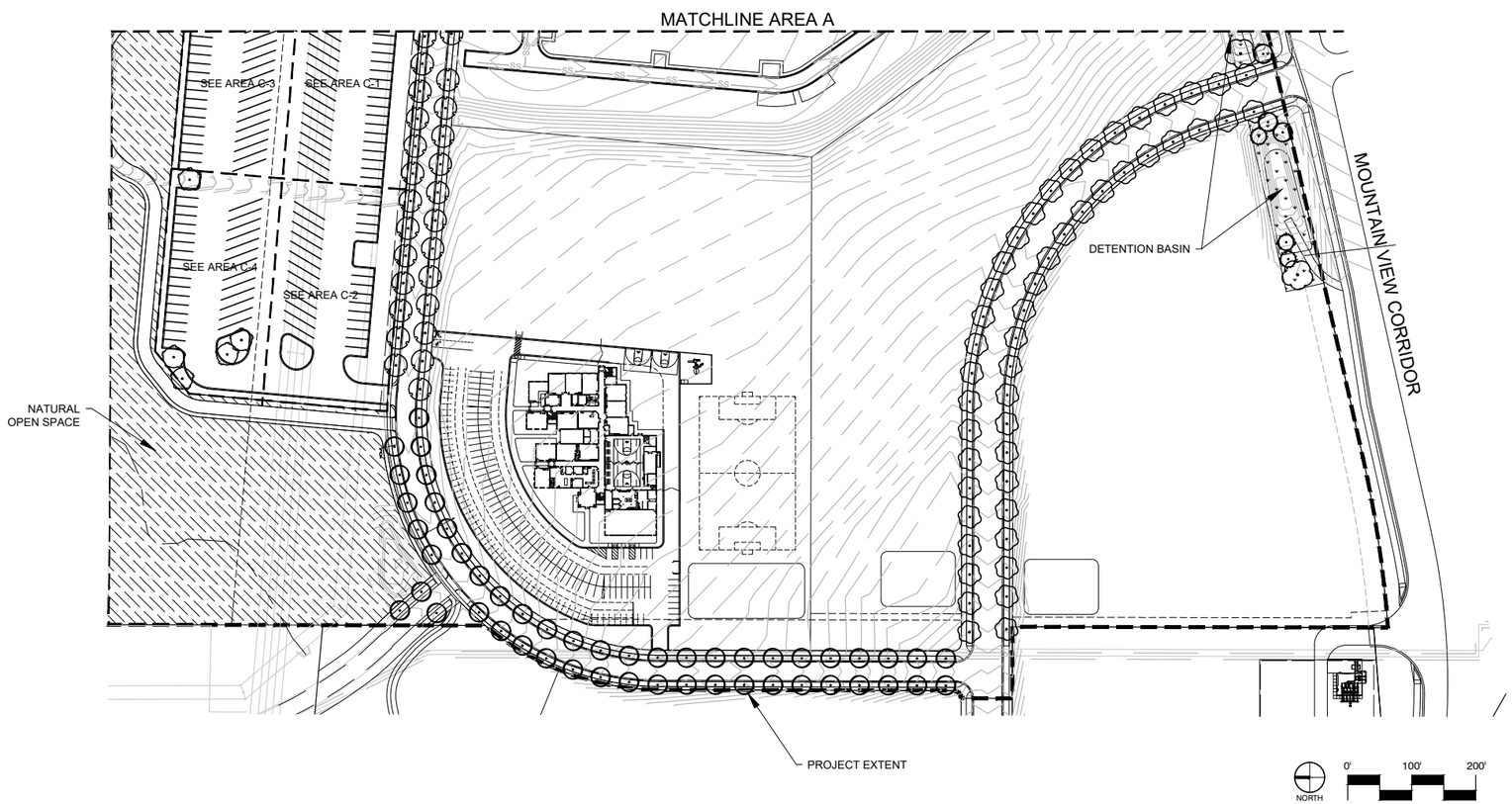
NOTES:
1. QUANTITIES SHOWN ARE FOR ENTIRE VILLAGE 2 PLAN.
2. LANDSCAPE PLANS ARE CONCEPTUAL AND EXACT SPECIES SELECTED AT TIME OF PLAT MAY VARY FROM THIS PLAN AS DETAILED DESIGN CONSIDERATIONS ARE MADE. PLANTS WILL GENERALLY BE SELECTED FROM THE CITY'S RECOMMENDED TREE & PLANT PALETTE, THOUGH OTHER APPROPRIATE SPECIES WILL ALSO BE INCLUDED BASED UPON PROFESSIONAL KNOWLEDGE AND EXPERIENCE. THE FINAL LANDSCAPE PLANS WILL BE REVIEWED WITH THE PRELIMINARY PLAT AND SHALL COMPLY WITH SECTION 19.06 OF THE SARATOGA SPRINGS MUNICIPAL CODE.
3. STREET TREE SPACING WILL TYPICALLY BE 45' O.C., BUT MAY VARY DEPENDING ON SPECIFIC SPECIES USED. STREET TREE SPACING WILL ALSO BE ADJUSTED FOR DRIVEWAYS, SITE TRIANGLES, AND OTHER SITE CONDITIONS AND REQUIREMENTS.

Conceptual final details will be determined in Site Plan Application.

DATA SHEET FOR ENTIRE VILLAGE PLAN AREA

Plant Type	Total Qty	Total SF	Percent of Landscape
Trees	213	N/A	N/A
Shrub/Grass/Perennial Mix in Rock Mulch	638	50,656	19%
Turf		221,544	81%
Total Developed/Irrigated Landscape		272,200	100%
Drought Tolerant Species	21 total species (11 trees, 10 shrub/perennial)		
	80% of these are drought tolerant (either low or moderate water use)		
Natural Open Space Restoration		464,384	

Landscape Concept Plan Exhibit - Area B



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	Ginkgo biloba `Shangri La`	Shangri La Ginkgo	27
	Gleditsia triacanthos inermis `Harve`	Northern Acclaim Honeylocust	64
	Juglans nigra	Black Walnut	2
	Pinus nigra	Austrian Black Pine	7
	Quercus macrocarpa	Burr Oak	8
	Tilia cordata `Greenspire`	Greenspire Littleleaf Linden	48
	Zelkova serrata `Wireless`	Sawleaf Zelkova	9

LAWN BLEND
Lolium perenne / Perennial Ryegrass
Poa pratensis / Kentucky Bluegrass

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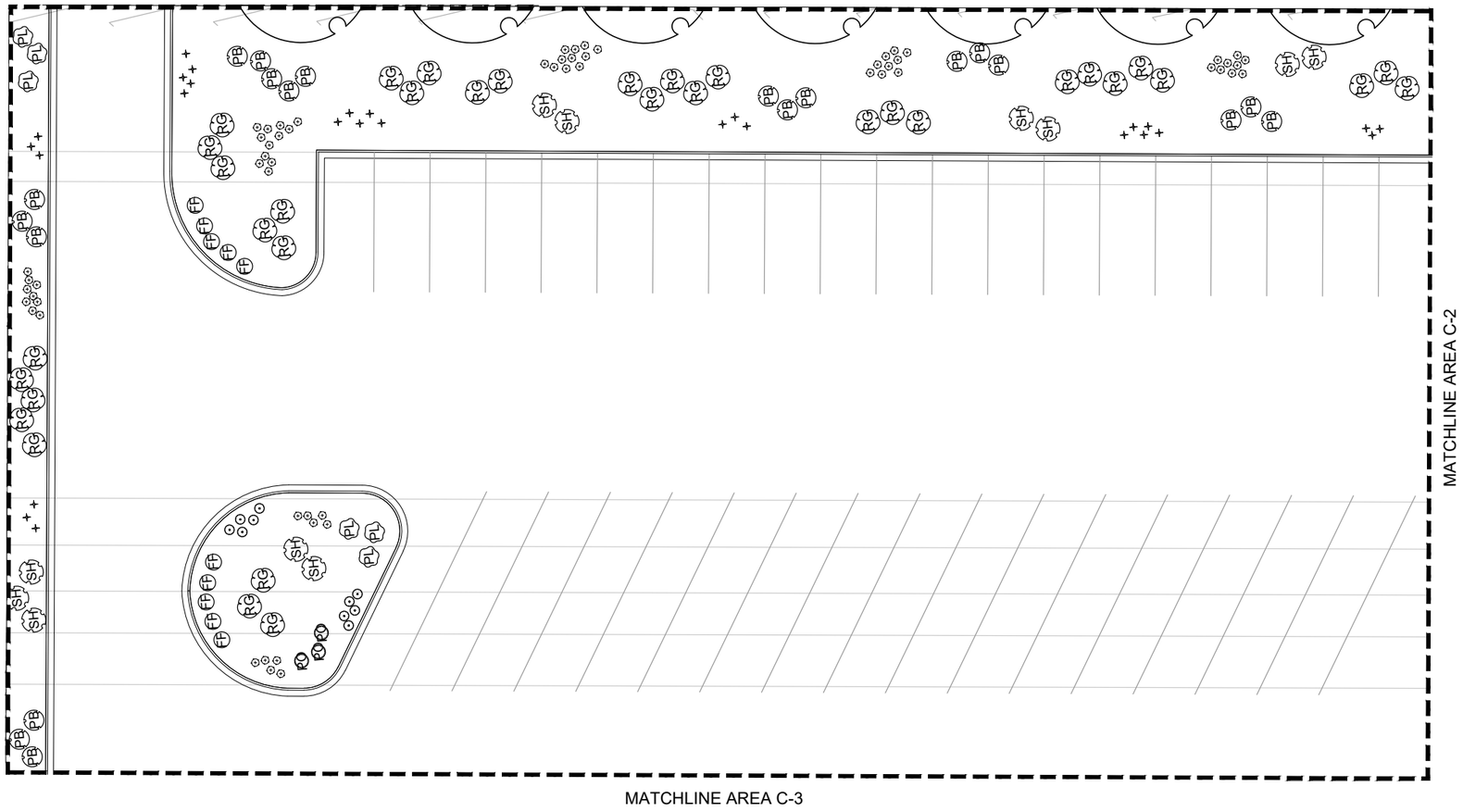
Conceptual final details will be determined in Site Plan Application.

Landscape Concept Plan Exhibit - Area C1



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	Pinus ponderosa	Ponderosa Pine	6
	Pinus sylvestris	Scotch Pine	6
	Quercus bicolor	Swamp White Oak	4
	Quercus velutina	Black Oak	2
	Tilia cordata `Greenspire`	Greenspire Littleleaf Linden	48
	Ulmus americana `JFS-Prince II`	Colonial Spirit American Elm	8
	Zelkova serrata `Wireless`	Sawleaf Zelkova	9
SHRUBS	**BOTANICAL NAME**	**COMMON NAME**	**QTY**
FF	Forsythia x `Fiesta`	Fiesta Forsythia	40
PL	Philadelphus lewisii	Wild Mockorange	24
PO	Physocarpus opulifolius `Little Devil`	Little Devil Ninebark	17
PB	Prunus besseyi `Pawnee Buttes`	Sand Cherry	62
RG	Rhus aromatica `Gro-Low`	Gro-Low Fragrant Sumac	131
SH	Shepherdia argentea	Silver Buffaloberry	31
GRASSES	**BOTANICAL NAME**	**COMMON NAME**	**QTY**
	Calamagrostis x acutiflora `Overdam`	Overdam Feather Reed Grass	194
PERENNIALS	**BOTANICAL NAME**	**COMMON NAME**	**QTY**
	Agastache cana `Sonoran Sunset`	Sonoran Sunset Hyssop	77
	Gaura lindheimeri `Sparkle White`	Sparkle White Gaura	33
	Rudbeckia fulgida `Goldsturm`	Black-eyed Susan	29

LAWN BLEND
Lolium perenne / Perennial Ryegrass
Poa pratensis / Kentucky Bluegrass

NATURAL OPEN SPACE
REPAIR AND/OR REVEGETATE AS REQUIRED WITH PLANTINGS SIMILAR TO EXISTING FOOTHILL PLANT COMMUNITY.

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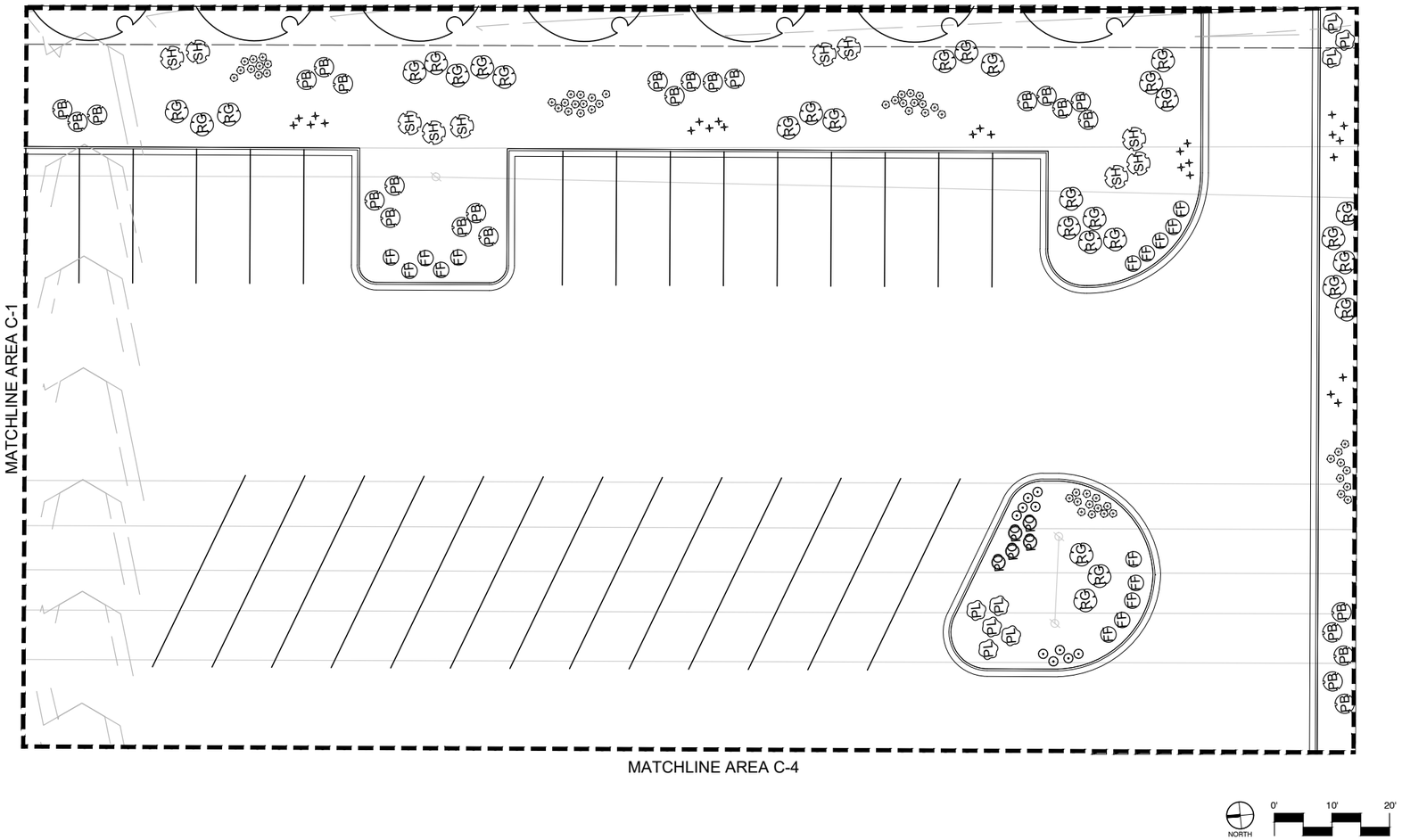
3. STREET TREE SPACING WILL TYPICALLY BE 45' O.C., BUT MAY VARY DEPENDING ON SPECIFIC SPECIES USED. STREET TREE SPACING WILL ALSO BE ADJUSTED FOR DRIVEWAYS, SITE TRIANGLES, AND OTHER SITE CONDITIONS AND REQUIREMENTS.
4. GROUNDCOVER BETWEEN SHRUBS IN PLANTING AREAS TO BE BARK MULCH.

Conceptual final details will be determined in Site Plan Application.

Landscape Concept Plan Exhibit - Area C2



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SHRUBS	BOTANICAL NAME	COMMON NAME	QTY
FF	Forsythia x `Fiesta`	Fiesta Forsythia	40
PL	Philadelphus lewisii	Wild Mockorange	24
PO	Physocarpus opulifolius `Little Devil`	Little Devil Ninebark	17
PB	Prunus besseyi `Pawnee Buttes`	Sand Cherry	62
RG	Rhus aromatica `Gro-Low`	Gro-Low Fragrant Sumac	131
SH	Shepherdia argentea	Silver Buffaloberry	31

GRASSES	BOTANICAL NAME	COMMON NAME	QTY
	Calamagrostis x acutiflora `Overdam`	Overdam Feather Reed Grass	194

PERENNIALS	BOTANICAL NAME	COMMON NAME	QTY
	Agastache cana `Sonoran Sunset`	Sonoran Sunset Hyssop	77
	Gaura lindheimeri `Sparkle White`	Sparkle White Gaura	33
	Rudbeckia fulgida `Goldsturm`	Black-eyed Susan	29

LAWN BLEND
Lolium perenne / Perennial Ryegrass
Poa pratensis / Kentucky Bluegrass

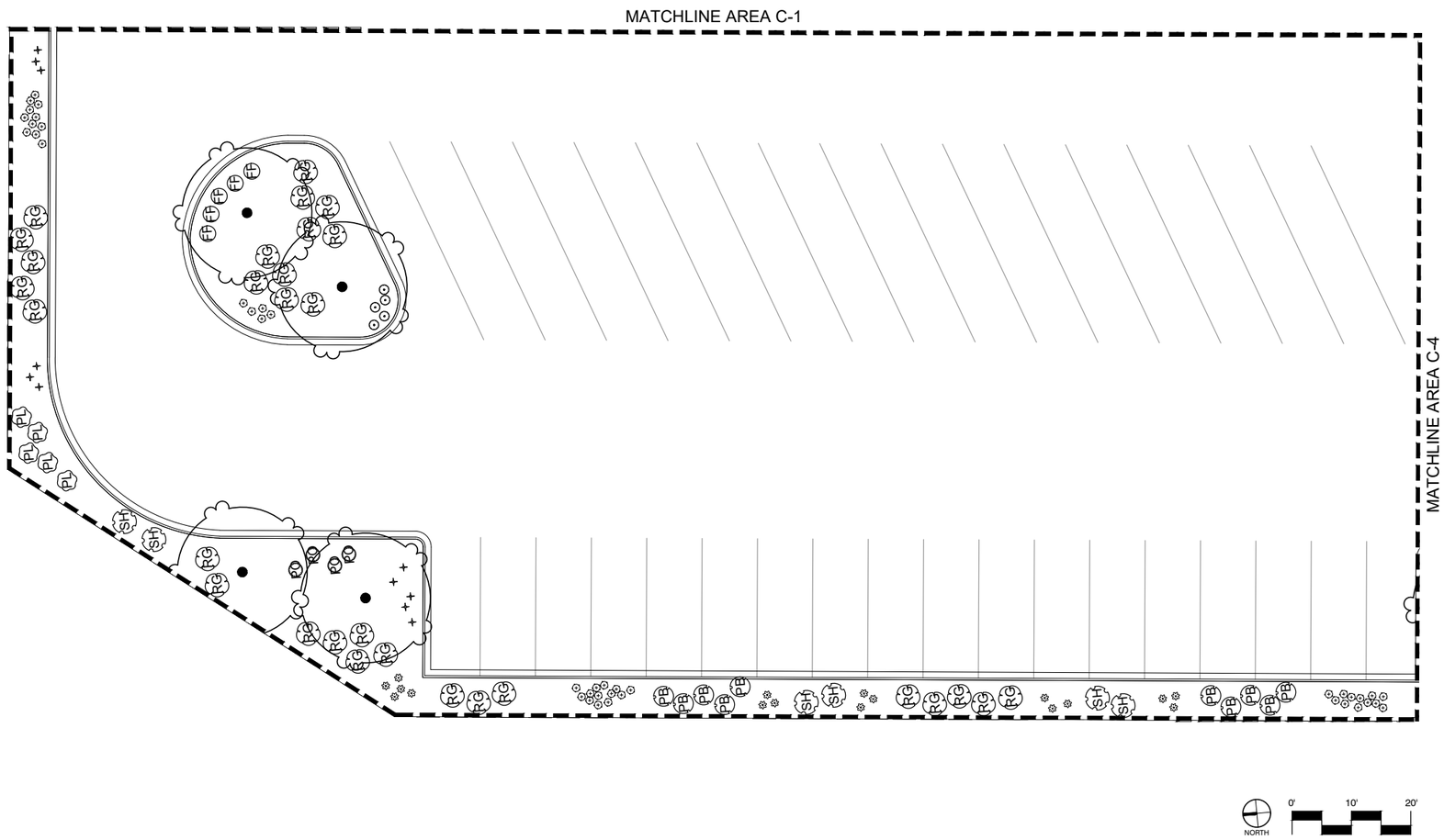
NATURAL OPEN SPACE
REPAIR AND/OR REVEGETATE AS REQUIRED WITH PLANTINGS SIMILAR TO EXISTING FOOTHILL PLANT COMMUNITY.

NOTES:

1. QUANTITIES SHOWN ARE FOR ENTIRE VILLAGE 2 PLAN.
2. LANDSCAPE PLANS ARE CONCEPTUAL AND EXACT SPECIES SELECTED AT TIME OF PLAT MAY VARY FROM THIS PLAN AS DETAILED DESIGN CONSIDERATIONS ARE MADE. PLANTS WILL GENERALLY BE SELECTED FROM THE CITY'S RECOMMENDED TREE & PLANT PALETTE, THOUGH OTHER APPROPRIATE SPECIES WILL ALSO BE INCLUDED BASED UPON PROFESSIONAL KNOWLEDGE AND EXPERIENCE. THE FINAL LANDSCAPE PLANS WILL BE REVIEWED WITH THE PRELIMINARY PLAT AND SHALL COMPLY WITH SECTION 19.06 OF THE SARATOGA SPRINGS MUNICIPAL CODE.
3. STREET TREE SPACING WILL TYPICALLY BE 45' O.C., BUT MAY VARY DEPENDING ON SPECIFIC SPECIES USED. STREET TREE SPACING WILL ALSO BE ADJUSTED FOR DRIVEWAYS, SITE TRIANGLES, AND OTHER SITE CONDITIONS AND REQUIREMENTS.
4. GROUNDCOVER BETWEEN SHRUBS IN PLANTING AREAS TO BE BARK MULCH.

Conceptual final details will be determined in Site Plan Application.

Landscape Concept Plan Exhibit - Area C3



Concept Plan Schedule

TREES	BOTANICAL NAME	COMMON NAME	QTY
	Celtis occidentalis	Common Hackberry	49
	Ginkgo biloba `Shangri La`	Shangri La Ginkgo	27
	Gleditsia triacanthos inermis `Harve`	Northern Acclaim Honeylocust	50
	Juglans nigra	Black Walnut	4
	Pinus ponderosa	Ponderosa Pine	6
	Pinus sylvestris	Scotch Pine	6
	Quercus bicolor	Swamp White Oak	4
	Quercus velutina	Black Oak	2
	Tilia cordata `Greenspire`	Greenspire Littleleaf Linden	48
	Ulmus americana `JFS-Prince II`	Colonial Spirit American Elm	8
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Poa pratensis / Kentucky Bluegrass

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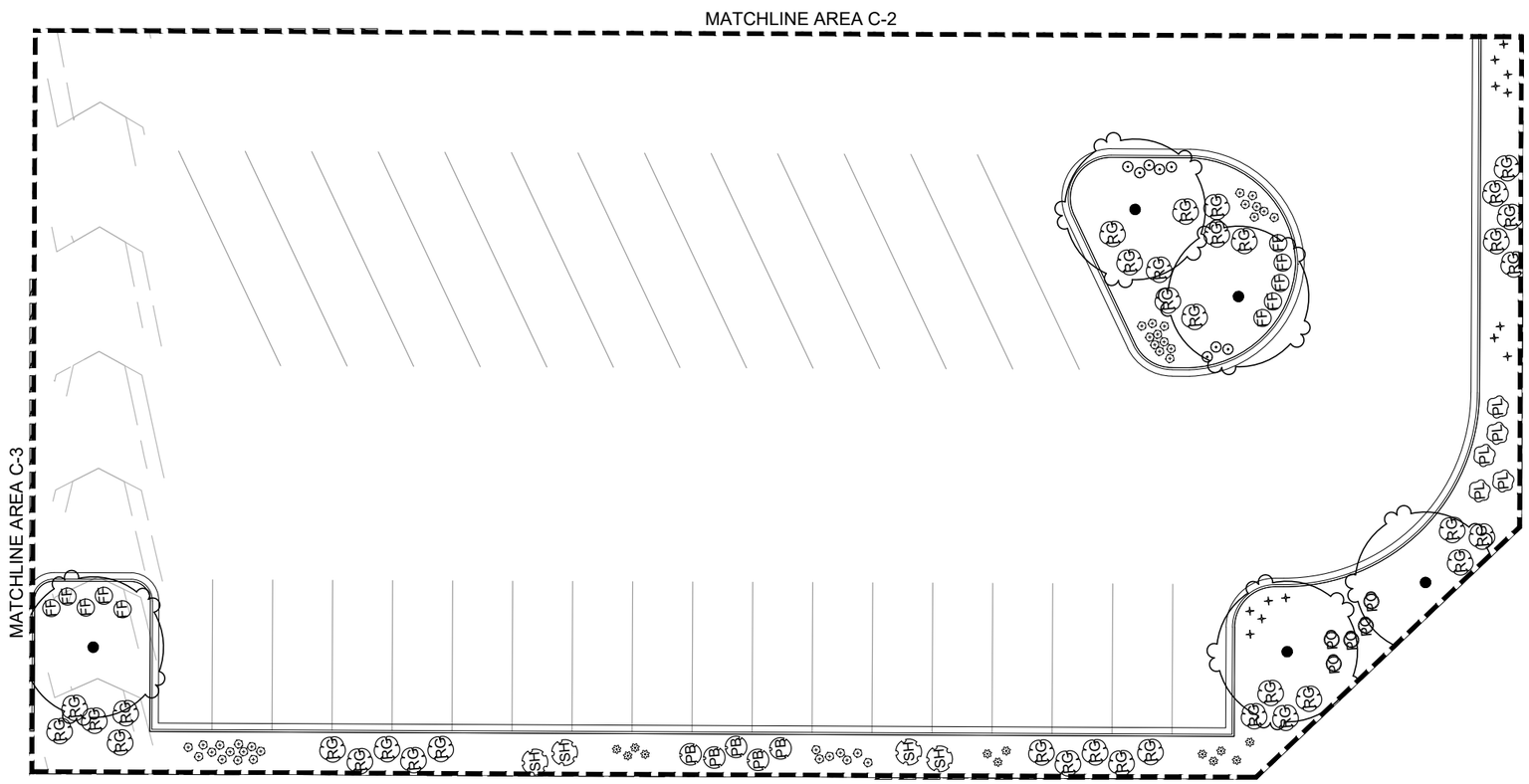
4. GROUNDCOVER BETWEEN SHRUBS IN PLANTING AREAS TO BE BARK MULCH.

Conceptual final details will be determined in Site Plan Application.

Landscape Concept Plan Exhibit - Area C4



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NATURAL OPEN SPACE
REPAIR AND/OR REVEGETATE AS REQUIRED WITH PLANTINGS SIMILAR TO EXISTING FOOTHILL PLANT COMMUNITY.

NORTH 0' 10' 20'

NOTES:
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4. GROUNDCOVER BETWEEN SHRUBS IN PLANTING AREAS TO BE BARK MULCH.

Conceptual final details will be determined in Site Plan Application.

Plant Use Detail Exhibit

TREES

Shangri La Ginkgo

Northern Acclaim Honeylocust

Greenspire Linden

Common Hackberry

Swamp White Oak

Black Oak

Black Walnut

Colonial Spirit Elm

Wireless Zelkova

Ponderosa Pine

Scotch Pine

Sterling Silver Linden

SHRUBS, GRASS, AND PERENNIAL MIX

Fiesta Forsythia

Wild Mockorange

Little Devil Ninebark

Sand Cherry

Silver Buffaloberry

Grow-Low Sumac

Overdam Reed Grass

Sonoran Sunset Hyssop

Sparkle White Gaura

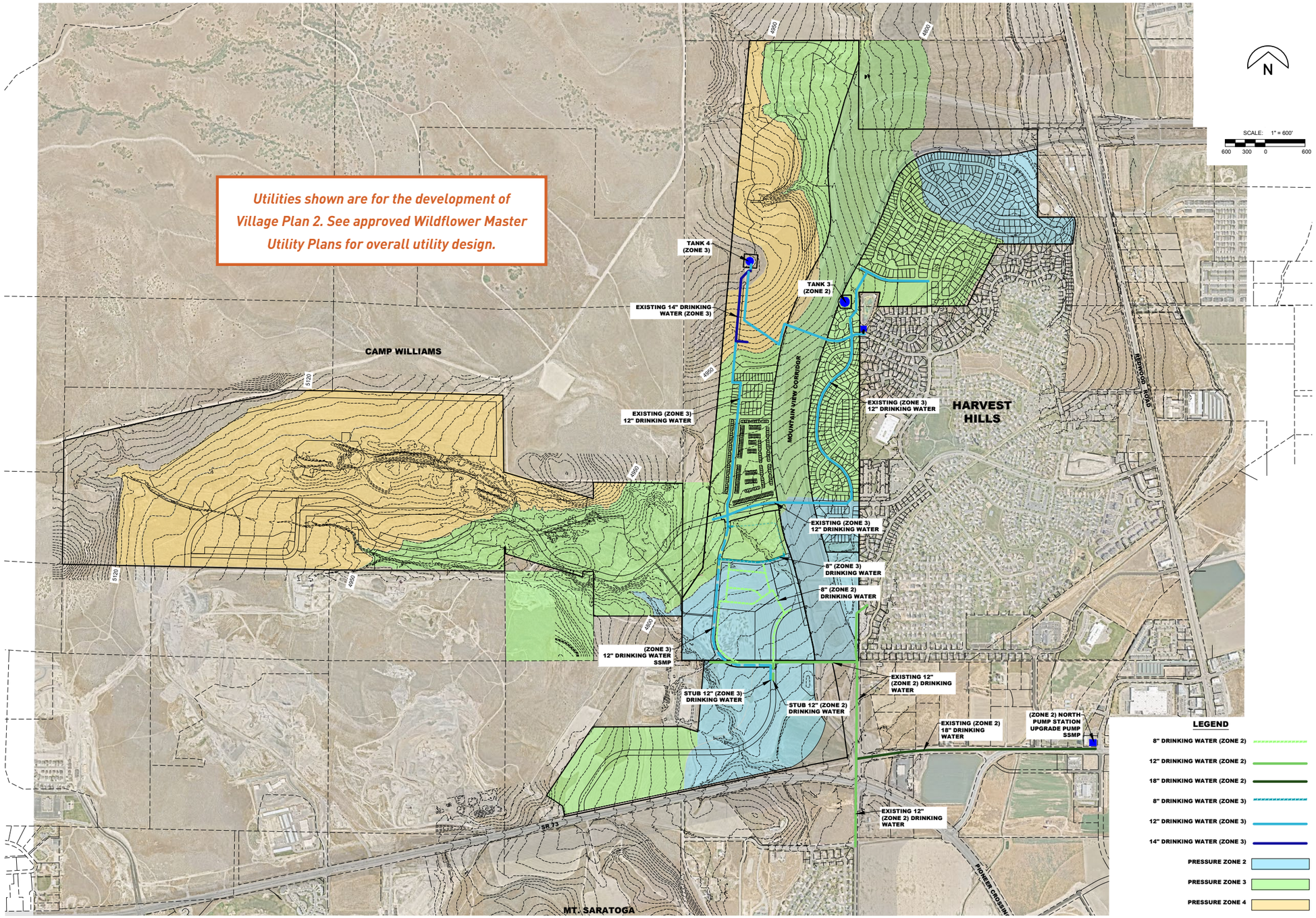
Black-eyed Susan

08 Utility Plans

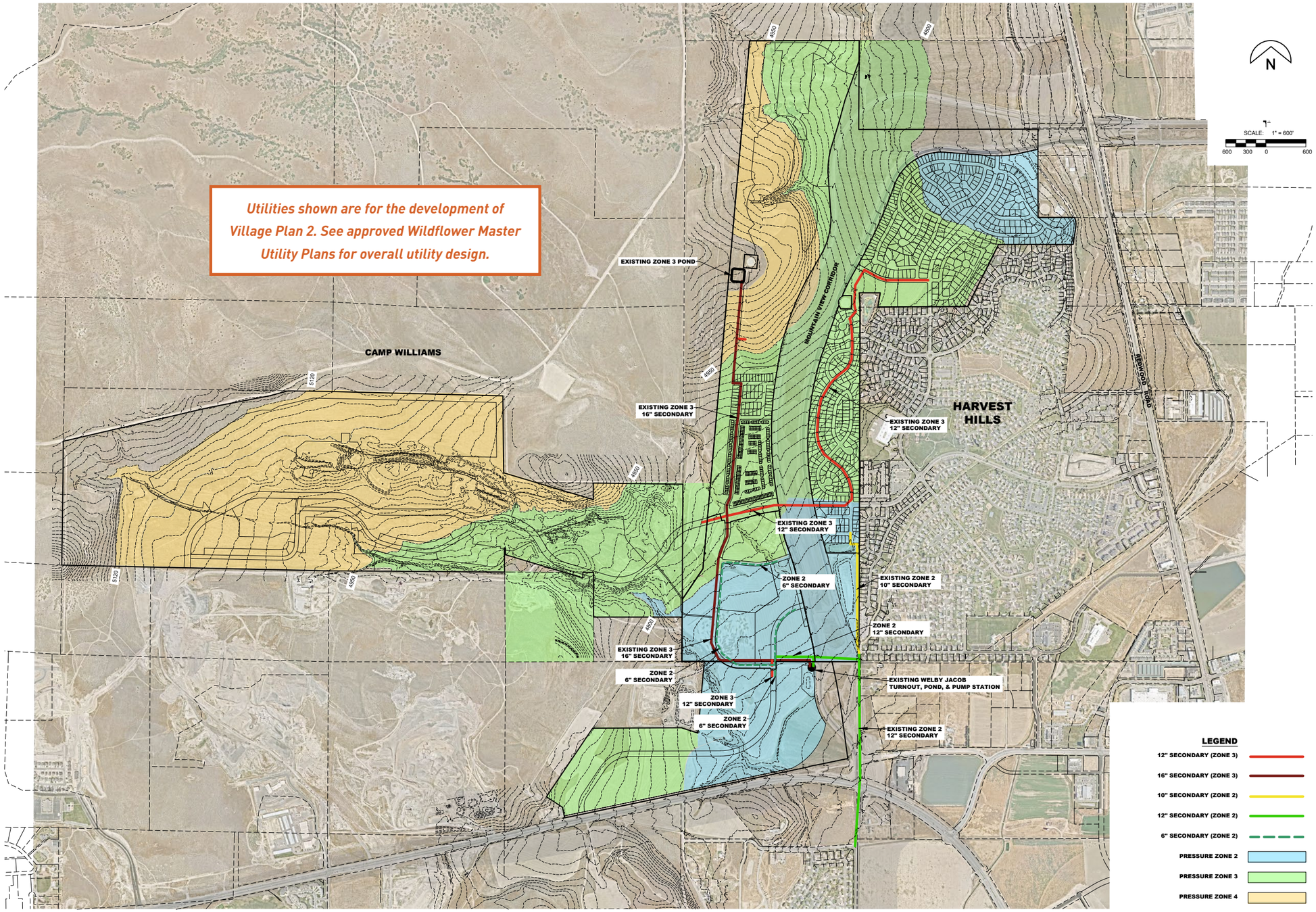
The following utility plan diagrams provide master utilities that will serve Wildflower Village Plan Area 2.

- Culinary Water Plan
- Secondary Water Plan
- Sewer Plan
- Storm Drain

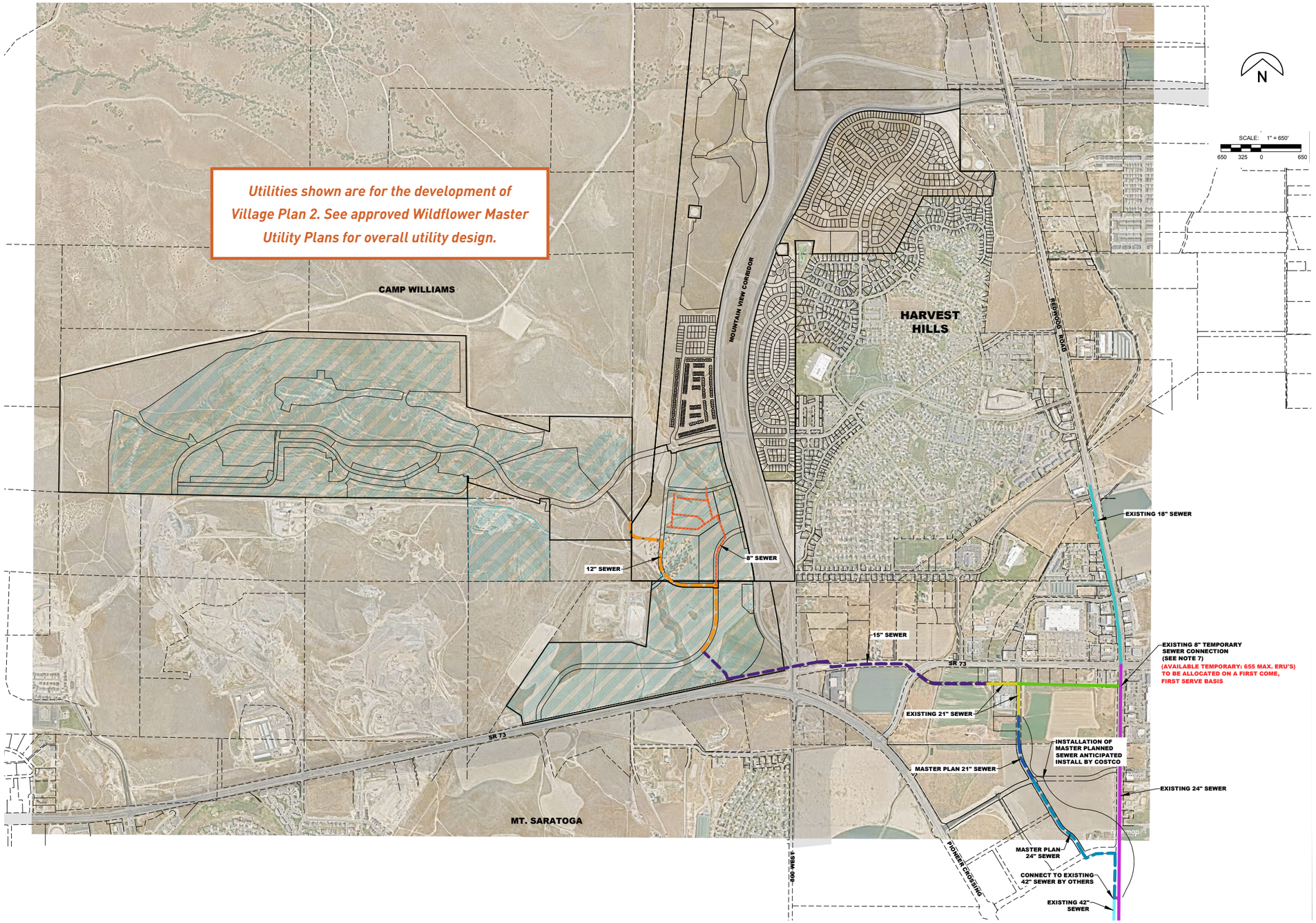
Culinary Water Plan Exhibit



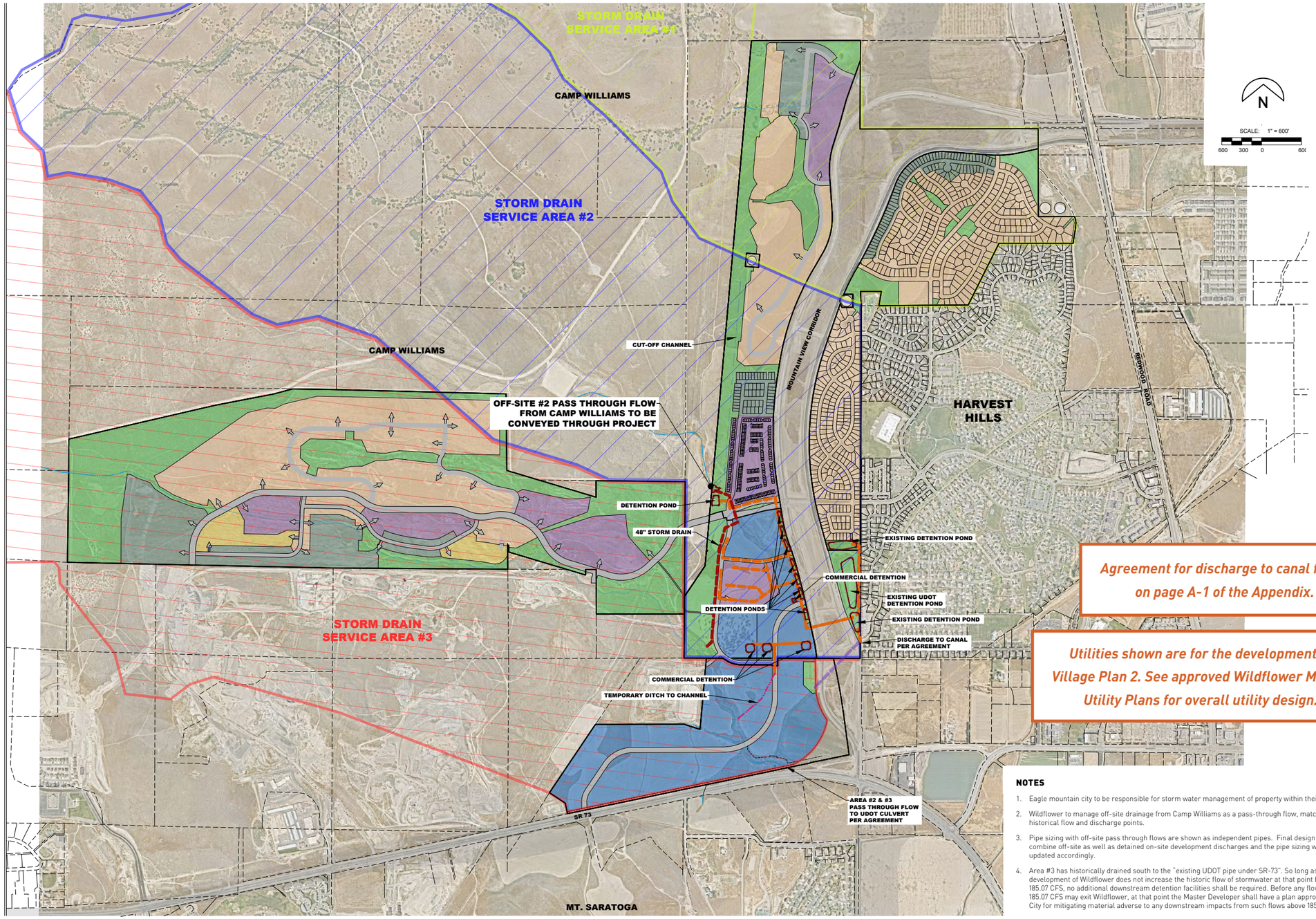
Secondary Water Plan Exhibit



Sewer Plan Exhibit



Storm Drain Exhibit



Agreement for discharge to canal found on page A-1 of the Appendix.

Utilities shown are for the development of Village Plan 2. See approved Wildflower Master Utility Plans for overall utility design.

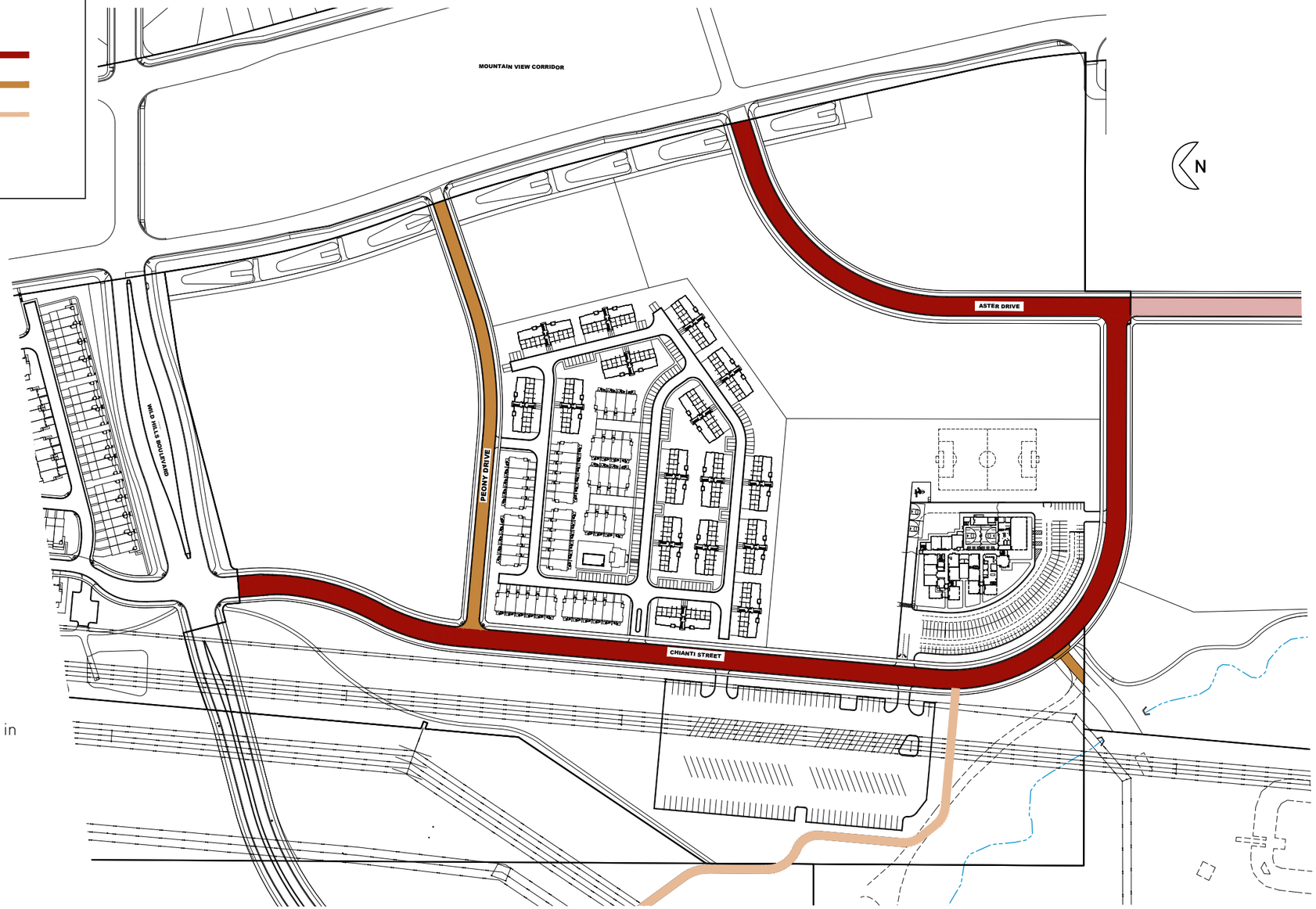
NOTES

1. Eagle mountain city to be responsible for storm water management of property within their boundary.
2. Wildflower to manage off-site drainage from Camp Williams as a pass-through flow, matching historical flow and discharge points.
3. Pipe sizing with off-site pass through flows are shown as independent pipes. Final design may combine off-site as well as detained on-site development discharges and the pipe sizing will be updated accordingly.
4. Area #3 has historically drained south to the "existing UDOT pipe under SR-73". So long as the development of Wildflower does not increase the historic flow of stormwater at that point beyond 185.07 CFS, no additional downstream detention facilities shall be required. Before any flow beyond 185.07 CFS may exit Wildflower, at that point the Master Developer shall have a plan approved by the City for mitigating material adverse to any downstream impacts from such flows above 185.07 CFS.

Vehicular Plan Exhibit

TRANSPORTATION LEGEND

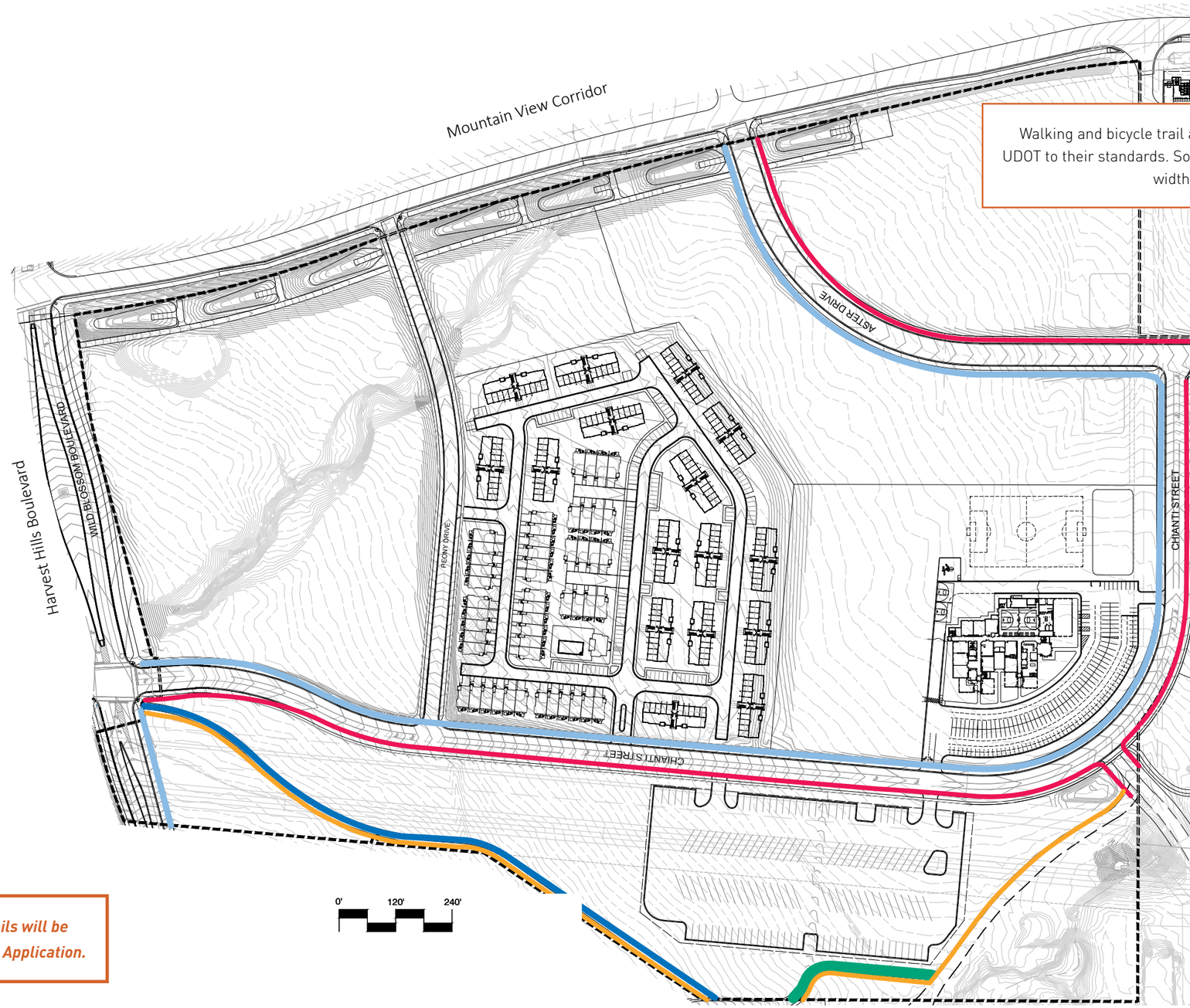
- 80' ROW - 77' COLLECTOR W/ ADDITIONAL TRAIL
- 66' or 59' LOCAL ROAD
- 20' EMERGENCY ACCESS ROAD



Note: Roadway cross-sections are detailed in the Wildflower ARCP.

Conceptual final details will be determined in Site Plan Application.

10 Pedestrian and Bicycle Plan Exhibit



Walking and bicycle trail along MVC shall be designed and constructed by UDOT to their standards. Some trails may be constructed to a larger pavement width as needed for utility access.

N

- 5' WIDE SIDEWALK
- 8' WIDE SIDEWALK
- 6' WIDE UNPAVED TRAIL
- 8' WIDE PAVED TRAIL
- 20' WIDE PAVED TRAIL

Conceptual final details will be determined in Site Plan Application.

11 Density Transfers

No density transfers are required from the approved Wildflower ARCP. In the event that any density transfers occur, the regulations detailed in the Wildflower ARCP will be followed.

12 Additional Detailed Plans

The following elements have been included to detail plans and direction contained in the Wildflower ARCP for Village Plan Area 2:

- Signage Plan
- Temporary Signage Plan
- Grading Plan
- Open Space Management
- Traffic Study

✱ Optional Secondary Entrance Feature (neighborhood - 1 or 2 sided) 8'8"W x 4'7H

Provided by Builder

Lit with hooded spotlight in compliance with City Code 19.11.05 14d

- OPTIONAL location for builder-funded entrance feature
- Developer will coordinate with subs for production and installation

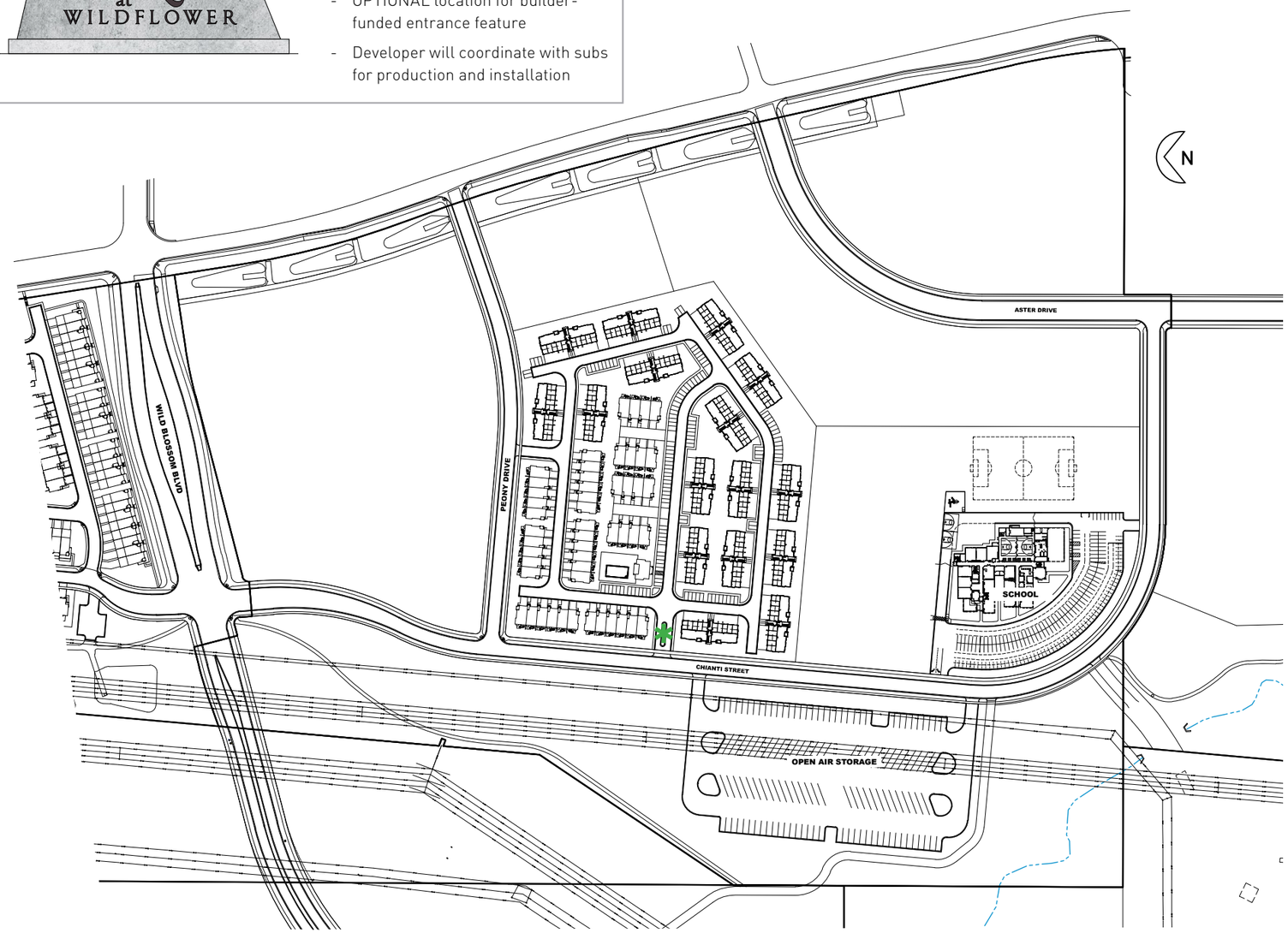
Type 5 and Open Air Storage Signage

1. Design must be approved by the WDRC.
2. Locations for signs not currently shown in Type 5 and Open Air Storage areas are allowed to be located according to City Code.
3. Signage in Type 5 and Open Air Storage areas shall comply with City Commercial Sign Standards with the exception of the following items in Section 19.18.10.6a as pertaining to Type 5 building signs:
   i. Number. Each tenant in a building is permitted one primary building sign, and two secondary signs; buildings or uses that are larger than 50,000 square feet and have more than one primary entrance or buildings adjacent to MVC may have a second primary sign.
   ii. Size, primary signage. The primary building signage shall not exceed a cumulative total size equal to eight percent of the façade on which the sign or signs are mounted, or 30 square feet, whichever is larger; building signage on side of building adjacent to MVC shall not exceed a cumulative total size equal to 19 percent of the façade on which the sign or signs are mounted, or 60 square feet, whichever is larger.

Notes

1. Locations shown represent the approximate vicinity of signs. Locations will be refined at plat stage. All entrance features will be placed in common areas or signage easements.
2. These features shall not conflict with traffic control signaling or traffic control devices.
3. Sight triangle will be adhered to according to the standards set by the American Association of State Highway and Transportation Officials (AASHTO).

Conceptual final details will be determined in Site Plan Application.



Temporary Signage Plan Exhibit

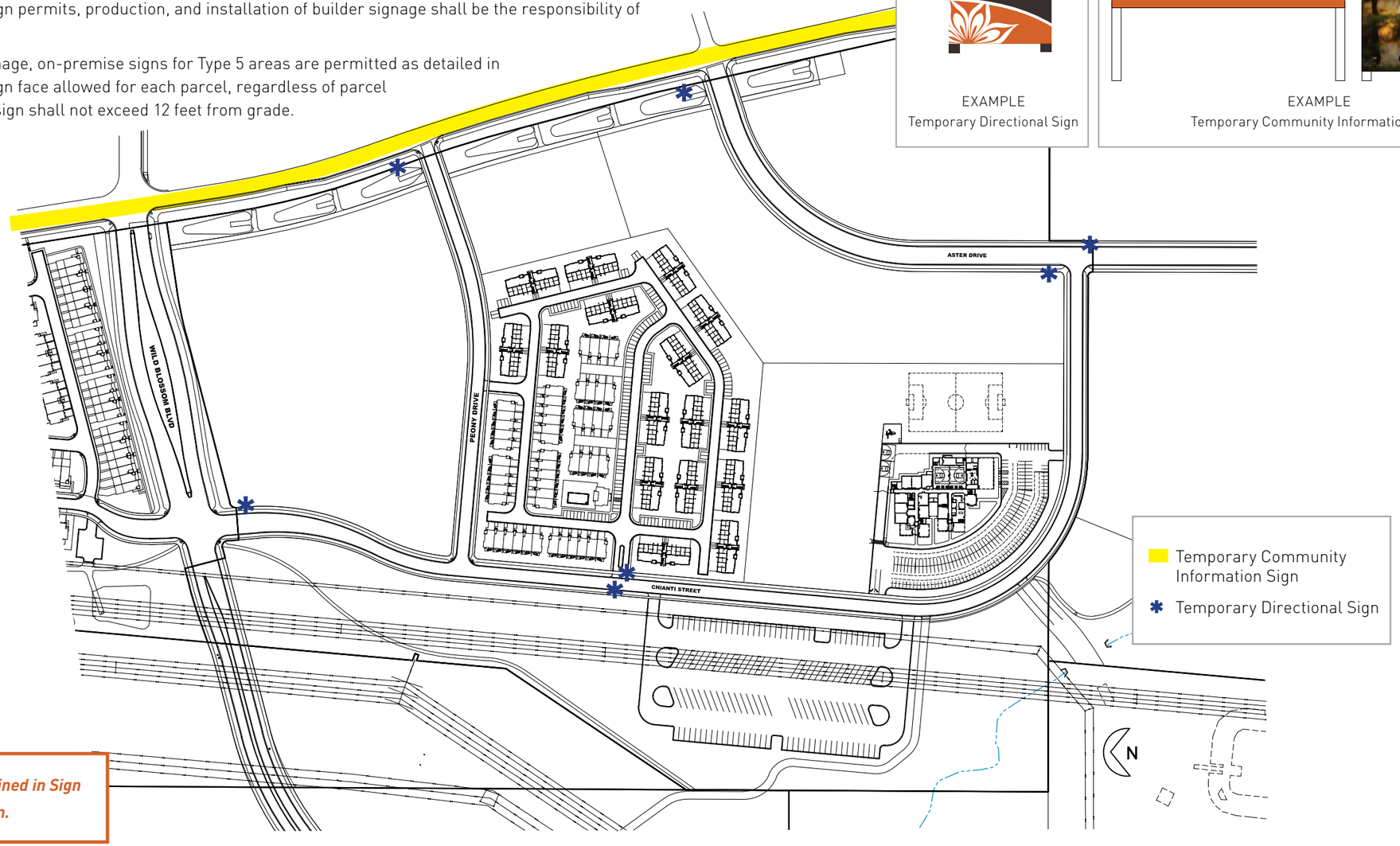
More temporary signage shall be permitted than would otherwise be permitted for active developments according to City Code. Temporary directional signage (✱) may be installed where indicated, as needed to direct traffic to builder model home(s). Also, the areas highlighted in yellow (▬) along MVC may require additional branded temporary community information signs during active development. The design and message may vary, but the purpose is to provide information about the Wildflower community. Sign faces shall not exceed 96 sf and height of sign will not exceed 12 feet from grade. Temporary community information signage shall be at least 200 feet from any other temporary sign.

Builder-branded, model home signage located on the model property or general yard area where the model is located may not exceed a total of 32 sf per model. Sign permits, production, and installation of builder signage shall be the responsibility of builder.

In addition to Wildflower temporary signage, on-premise signs for Type 5 areas are permitted as detailed in Section 19.18.08. However, the size of sign face allowed for each parcel, regardless of parcel size, may be up to 200 sf. The height of sign shall not exceed 12 feet from grade.

EXAMPLE
Temporary Directional Sign

EXAMPLE
Temporary Community Information Signs

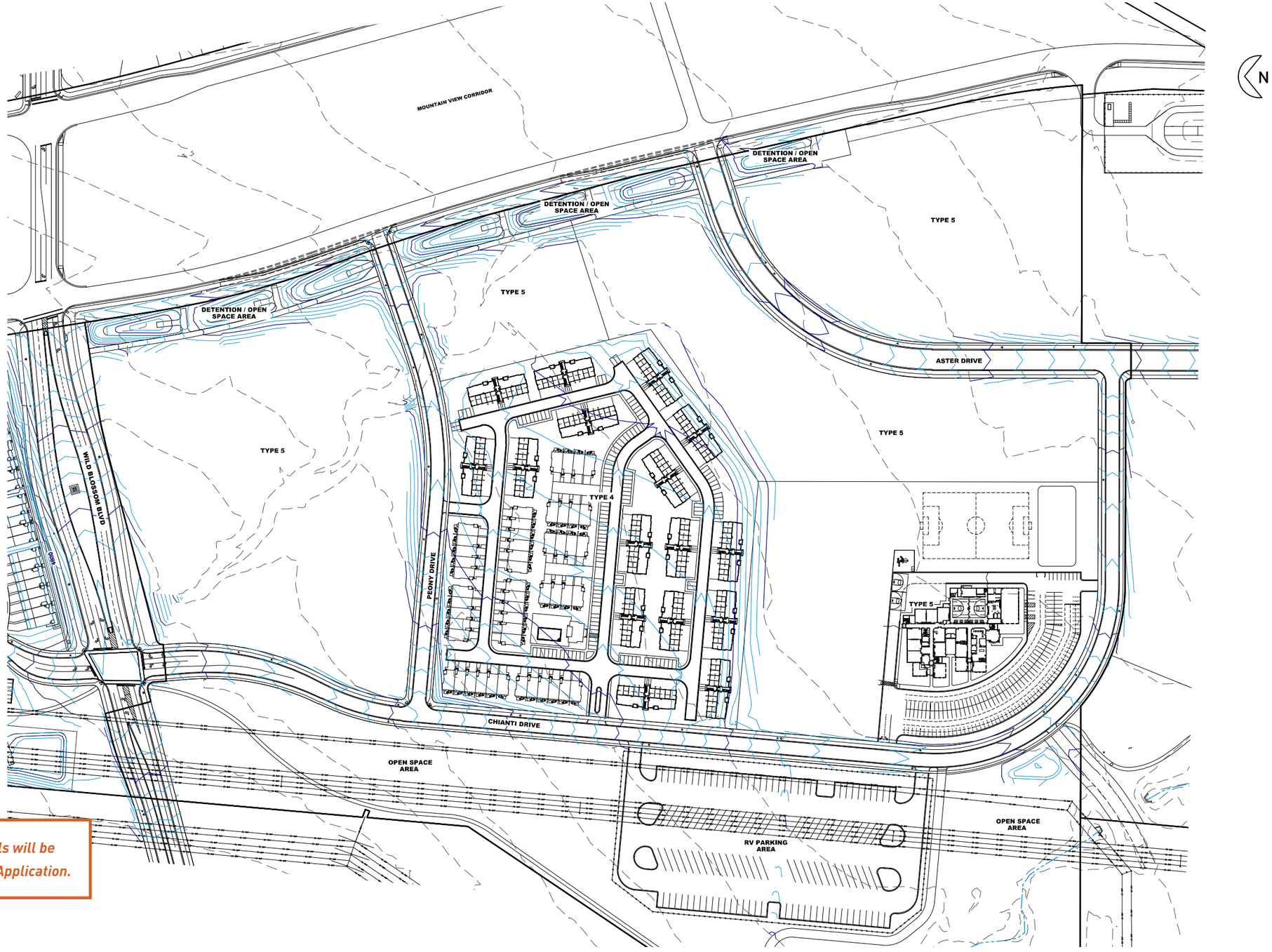


Notes

1. Locations shown represent the approximate vicinity of signs. All signs will be a minimum of 3' back from any sidewalk and their height/length from property line. Locations will be detailed at sign permit application.
2. Signs shall not conflict with traffic control signaling or traffic control devices.
3. Sight triangle will be adhered to according to the standards set by the American Association of State Highway and Transportation Officials (AASHTO).
4. Temporary signs will be installed on builder-owned lots or open space, not on privately owned lots.

Final details will be determined in Sign Permit Application.

Conceptual Grading Plan Exhibit



Conceptual final details will be determined in Site Plan Application.

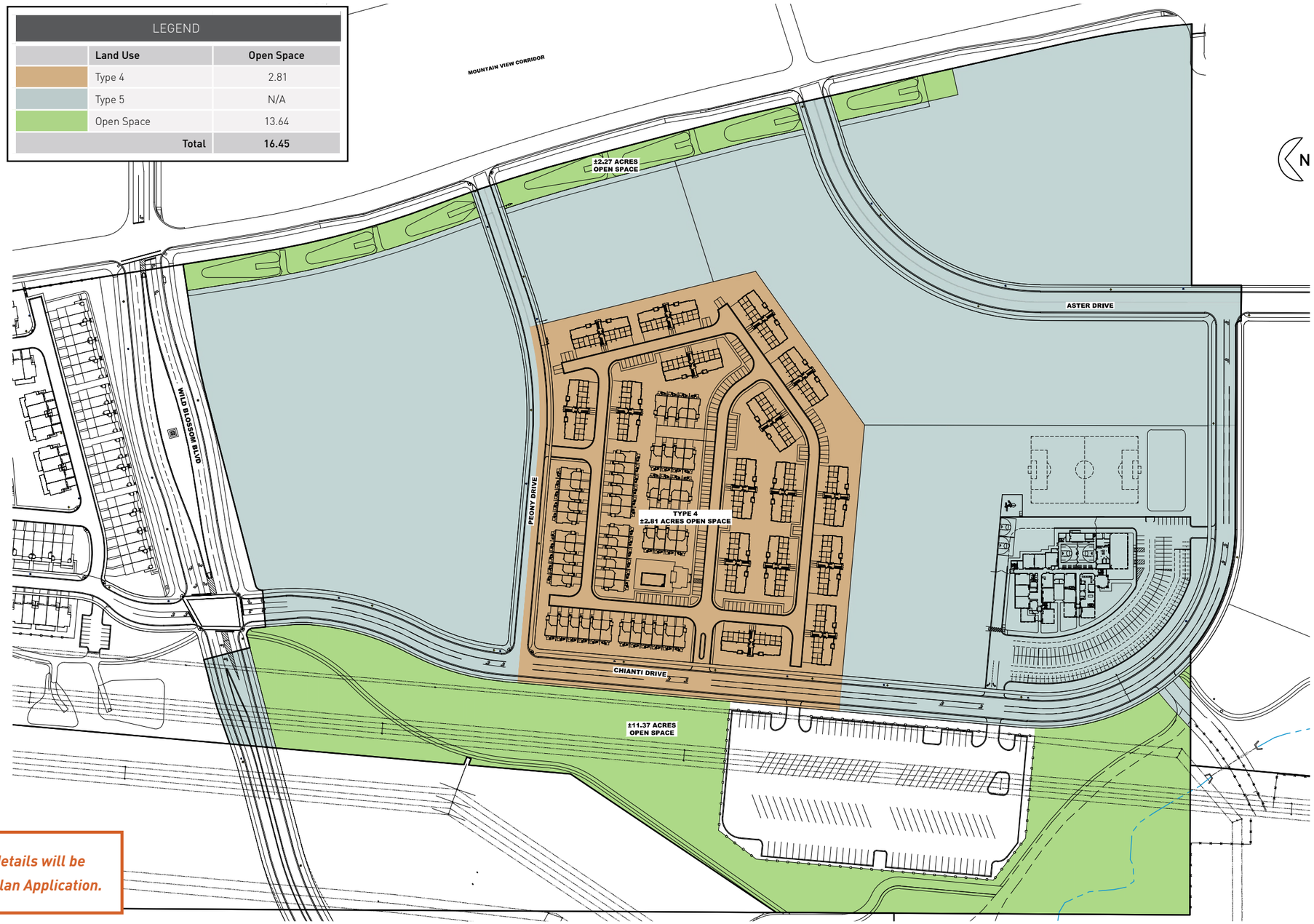
Open Space Management Plan

The total acreage within Village Plan 2 is approximately 80.89 total acres with approximately 33.29 acres of net residential area. Of the 33.29 acres, 16.71 acres of open space will be provided. The total open space percentage for Village Plan 2 is 50.2%. 13.9 acres will be general use open space and 2.81 acres of open space will be in the townhome area. The total open space in Type 4 is 19.9% of the total acreage.

Type 5 open space will be provided in line with the Wildflower ARCP and city code. The amount, location, and design details will be determined at Site Plan and Plat application stages.

Open Space Tabulation Exhibit

LEGEND		
	Land Use	**Open Space**
	Type 4	2.81
	Type 5	N/A
	Open Space	13.64
	Total	**16.45**



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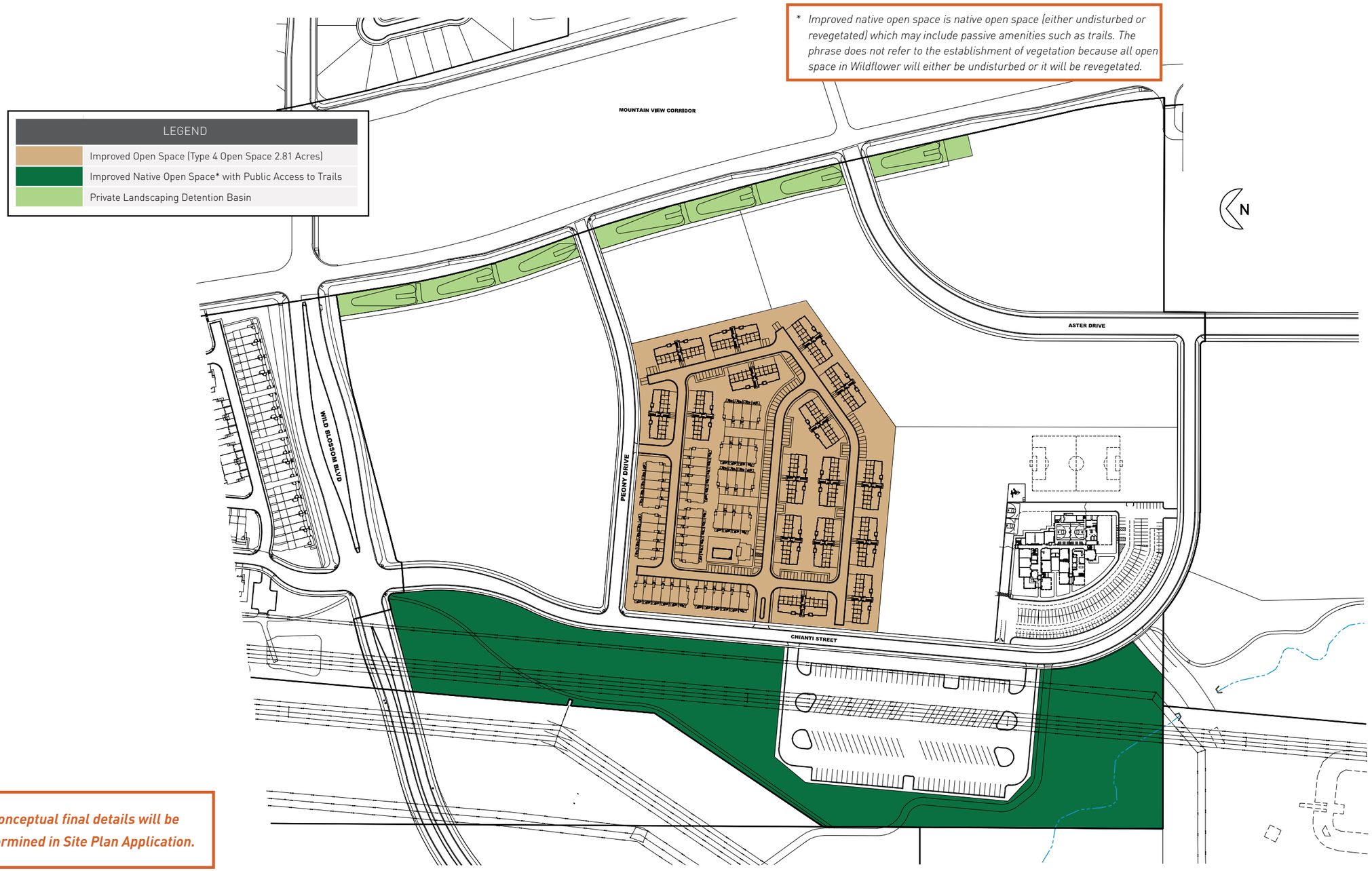
Open Space Management Exhibit



* *Improved native open space is native open space (either undisturbed or revegetated) which may include passive amenities such as trails. The phrase does not refer to the establishment of vegetation because all open space in Wildflower will either be undisturbed or it will be revegetated.*

Conceptual final details will be determined in Site Plan Application.

LEGEND

EXISTING GRAVEL ROAD

EXISTING DRAINAGE CHANNEL

SLOPES

THERE ARE NO SIGNIFICANT AREA OF SLOPE GREATER THAN 30% (FOR PURPOSE OF DETERMINING SENSITIVE LANDS AREA, INCIDENTAL & ISOLATED AREA OVER 30% HAVE NOT BEEN INCLUDED.)

SOILS

A GEOTECHNICAL INVESTIGATION HAS BEEN CONDUCTED BY INFINITY CONSULTANTS, DATED JANUARY 17, 2014. EXCERPTS FROM THE INVESTIGATION INCLUDE:

- THE SUBSURFACE SOILS ENCOUNTERED AT THE SITE CONSIST OF PRIMARILY OF SANDY CLAYS (CL) AND SILTY CLAYS (CL-ML), SILTY SANDS (SM) AND CLAYEY SANDS (SC) WERE FOUND INTERSPERSED WITH CLAYEY SOILS ON THE RIDGE AND IN ITS NEAR VICINITY. COBBLES AND BOULDERS ARE FREQUENTLY FOUND IN THE NEAR SURFACE SOILS AND TOPSOIL. LAYERS OF GRAVEL ARE FREQUENTLY FOUND IN THE SUBSURFACE SOILS.
- NO SUBSURFACE WATER WAS ENCOUNTERED TO THE MAXIMUM DEPTH INVESTIGATED, APPROXIMATELY 16 FEET IN THE TEST PITS AND 50 FEET IN THE BORINGS ALONG THE NORTHERN RIDGE LINES.
- IT IS OUR OPINION THAT THE SITE IS SUITABLE FOR THE PROPOSED CONSTRUCTION. THE BUILDINGS SUPPORTED ON SHALLOW SPREAD FOOTINGS BEARING ON THE UNDISTURBED NATURAL SILT OR CLAY SOILS SHOULD BE DESIGNED FOR A NET ALLOWABLE PRESSURE OF 1,250 POUNDS PER SQUARE FOOT. SHALLOW FOOTINGS BEARING ON NATURAL UNDISTURBED WELL GRADED SANDS, GRAVELS OR AT LEAST 1 FOOT OF COMPACTED STRUCTURAL FILL MAY BE DESIGNED FOR A NET ALLOWABLE BEARING PRESSURE OF 1,500 PSF. BASEMENT FOOTINGS THAT ARE EMBEDDED A MINIMUM OF 6 FEET DEEP FROM THE NATIVE GROUND SURFACE AND ARE BEARING ON THE UNDISTURBED NATURAL SILT OR CLAYS MAY BE DESIGNED FOR A NET ALLOWABLE PRESSURE OF 1,500 PSF. BASEMENT FOOTINGS EMBEDDED MORE THAN 6 FEET AND BEARING ON UNDISTURBED NATURAL WELL GRADED SANDS OR GRAVELS MAY BE DESIGNED FOR A NET ALLOWABLE PRESSURE OF 1,800 PSF.
- AT THE TIME OF THE SITE INVESTIGATION WAS CONDUCTED, VEGETATION AT THE SITE CONSISTED PRIMARILY OF SAGE BRUSH, WITH FARMED AND FALLOW FIELDS, NATIVE GRASSES AND WEEDS WERE PRESENT AROUND THE PERIMETER OF THE FIELDS.
- BASED ON THE INFORMATION COLLECTED DURING OUR FIELD INVESTIGATION AND SUBSEQUENT LABORATORY TESTING, WE ANTICIPATE THAT COLLAPSE-SUSCEPTIBLE SOILS WILL NOT BE ENCOUNTERED DURING CONSTRUCTION.
- NO ACTIVE FAULTS ARE MAPPED TO EXTEND THROUGH OR NEAR THE PROPERTY. THE CLOSEST MAPPED FAULT TO THE SITE LIES BENEATH UTAH LAKE, LOCATED APPROXIMATELY 4.5 MILES TO THE SOUTH. (MACHETTE, 1992).

WETLANDS

NO WETLANDS EXIST ON THIS SITE.

SPECIAL PROTECTION AREAS

A PHASE I ENVIRONMENTAL SITE ASSESSMENT HAS BEEN CONDUCTED FOR THE WILDFLOWER DEVELOPMENT BY INFINITY CONSULTANTS, DATED DECEMBER 12, 2013. THE CONCLUSION OF THIS ASSESSMENT STATES:
"THE SUBJECT PROPERTY CONSISTS OF OPEN, UNUSED LAND WITH NO STRUCTURES. THERE HAS NOT BEEN ANY HISTORIC USE OF THE PROPERTY THAT IS INCONSISTENT WITH ITS CURRENT USE. THERE IS NO EVIDENCE OF CURRENT OR PAST USE, STORAGE, OR PRODUCTION OF HAZARDOUS CHEMICALS OR PETROLEUM PRODUCTS AT ENVIRONMENTALLY SIGNIFICANT LEVELS ON THE SUBJECT PROPERTY.

IN THE OPINION OF INFINITY CONSULTANTS, THIS ASSESSMENT HAS PROVIDED NO EVIDENCE OF "RECOGNIZED ENVIRONMENTAL CONDITIONS," AS DEFINED BY THE ASTM STANDARD, IN CONNECTION WITH THE SUBJECT PROPERTY. THEREFORE, IT CAN BE CONCLUDED THAT NO FURTHER ACTION IS REQUIRED."

THE FULL PHASE I ENVIRONMENT SITE ASSESSMENT IS TO BE SUBMITTED SEPARATELY AND AVAILABLE FOR FURTHER DETAIL.

DAMS AND CANALS

NO DAMS EXIST ABOVE THIS SITE. NO CANALS EXIST ON THE PROPERTY.

SHRUBS, TREES AND WILDLIFE

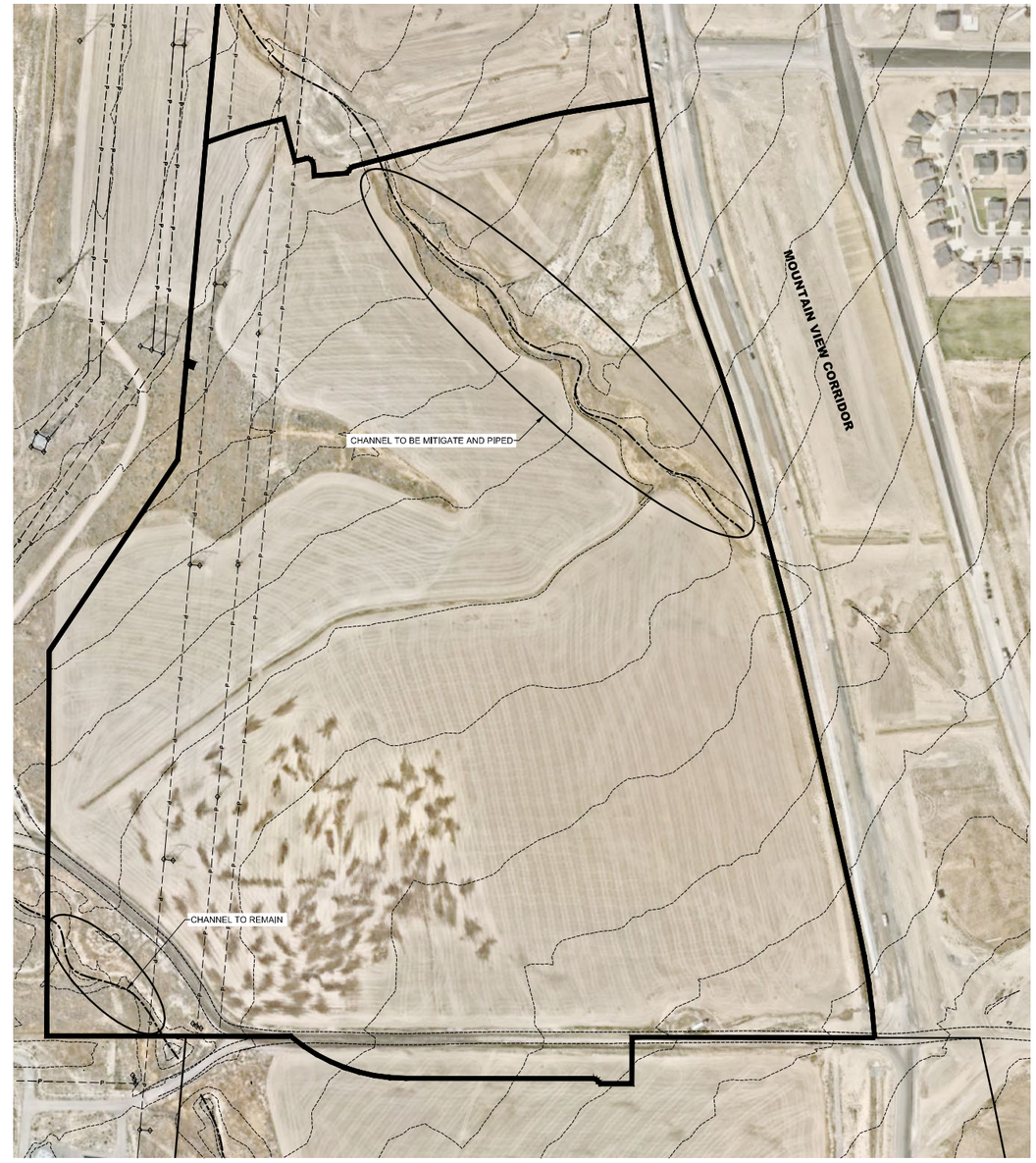
SUBJECT PROPERTY HAS BEEN HISTORICALLY USED FOR AGRICULTURE AND THUS THERE ARE NO SIGNIFICANT SHRUBS OR TREES. WILDLIFE IS TYPICAL OF THE FOOTHILL AREAS OF THE WASATCH FRONT. NO KNOWN ENDANGERED, THREATENED OR RARE FLORA OR FAUNA ARE KNOWN TO EXIST ON THE SITE.
ANY TREES GREATER THAN 2 ½" CALIPER REMOVED DURING GRADING OPERATIONS WILL BE REPLACED WITHIN THE DEVELOPMENT WITH LIKE KIND OR BETTER, 2 ½" CALIPER MINIMUM.

FLOOD PLAIN DATA

AREA SHOWN HEREIN FALLS WITHIN FLOOD ZONE "X" (AREA DETERMINED TO BE OUTSIDE OF 500 YEAR FLOOD PLAIN) AS SHOWN ON FIRM MAPS 4955170105B (JULY 17, 2002) AND 4955170115B (JULY 17, 2002)

MITIGATION REQUIREMENT

IF AREAS OF PROPOSED DEVELOPMENT ARE DETERMINED UNSUITABLE DUE TO ANY OF THE ABOVE CONDITIONS, ACCEPTABLE MITIGATION MUST BE COMPLETED PRIOR TO DEVELOPMENT, I.E. SOIL STABILIZATION, ENVIRONMENTAL HAZARDS, ETC.



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SCALE: 1" = 150'

150 75 0 150

HALES ENGINEERING
innovative transportation solutions

Wildflower Village 2

Traffic Impact Study

Saratoga Springs, Utah

January 9, 2020

UT19-1603

LICENSED PROFESSIONAL ENGINEER
NO. 295699
RYAN R. HALES
01/11/2020
STATE OF UTAH

EXECUTIVE SUMMARY

This study addresses the traffic impacts associated with the proposed Wildflower Village 2 development located in Saratoga Springs, Utah. The proposed project is located on the west side of Mountain View Corridor (MVC), south of Harvest Hills Boulevard

Included within the analyses for this study are the traffic operations and recommended mitigation measures for existing conditions and plus project conditions (conditions after development of the proposed project) at key intersections and roadways near the site. Future 2025 conditions were also analyzed.

The evening peak hour level of service (LOS) was computed for each study intersection. The results of this analysis are shown in Table ES-1. Recommended storage lengths are shown in Table ES-2.

TABLE ES-1
LOS Analysis - Evening Peak Hour
Saratoga Springs - Wildflower Village 2 TIS

Intersection	Level of Service (Sec/Veh)[1]				
	Existing (2019) Background	Existing (2019) Plus Project	Future (2025) Background	Future (2025) Plus Project	Future (2025) Plus Project - Mitigated
Harvest Hills Boulevard / SB MVC FR	B (13.5)	D (37.5)	B (12.1)	E (64.8)	C (22.1)
Harvest Hills Boulevard / NB MVC FR	A (9.7)	C (20.9)	B (14.1)	C (26.5)	C (20.1)
Harvest Moon Drive / SB MVC FR	D (33.1) / WB	F (<50) WB	B (12.3)	B (15.0)	B (12.6)
Harvest Moon Drive / NB MVC FR	A (8.0 / EB	E (45.6) / EB	B (14.6)	B (17.4)	B (16.8)
Access 1 / Harvest Hills Boulevard[2]	-	A (7.0) / WB	-	F (>50) / NB	A (7.8) / WB
Access 2 / SB MVC FR[2]	-	D (26.3) EB	-	E (43.8) / EB	E (48.4) / EB
Access 3 / SB MVC FR[2]	-	C (21.5)	-	C (34.6)	C (24.4)
Access 3 / NB MVC FR[2]	-	C (29.1)	-	D (43.9)	D (35.6)
Access 5 / Access 4[2]	-	-	-	A (1.4) / EB	A (2.9) / EB

1. Intersection LOS and delay (seconds/vehicle) values represent the overall intersection average for roundabout, signalized, all-way stop controlled intersections and the worst approach for all other unsignalized intersections.
2. This intersection is a project access and was only analyzed in "plus project" scenarios.

Source: Hales Engineering, January 2020

HALES ENGINEERING
innovative transportation solutions

TABLE ES-2 Recommended Storage Lengths Saratoga Springs - Wildflower Village 2 TIS								
Intersection	Storage Length (feet)							
	Northbound		Southbound		Eastbound		Westbound	
	LT	RT	LT	RT	LT	RT	LT	RT
Harvest Hills Boulevard / SB MVC FR	-	-	-	-	-	150	125	-
Harvest Hills Boulevard / NB MVC FR	-	-	-	-	200	-	-	100
Access 1 / Harvest Hills Boulevard	-	125	100	-	-	-	125	100
Access 2 / SB MVC FR	-	-	-	250	-	150	-	-
Access 3 / SB MVC FR	-	-	-	250	-	225	-	-
Access 3 / NB MVC FR	250	-	-	-	475	-	-	-
Source: Hales Engineering, January 2020								

SUMMARY OF KEY FINDINGS/RECOMMENDATIONS

The following is a summary of key findings and recommendations:

- New turning movement counts were collected along the newly constructed MVC frontage road system in Saratoga Springs. The estimated project trip assignments of Wildflower Village 3A and Village 4 were added on top of these volumes for the "existing (2019) background" volumes.
- All study intersections are currently operating at an acceptable LOS during the evening peak hour in existing (2019) background conditions.
- The development will consist of residential townhomes, office and retail space.
- The intersections of Harvest Moon Drive / NB MVC FR and Harvest Moon Drive / SB MVC FR are expected to operate at failing levels of service during the evening peak hour with project traffic added. All other intersections are anticipated to operate at an acceptable LOS.
    - *Recommendation*: That traffic signals be installed at Harvest Moon Drive / NB MVC FR and Harvest Moon Drive / SB MVC FR.
- All study intersections are anticipated to operate at an acceptable LOS during the evening peak hour in future (2025) background conditions.
- The Harvest Hills Boulevard / SB MVC FR and Access 1 / Harvest Hills Boulevard intersections are expected to operate at failing levels of service during the evening peak hour in future (2025) plus project conditions.

- *Recommendation*: That Harvest Hills Boulevard between the Access 1 / Harvest Hills Boulevard and Harvest Hills Boulevard / SB MVC FR intersections have a 5-lane cross section with two lanes in the east – and westbound directions and a two-way left-turn median.
- *Recommendation*: That dual protected left-turn lanes be added to the eastbound movement at the Harvest Hills Boulevard / NB MVC FR intersection.
- *Recommendation*: That right- and left-turn pockets for all approaches be added to the Access 1 / Harvest Hills Boulevard intersection. Future developments to the west of this intersection may warrant more improvements.
- *Recommendation*: That signal timing be adjusted and optimized as traffic volumes increase on Mountain View Corridor and on side streets in the area.
- The delay at Access 2 is due to the high through volumes on the MVC FR. It is anticipated with the MVC freeway will be installed by 2030 and that most of the through volumes on MVC will be drawn away from the frontage roads.

13 Site Characteristics

Village Plan 2 is located in the center section of the Wildflower development, south of the main entrance feature. The property is boxed in on three sides. Mountain View Corridor (MVC) is located on the east side of the property, Wildflower Main commercial area is on the South side, and Rocky Mountain Power Corridor is on the West. There will be three main access points; Chianti Drive from the north, Peony in the middle, and Aster Drive from the south. There are two swales that pass through this area that will affect improvement plans and schedules. Most of the area is in the Zone 2 Water Region. All other site characteristics were included in the approved Wildflower ARCP.

14 Master Development Agreement

This Village Plan is subordinate to the Master Development Agreement, Wildflower ARCP, and Master Utility Plan which is before the city for City Council Approval.

APPENDIX

A1 Agreement to Discharge to Canal

A2 Ascent Academy Site Plan Application

A1 Agreement to Discharge to Canal

- It is understood that a permanent, paved access road is required for all utilities. However, in case of temporary installation conditions, such as extension of utilities through future phases of developments, a temporary all-weather surface is sufficient. A 12 foot access road shall be constructed to all manholes and shall be capable of supporting H-20 loading as determined by a geotechnical engineer.
- Sewer Mains shall be located as indicated on the City's Standard drawings and shall be located in ROW, dedicated open spaces, private open spaces or 20 foot wide easement.
- The maximum operating pressure for the water system in the home is to be 110 psi unless otherwise approved by the City Engineer.
- Use 2019 standards for piping.
- 18' driveways are allowed, but are not to be counted as parking.
- All City approvals to be effective for 12 months from the approval date.
- Clear sight triangle to conform to AASHTO standards.

Site Application Supporting Information

SILVERPEAK ENGINEERING

REVIEW RESPONSE
Date: 08-12-2020
Project ID: AW-053
Page 1

STRUCTURAL CIVIL SURVEY

To: Saratoga Springs
Attn: Planning Department
Re: Ascent Academy – Saratoga Springs Campus
Location: Approx. 1150 W 1600 N, Saratoga Springs, UT

Dear Planning Dept.,

The following information is being provided as clarification—based on information received from conversations with Saratoga Springs staff members—for selected items listed in the site plan application. The numbering shown here corresponds with the items listed in the application.

C. Context Plan
Site plan & vicinity map shows the context and existing features. Please advise if further information is necessary

D. Site Analysis
The site is located at on Chianti Street in Saratoga Springs, Utah. The site is currently undeveloped land used for agricultural purposes. The topography of the site is relatively flat, grading down to the east with a total relief of approximately 8 to 10 feet. Site vegetation consists of sparse agricultural grass field throughout the site. The site is bounded to the north and east by similar agricultural fields and to the south and west the active development of Chianti Street with similar agricultural grass fields beyond. (As per provided Geotechnical report, file name " Geotech Study Ascent Saratoga Springs 04-17-2020.pdf ")

E. Survey
See attached Survey from LEI, file name " LEI survey Ascent Saratoga Springs.pdf". Also Please reference Plat Submittal by DAI.

F. Compliance Statement
Per state statute a school is a permitted use in any zone. This school will draw students from surrounding neighborhoods.

G (vi). We will add a note, once we have information on the proposed location of the utility transformer from the electrical engineer.

G (vii). no sign is currently proposed.

G (ix). The building is type 2-B construction (masonry exterior walls, steel roof and floor framing.) all non-combustible with an automatic fire sprinkler system throughout. See provided plans.

I. Final Traffic Report
This report is underway and will be provided as soon as it available.

177 E. ANTELOPE DR. STE. B, LAYTON, UT 84041 801-499-5054 SILVERPEAKENG.COM

FOR OFFICE USE ONLY
GL: 103413103 Dist. Code 309

Fees received by:_____ Date of submittal: _____

Amount paid:_____ Receipt #: _____

Check #:_____

Fees: *CASH OR CHECK ACCEPTED*
Conditional Use Permit required? Yes ☐ No ☐ (If yes, separate application is required)
Site Plans: Non-Residential: **$5,000**
Residential: Number of Units:___X **$60** =_____, **OR $5,000,** whichever is less
Site Plan Amendments: Minor: **$250**
Residential, Major: Number of Units:_____X **$50** + **$500** = _____
Non-Residential, Major: **$500** plus **$50** per 1,000 sq.ft. of building area, or per acre for outdoor uses (round up fractions of square footage or acreage)

SARATOGA SPRINGS PLANNING

Applications submitted before Tuesday at 12:00pm will be discussed at an internal Development Review Committee (DRC) meeting on the following Monday. The 10-15 business day turnaround time for the first round of comments remains the same.

SITE PLAN APPLICATION / SITE PLAN AMENDMENT APPLICATION
Updated July 2019

Applicant & Project Information

PROJECT NAME: Ascent Academy - Saratoga Springs Campus

Property owner: Saratoga Springs School Development LLC Contact Person: Sheldon Killpack

Address: 290 N. Flint Street Ste. 200 City: Kaysville Zip: 84037

Phone: 801-444-9878 Cell:

E-mail Address: sheldon@1westconstruction.com

Applicant / Authorized Agent: PACE CMGC - Tyler Bodrero

Address:

290 N. Flint Street Ste. 103 City: Kaysville Zip: 84037

Phone: Cell: 801-725-7337

E-mail Address: tyler@pacecmgc.com

Engineering Firm: Silverpeak Engineering Contact Person: Josh Jensen

Address: 177 E Antelope Dr. Ste. B City: Layton Zip: 84041

Phone: 801-499-5054 Cell: 801-726-3910

E-mail Address: josh@silverpeakeng.com

Date of Concept Plan Review: July 1, 2020 Size of subject property: 5.996 ac. Number of lots: 1

General location of the property: Approx. 1150 W 1600 N, Saratoga Springs, UT

For Site Plan Amendments: Building Area Being Amended: Zoning: Acreage Being Amended:

Supporting Materials

In an effort to provide the best service and most efficient review of your application, no planning application will be accepted unless an appointment is made and the application is determined to be complete, containing all items on the application checklist. To schedule an application submittal appointment, please contact the Planning Department Administrative Assistant at 801-766-9793 x126.

Plans will be routed for review the first business day after they are received. Once routed, most applications will receive a response within 10 business days. A Comment Review Meeting (CRM) may be scheduled 10 business days after the plans are routed and are generally held Thursday mornings. Reviews may occasionally take longer for large projects or those with complex circumstances; in these instances the City will notify the applicant of the extended review period.

Staff Use Only:	
☐ Anticipated review of 10 business days	☐ Anticipated review of more than 10 business days

NOTE UAC 10-9a-305-7b – PUBLIC SCHOOL FIRST PRIORITY BASIS

19.14.06. Application.

1. **Overview of application process.** The property owner or an authorized agent shall make application on a form prescribed for Site Plan Review by the City.
   a. Applicants for development approval must provide complete and accurate information regarding the specific site and the proposed use on the application.
   b. No application shall be processed until the application fee has been paid and the application has been reviewed for completeness and accepted by the City. Incomplete applications shall not be processed under any circumstance.
2. **Pre-application process.** Prior to a complete application, a pre-application conference shall be held between the applicant and the planning staff, once the applicant can provide the following:
   a. A site analysis meeting the requirements of 19.14.06.3 below.
   b. A site plan meeting the requirements of 19.14.06.3. below.
   c. Conceptual elevations.
   d. Vicinity map meeting the requirements of 19.14.06.3. below.
3. **Accompanying Maps, Reports, and Drawings Required.** The information submitted with the application shall include digital and paper copies of the following:

Applicant Use	City Staff Use	*Please check the applicable box to indicate the materials have been included with the application.*
		☐ Application form, applicant certification (attached), and application fee.
		☐ **Fee:** *CASH OR CHECK ACCPETED* Site Plans: Non-Residential: **$5,000** Residential: Number of Units:___X **$60** =_____, OR **$5,000**, whichever is less Site Plan Amendments: Minor: **$250** Residential, Major: Number of Units:_____ X **$50** + **$500** = _____ Non-Residential, Major: **$500** plus **$50 per 1000 sq. ft.** of building area, or per acre for outdoor uses (round up fractions of square footage or acreage)
X		a. **Ownership Affidavit.** A statement of ownership and control of the subject property and a statement describing the nature of the intended use.
X		b. **Vicinity Map.** A general location map indicating the approximate location of the subject parcel.

X		c. **Context plan.** A context plan shall include the existing features within 200 feet of the proposed Site Plan property line. Existing features include, but are not limited to, buildings, ingress and egress points, landscaping areas, pedestrian paths, and property names.
X		d. **Site Analysis.** A site analysis is a plan view drawing demonstrating land constraints and existing features. Existing features may consist of the presence of boulders, existing man-made features, significant trees, canals or ditches, access points or public rights-of-way, and existing conditions within 200 feet of the property line.
X		e. **Survey.** A survey prepared and stamped by a Utah registered land surveyor listing the metes and bounds legal description and the gross acreage within the subject parcel.
—		f. **Compliance statement.** A statement indicating how the proposed development complies with the City's adopted Land Use Element of the General Plan.
X		g. **Final Construction Drawing.** Drawings containing, at minimum, all items specified in the City's "Standard Technical Specification and Drawings" manual. Applicant shall provide one full-sized 24" x 36" copy reduction as required on the application form, along with digital copies as outlined below. Additional copies may be required prior to adding the application to the Planning Commission or City Council agenda. Final Construction Drawings for a Site Plan application shall also contain the following:
X		i. locations, dimensions, floor plans, and uses and heights of all proposed buildings and structures, including overhangs, porches, stairwells, and balconies, and the locations of all structures on adjoining properties;
X		ii. access points, provisions for vehicular and pedestrian circulation on and off site, interconnection to adjacent sites, dimensions of such access and circulation, and pedestrian paths within 200 feet of the property boundary;
X		▫ Interconnectivity with adjacent sites is provided, see 19.14.03 (3)(b) below
n/a		iii. acceleration and deceleration lanes, and dimensions thereof, if required;
X		iv. off-street parking and loading areas complying with the City's off-street parking requirements contained in Chapter 19.09 of this Title;
X		v. screening and buffering provisions, including types and heights of existing and proposed buffering and fencing elements;
X		▫ Buffering and screening if adjacent to residential, see 19.14.03 (2) below and 19.06.10
X		▫ See 19.06.09 for required fencing
X		vi. location and treatment of refuse collection areas, storage areas, mechanical equipment, and external structures;
X		▫ Trash Enclosure Details, see 19.14.04 (5) below
—		▫ Utility transformers screened with vegetation or fencing, see 19.14.03 (4) below
—		vii. location, type, and size of all business and on-site circulation signage;
X		viii. tabulation of square footage devoted to various land uses, ground coverage by structures, and other impervious surfaces;
X		ix. Type of construction of all structures, presence or absence of fire sprinkling, and location of existing and proposed fire hydrants.
n/a		x. Proposed outdoor display areas
X		xi. type of construction of all structures, presence or absence of fire sprinkling, and location of existing and proposed fire hydrants;
X		h. **Final Hydraulic and Hydrologic storm drainage report and calculations**
—		i. **Final Traffic Report.** Said report shall comply with the standards outlined in the City's adopted Transportation Master Plan and shall include, but not be limited to, the following:
—		i. an analysis of the average daily trips generated by the proposed project;

Site Plan Application, pg. 3

—		ii. an analysis of the distribution of trips on City street systems;
—		iii. a description of the type of traffic generated; and
—		iv. recommendations on what mitigation measures should be implemented with the project to maintain an level of service for existing and proposed residents acceptable to the City.
X		j. **Data table including:**
X		i. total project area
X		ii. total number of lots, dwellings, and buildings
X		iii. square footage of proposed building footprints and, if multiple stories, square footage by floor
X		iv. number of proposed garage parking spaces v. number of proposed surface parking spaces
X		v. percentage of buildable land
X		vi. acreage of sensitive lands and what percent sensitive lands comprise of total project area and of open space area
X		vii. area and percentage of open space or landscaping
X		viii. area to be dedicated as right-of-way (public and private)
X		ix. net density of dwellings by acre (sensitive lands must be subtracted from base acreage).
X		x. number of off-street parking spaces (e.g., number of proposed garage parking spaces, number of proposed surface parking spaces, etc.)
X		k. **Electronic file.** A file of all submitted plans, documents, reports, and a copy of the signed application in pdf format.
n/a		l. **Landscaping Plan.** A landscaping plan, prepared and stamped by a licensed landscape architect, indicating the location, spacing, types, and sizes of landscaping elements and existing trees, and showing compliance with the City's off-street parking requirements, the City's design guidelines and policies, and the requirements of the appropriate zone. *See Chapter 19.06 for landscaping and Chapter 19.09 for landscaping in parking lots*
n/a		19.06.04: The landscaping plan shall include, at a minimum, the following information: (*See Section 19.06.06 for planting standards and requirements)*
n/a		1. Existing conditions: the location and dimension of all existing and proposed structures, property lines, easements, parking lots, power lines, rights-of-way, ground signs, refuse areas, and lighting;
n/a		2. Planting Plan: location and planting details for all proposed vegetation and materials. The proposed plan must indicate the size of the plant material at maturation. All existing vegetation that is to be removed or remain on the site must be clearly identified;
n/a		3. Planting Schedule: the name (both botanical and common name), quantity, and size of all proposed plants;
n/a		4. Topography: existing and proposed grading of the site indicating contours at two feet intervals;
n/a		5. Irrigation: irrigation plans showing the system layout and details;
n/a		6. Fencing: location, style, and details for proposed and existing fences and identification of the fencing materials; and
n/a		7. A data table: table including the total number if each plant type, and total square footage and percentage of landscaped areas, domestic turf grasses, decorative rock, mulch, bark, and drought tolerant plant species.
X		▫ Clear sight triangle is maintained, per Section 19.06.11
X		m. **Grading and Drainage Plan.** A grading and drainage plan which indicates the proposed grading and techniques for controlling and discharging drainage. The plan must include:
X		i. topographical plans showing existing grades and proposed grades and elevations;
X		ii. location and elevations of all existing and proposed drainage facilities within the subject parcel and the general vicinity within 100 feet of the site;
X		iii. retention areas and exfiltration systems;
X		iv. storm sewer piping and other appurtenances, sizes, and locations;
X		v. contour lines showing adequate intervals to show topography of site; and

Site Plan Application, pg. 4

X		vi. a note indicating that all storm drainage facilities will conform to the City's construction standards and policies.
X		n. **Lighting Plan.** A lighting plan indicating the illumination of all interior areas and immediately adjoining streets showing the location, candle power, and type of lighting proposed, and in conformance with the City's lighting standards. An individual photometric plan is also required.
X		☐ Building lighting is shown on the elevations, details are provided, and lighting is reflected on the photometric plan
X		o. **Elevations.** The elevations of all proposed buildings, fences, and other structures viewed from all sides indicating height of structures, the average finished grade of the site at the foundation area of all structures, percentage of building materials proposed, and color of all materials. A board showing building colors and materials is required. Chapter 19.16 regulates elevations and site design.
X		☐ **Elevations shall comply with the adopted Design Guidelines** (Site and Architectural Design Standards) which may be found on the City's website at www.saratogaspringscity.com/planning
X		☐ Mechanical equipment is incorporated into the design of the building and screened
n/a		p. **Signage Plan.** An overall signage plan shall be approved during the Site Plan approval process. All information to be provided for the sign approval shall be submitted concurrent with Site Plan application materials, consistent with the requirements in Section 19.18.
n/a		☐ Preliminary Plat Application, if necessary: required? Yes ☐ No ☒ N/A
n/a		☐ Conditional Use Permit Application, if applicable: required? Yes ☐ No ☒ N/A
X		☐ Engineering checklist, see attached

Applicant Acknowledgment:

I hereby certify that I have read the information contained in this application form and that I have provided the required application materials.

Applicant's Signature: _____ **Date:** 08/12/2020
Printed Name: Tyler Bodrero

Owner and Applicant Certification

I certify under penalty of perjury that this application and all information submitted as a part of this application are true, complete and accurate to the best of my knowledge. I also certify that I am the owner of the subject property and that the authorized agent noted in this application has my consent to represent me with respect to this application. Should any of the information or representations submitted in connection with this application be incorrect or untrue, I understand that the City of Saratoga Springs may rescind any approval, or take any other legal or appropriate action. I also acknowledge that I have reviewed the applicable sections of the Saratoga Springs Land Development Code and that items and checklists contained in this application are basic and minimum requirements only and that other requirements may be imposed that are unique to individual projects or uses. Additionally, I agree to reimburse the City of Saratoga Springs all amounts incurred by the City in excess of the base fee required by the Consolidated Fee Schedule to review and process this submitted application and agree to comply with Resolution No. R 08-21 and R 11-22. I also agree to allow the Staff, Planning Commission, or City Council or appointed agent(s) of the City to enter the subject property to make any necessary inspections thereof.

Property Owner's Signature: _____ Date: 8-12-20
Printed Name: JED STEVENSON

Applicant's Signature: _____ Date: 08/12/2020
Printed Name: Tyler Bodrero

Site Plan Application, pg. 5

Ownership Affidavit

The property that is the subject of this Application is owned by Saratoga Springs School Development, LLC and is intended to be developed for Ascent Academies of Utah for use as a public charter school.

Date: 8-12-20

Saratoga Springs School Development, LLC,
a Utah limited liability company

Jed Stevenson
Manager

REVIEW 1 DATE:_____
REVIEW 2 DATE:_____
REVIEW 3 DATE:_____

CITY OF SARATOGA SPRINGS
ENGINEERING DEPARTMENT

Engineering Review - Site Plan Checklist

DEVELOPMENT NAME: Ascent Academy - Saratoga Springs Campus

The attached document is a list of typical Engineering Department review criteria for subdivisions. Each submittal shall include (1) 24"x36" plan set and an electronic copy of complete plans signed by the Utah-licensed professional Engineer in responsible charge. The Engineer is responsible for initialing each item on the checklist. Please check with the Engineering Department before assuming that an item is not applicable, unless it is obviously not applicable.

Documents submitted to the Engineering Department shall be organized according to the following general format:

1. Plat
2. Cover Sheet
3. Boundary and Topographical Survey
4. Overall Site Plan
5. Demolition Plan
6. Grading and Drainage Plan
7. Utility Plan
8. Plan and Profile Sheets
9. Signing and Striping Plan
10. Landscaping and Irrigation Plan
11. Detail Sheets

Upon first submittal for plan review, the applicant must sign the verification on the Engineering Plan Review Checklist indicating he/she has personally inspected the checklist and that all items on the checklist have been initialed by the responsible Engineer. A copy of the checklist must accompany the plans with all subsequent reviews. The City will not accept plans for review without this signed checklist.

In accepting plans for construction, the City of Saratoga Springs assumes that applicants have not made any errors and have complied with all applicable codes and ordinances. If, after acceptance of plans for construction, an error is discovered or it is discovered that some aspect of the accepted drawings does not comply with applicable codes and ordinances, the applicant shall, at his own expense, revise the drawings and modify any infrastructure as necessary to correct the problem. Applicants and their design professionals shall remain responsible for their projects at all times.

Notice about Reimbursements: Reimbursement agreements must be approved by the City Council and executed by both parties before construction can begin on the project. If the applicant wishes to begin construction before there is an agreement in place with the City, he must sign and record a waiver stating he accepts the risk that he may not be reimbursed for any improvements installed, even if they are system improvements.

I understand the conditions stated above and have personally reviewed this submittal and verify that it is complete and that all of the items listed below have been initialed by the responsible Engineer.

Applicants Signature_____

Printed Name TYLER BIANCALO

Note: The following is not intended to be a comprehensive list of items. The City may require more information based on site specific conditions.

Applicant Submitted (Provide Initials)	Required Submitals	City Use Only Accepted Date
JJ	Storm drainage calculations in a separate report. This report shall include pipe systems, surface routes, and detention ponds. It shall also include a discussion about low impact development best management practices that were considered and implemented for the purpose of infiltrating, evapotranspiring, or harvesting and using storm water from the site to protect water quality. If no best management practices were implemented, explain the reasons preventing their use. This report shall be stamped and certified by a Utah-licensed professional Engineer, with the following language: "I hereby certify that this report for the onsite drainage of this development was prepared by me (or under my direct supervision) in accordance with the provisions of the City of Saratoga Springs' Standard Specifications and Drawings, and was designed to comply with the provisions thereof. I understand that the City assumes no responsibility or liability whatsoever for this report."	
—	Long Term Storm Water Management Plan using the USWAC Template	
JJ	AutoCAD file of Grading Plan	
—	Trip Generation Memo (Less than 100 ADT). Traffic Impact Study (for projects generating more than 100 ADT. Include PM Peak Trips)	
JJ	Geotechnical report, including minimum pavement section based on a calculated CBR value.	
n/a	Army Corps Requirements (including consideration of ephemeral streams within 1/2 mile of Utah Lake or Jordan River)	
—	Low Impact Development (LID) Feasibility Study per City Standard Specification 00500/2.2/E/24/p.	
JJ	Record of Survey per UCLS Standards, AND topographical map including all other relevant information or the existing recorded plat from the County Recorders Office	
n/a	UDOT permit for vehicular access or storm drain connection to SR68, SR73, or SR145	
n/a	CLOMR/LOMR filed application for property in FEMA 100-yr flood plain.	
n/a	Stream Alteration Permit from Utah Division of Water Rights if impacting a natural drainage channel.	
—	Irrigation master plan of gravity conveyances before and after development on a dedicated sheet. The irrigation master plan shall include the following text "The Developer agrees and certifies with singature and date that the Developer: (1) understands how the existing gravity irrigation system ("system") functions on, through, or in the vicinity of the Project; (2) understands how development of the Project will affect the system and stakeholders; (3) takes full responsibility for changes to the system; (4) understands that the City assumes no responsibility or liability for changes made to the system; and (5) agrees to release, indemnify, hold harmless, and defend the City against any and all claims, actions, or lawsuits with respect to Developer's development activity or alteration of the system."	
n/a	Permit from the canal company if impacting a canal	
JJ	Construction plans signed and stamped by the responsible Engineer.	
n/a	Pothole data for storm drain crossings in existing roadways.	
JJ	Necessary easement and covenant documents.	
n/a	Permit from Division of Forestry, Fire and State Lands if impacting Jordan River or Utah Lake.	
—	Water Supply and Flow Analyses for buildings that are under the direction of the State Fire Marshall's Office and buildings that require sprinkling.	
—	Reimbursement Agreement approved by City Council for master planned projects. Exhibits for inclusion into a reimbursement agreement: (1) Schedule of values listing the reimbursable improvments, inlcuding the City's IFFP project number, quantities, unit prices, and total prices. (2) Site Plan showing the locations of reimbursable improvements with coded references to a schedule of values. (3) Supporting documentation for prices, consisting of engineer's estimates, or contractor bids, or actual invoices.	

Applicant Submitted (Provide Initials)	All Sheets Must Contain	City Use Only Accepted Date
JJ	Project name	
JJ	Drawing number and title.	
JJ	"Call Before You Dig" logo.	
JJ	North arrow and drawing scale.	
JJ	Abbreviations and Legend	
JJ	All text, features, and linework must be of a size which is legible when printed on standard 11x17 sized paper.	
JJ	References to specific Standard Plans as applicable	

Applicant Submitted (Provide Initials)	Cover Sheet	City Use Only Accepted Date
JJ	Stamped, signed, and dated by a Utah-licensed Professional Engineer	
JJ	Project name	
JJ	Sheet Index for all sheets	
JJ	Vicinity Map with North arrow	
JJ	Data table for Overall project and for each phase that lists in Sqft, Acres, and percent of total of; 1) Total Area, 2) Total Impervious Area, 3) Total Lot Building Area or Building Pad Area 4) Total Landscape Area, 5) Total ROW Area, 6) Total Number of Lots	
JJ	Legend	
JJ	Contact information for the project team and other key contacts	

Applicant Submitted (Provide Initials)	Site Plan	City Use Only Accepted Date
JJ	Street names and widths	
JJ	Subdivision lots with lot numbers	
JJ	Roadway centerline alignment with stationing and right-of-way widths	
JJ	A note stating, "A right-of-way encroachment permit must be obtained from the City of Saratoga Springs prior to doing any work in the existing right-of-way. Contact Mark Edwards at 801-766-9793, Ext. 118.	
JJ	Proposed roadways connect to adjacent development existing/approved roadways.	
JJ	Data table (broken up by phase if applicable) with quantities of each roadway improvement (pavement (sqft), untreated base course (sqft), granular borrow (sqft), curb, gutter (ft), sidewalk (ft), drive approach (each), ADA ramps (each), monuments (each), etc)	
JJ	Commercial driveway approaches per APWA 225	
JJ	Fire hydrant locations	
JJ	Lighting locations. Street lights at cul-de-sac ends, street intersections, and 300' maximum spacing. Located on lot lines wherever possible.	
JJ	Roadway improvements (curb, gutter, sidewalk, drive approach, ADA ramps, monuments)	
JJ	Phasing of project including the location of temporary turn-around's at phase boundaries.	
JJ	Overall Site Plan uses callouts and is on 1 sheet (no matchlines)	

Applicant Submitted (Provide Initials)	Existing Topography / Demolition Plan	City Use Only Accepted Date
JJ	Existing Topography	
JJ	All existing features in and adjacent to project.	
JJ	Plans for removal or relocation of existing infrastructure as needed	
JJ	Areas classified as sensitive lands including 100-yr flood plains, natural drainages, water bodies, rivers wetlands, and slopes greater than 30%	
JJ	Existing easements or other encumbered areas	
JJ	Street Names	

Applicant Submitted (Provide Initials)	Grading and Drainage Plan	City Use Only Accepted Date
JJ	Stamped and certified by a Utah-licensed professional Engineer, with the following language: "I hereby certify that this design for the onsite drainage of this development was prepared by me (or under my direct supervision) in accordance with the provisions of the City of Saratoga Springs' Standard Specifications and Drawings, and was designed to comply with the provisions thereof. I understand that the City assumes no responsibility or liability whatsoever for this design."	
n/a	Data table, broken up by phase if applicable, with cut/fill (cubic yards) quantities and import/export (cubic yards) quantities	
n/a	Data table (broken up by phase if applicable) with quantities of each storm drain improvement totaled by type and size including pipes and structures	
JJ	A conspicuous note stating, "Accepted Construction Drawings OR a Grading Permit must be obtained from Saratoga Springs City prior to disturbing any vegetation or moving any soil. Contact the City Engineering Dept at 801-766-9793".	
JJ	A note stating, "A right-of-way encroachment permit must be obtained from the City of Saratoga Springs prior to doing any work in the existing right-of-way. Contact Mark Edwards at 801-766-9793, Ext. 118.	
JJ	Existing contour lines (in gray scale) at one-foot intervals	
JJ	Proposed contour lines at one-foot intervals	
JJ	Benchmark elevation relative to an identified section corner.	
JJ	Storm drain system showing pipe sizes, manholes, combination boxes and catch basins, with all elevations (rim & invert) and structure sizes.	
JJ	Detail sheet showing detention pond(s) (including cross-sections), sized orifice design, spillway, and overland 100 year flood route called out	
JJ	FEMA Flood Zone delineation and 100-year flood elevation limits	
JJ	Lot grading arrows	
JJ	Spot elevations where necessary including curb returns	
JJ	Locations of any utility conflicts	
JJ	2% maximum slope in all directions in ADA parking areas	
JJ	ADA accessible route from commercial building to the public ROW	
JJ	Minimum 15" pipe for all public drainage systems (RCP under pavement).	
JJ	Catch basins provided at all intersections. Locate catch basins on lot lines where possible	
n/a	Separate detail sheets showing detention ponds (including cross-sections), sized orifice design, spillways, etc	
JJ	Cul-de-sacs graded to drain away from the bulb with max 4% in any direction	
JJ	2% maximum longitudinal slope along curb returns in front of ADA ramp within the commercial lot.	
JJ	Location and type (details) of storm water treatment systems. In details provide product information showing the treatment device complies with the City's treatment standards.	
JJ	Callout points of connection to existing system	
JJ	Slope arrows and labels along gutters, swales, cut/fill slopes, parking areas, and lots	
JJ	Access road to all structures outside of the ROW (12' min width, 15% max slope).	
JJ	Storm drain line extended to property lines terminated with a manhole	
JJ	100-year flood overland route clearly shown terminating at the storm water facility (usually the street)	
JJ	Overland runoff route for stormwater at all sag points	
JJ	Minimum slopes on storm drains per HEC 22	
JJ	Street Names	
JJ	Overall Grading and Drainage Plan uses callouts and is on 1 sheet (no matchlines)	

Applicant Submitted (Provide Initials)	Utility Plan	City Use Only Accepted Date
n/a	Data table (broken up by phase if applicable) with quantities of sewer improvements totaled by type and size including pipes, structures, fittings, and materials.	
n/a	Data table (broken up by phase if applicable) with quantities of each drinking and secondary water improvement totaled by type and size including pipes, structures, fittings, and materials.	
n/a	A note stating, "A right-of-way encroachment permit must be obtained from the City of Saratoga Springs prior to doing any work in the existing right-of-way. Contact Mark Edwards at 801-766-9793, Ext. 118.	
n/a	Survey monuments provided at all intersections, centers of cul-de-sacs and points of center line curvature where necessary to maintain line of sight	
JJ	Utility locations (i.e. manholes) don't conflict with survey monuments	
JJ	Sanitary sewer/Storm Drain systems showing pipe alignment, sizes, manholes, and laterals	
JJ	Sewer and storm drain systems to the next manhole beyond subdivision boundary	
JJ	Drinking and secondary water systems showing type and size of pipes, valves (gate or butterfly), and fittings (bends, crosses, tees, reducers)	
JJ	Locations of meters and laterals for all open space areas	
JJ	Locations of all fire hydrants	
JJ	Existing utilities (in grayscale) and plans for relocations as necessary	
JJ	Points of connection to existing structures and pipe lines labeled	
JJ	Existing and proposed easements as required by City standards	
JJ	Locations of existing and proposed power poles	
n/a	Locations of existing and proposed streetlights shown	
n/a	Streetlights at cul-de-sac ends and street intersections; 300' spacing on local residential roads; collector and arterial road spacing; located on lot lines wherever possible	
JJ	Street Names	
JJ	Overall Utility Plan uses callouts and is on 1 sheet (no matchlines)	

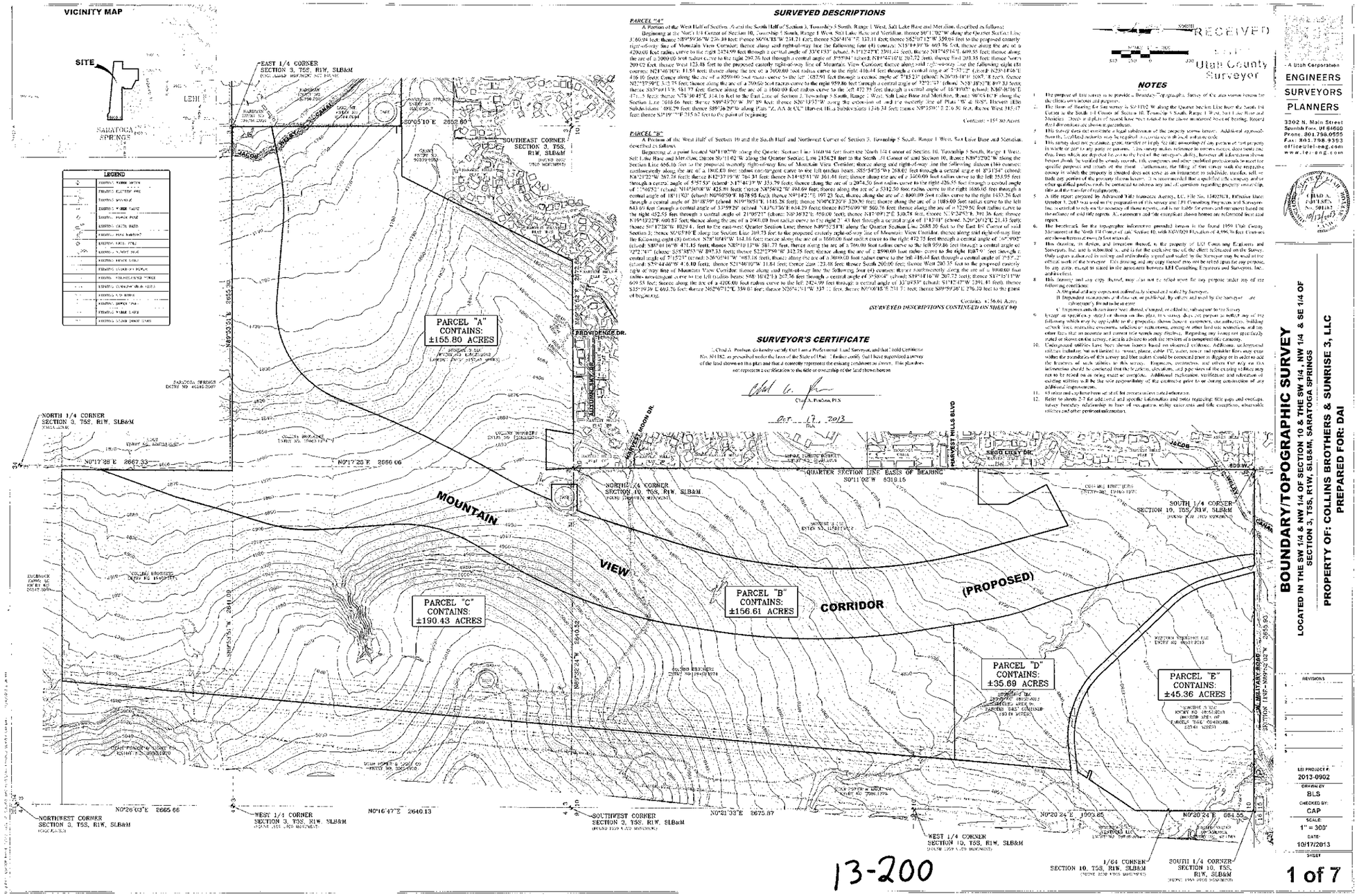
Applicant Submitted (Provide Initials)	Plan and Profile Sheets	City Use Only Accepted Date
n/a	Vicinity map within subdivision for each sheet	
n/a	Phase boundaries and identification of what will be completed with each phase	
n/a	Typical road sections per Saratoga Springs standards	
n/a	1:30 max. horizontal scale, 1:10 max. vertical scale	
n/a	Label street names	
n/a	Vertical curves for grade changes of 1% or greater	
n/a	Vertical alignment of street tying into existing improvements	
n/a	Matching centerline crowns for lower intersecting streets	
n/a	Maximum 5 percent slope through intersections and 60 feet beyond	
n/a	Pavement section per geotech report, or not less than City standard	
n/a	Locations of any utility conflicts	
n/a	Storm drain pipe size, type, length and slope between manholes	
n/a	Storm drain structures with rim, invert in, and invert out elevations	
n/a	Minimum 15" RCP within City ROW for Storm Drain lines	
n/a	Catch basins provided at all intersections	
n/a	Sewer pipe size, type, length and slope between manholes	
n/a	Minimum sewer slopes per City specifications	
n/a	Sewer manhole sizes with rim, invert in, and invert out elevations	
n/a	Location and complete details of sewage lift stations and other structures	
n/a	Drinking and irrigation systems with callouts for pipe size, type, and DR-18 for PVC.	
n/a	Locations of fire hydrants	
n/a	Callout locations, sizes, types of all fittings (tee, cross, 45 bend, reducers, etc)	
n/a	Air vacuum relief valves and blowoff valves in both plan and profile views	
n/a	Locations of waterline looping due to utility conflicts	

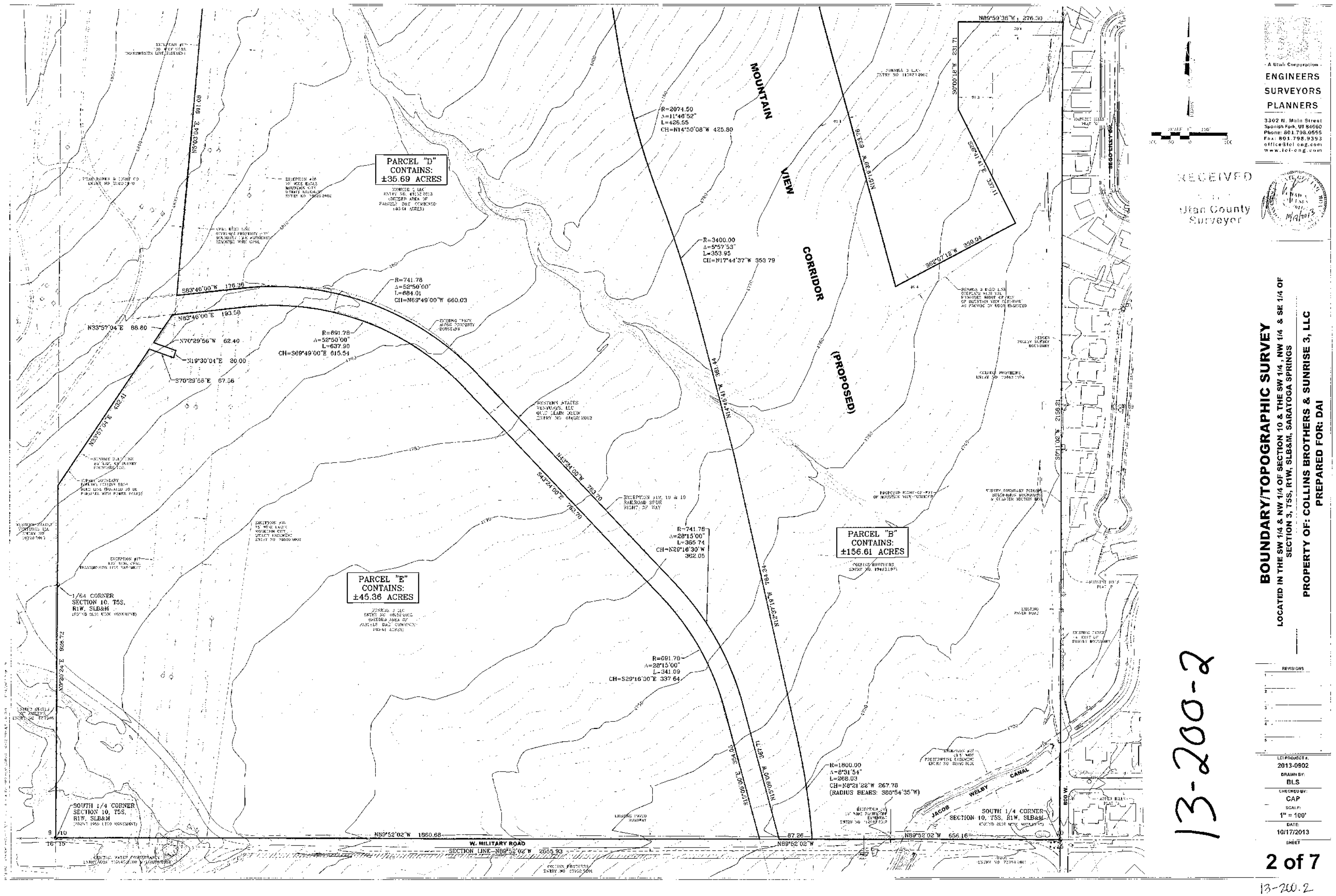
Applicant Submitted (Provide Initials)	Striping and Signage Plan	City Use Only Accepted Date
n/a	Street names	
n/a	City standard details for signage and striping	
n/a	Callout type, size, and station/offset of each sign with reference to the corresponding MUTCD sign code	
n/a	Callout station/offset of all pavement markings and messages at (begin, end, PC, PT, and radius points)	
n/a	Call out pavement marking type and size [4" solid white line, 4" broken white line, 4" dotted white line (for within intersections only), 4" dotted yellow line (for within intersections only) 8" dotted white line (for lane drops), 8" solid white line, 4" double solid yellow line, 4" solid and broken yellow line, 4" solid yellow line]	
n/a	Call out all pavement marking taper rates relative to roadway alignment (ie 15.0:1 taper rate)	
n/a	Taper rates shall be calculated following 2009 MUTCD Section 3B.09 Lines 04-06	
n/a	Traffic calming on street segments longer than 1000' without a minimum 45 degree turn	
n/a	Phase boundaries and identification of what will be completed with each phase	

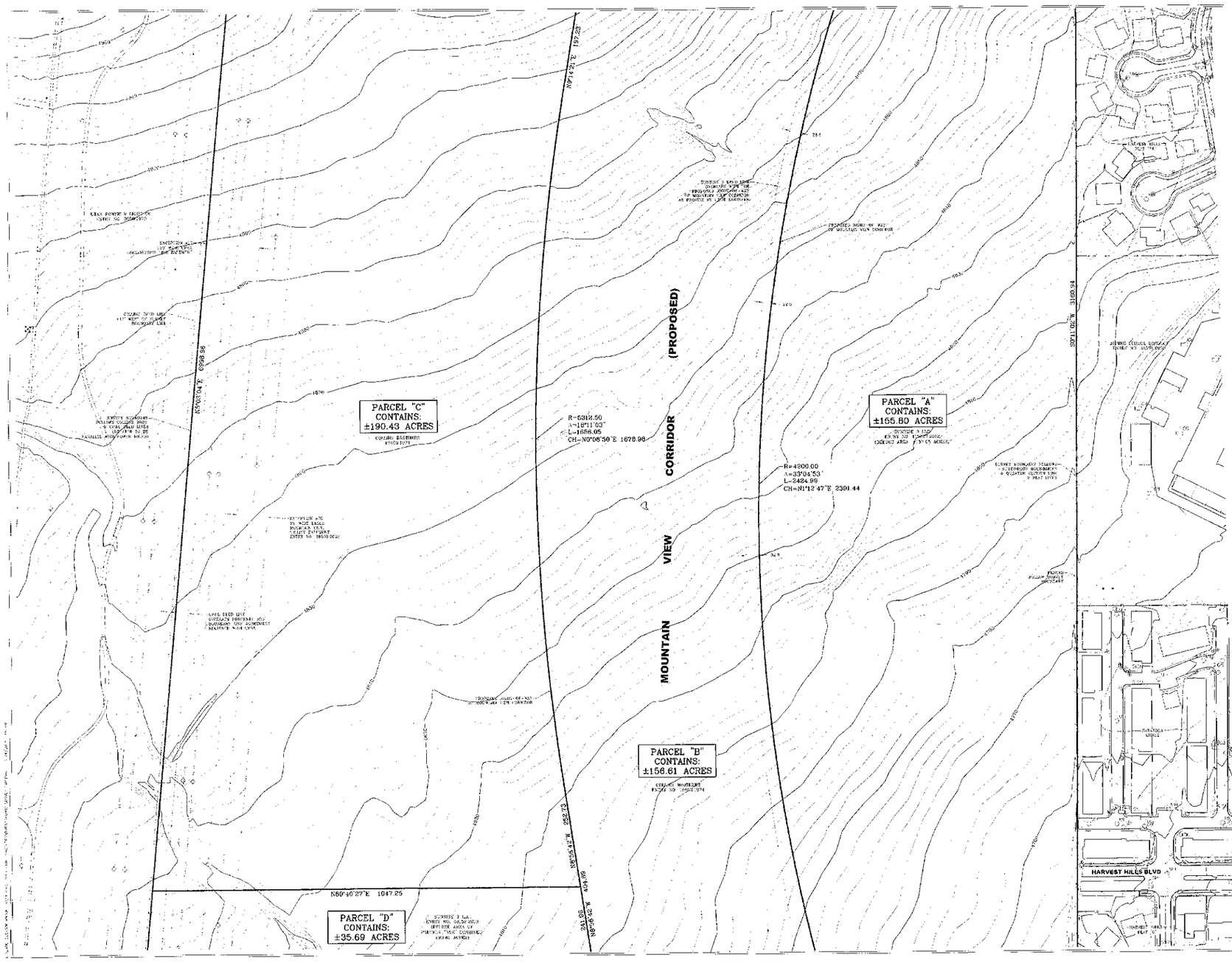
Applicant Submitted (Provide Initials)	Lighting / Photometric Plan	City Use Only Accepted Date
JJ	Lighting locations and types	
JJ	Photometric plan for parking areas and open spaces	
JJ	Lighting details	
JJ	Phase boundaries and identification of what will be completed with each phase	

Applicant Submitted (Provide Initials)	Landscaping and Irrigation Plan	City Use Only Accepted Date
n/a	Detailed landscaping plans with designations for all areas and what surface treatments they shall receive	
n/a	Locations and details of all planting	
n/a	Irrigation design layout and details	
n/a	Metered secondary water point of connection to City mainline	
n/a	Point of connection the same as in Civil plans	

Applicant Submitted (Provide Initials)	Detail Sheets	City Use Only Accepted Date
JJ	All applicable Sewer City standard details	
JJ	All applicable Drinking Water City standard details	
JJ	All applicable Irrigation City standard details	
JJ	All applicable Storm Drain City standard details	
JJ	All applicable Street City standard details including pavement section designs	
JJ	All applicable street light City standard details	
JJ	Project-specific details as applicable	


VICINITY MAP
SITE
SARATOGA SPRINGS
LEHI
EAST 1/4 CORNER SECTION 3, T5S, R1W, SLB&M
SOUTHEAST CORNER SECTION 3, T5S, R1W, SLB&M
PARCEL "A" CONTAINS: ±155.80 ACRES
PROVIDENCE DR.
NORTH 1/4 CORNER SECTION 3, T5S, R1W, SLB&M
NORTHWEST CORNER SECTION 3, T5S, R1W, SLB&M
WEST 1/4 CORNER SECTION 3, T5S, R1W, SLB&M
SOUTHWEST CORNER SECTION 3, T5S, R1W, SLB&M
NORTH 1/4 CORNER SECTION 10, T5S, R1W, SLB&M
QUARTER SECTION LINE BASIS OF BEARING
S0°11'02"W 5319.15
SOUTH 1/4 CORNER SECTION 10, T5S, R1W, SLB&M
WEST 1/4 CORNER SECTION 10, T5S, R1W, SLB&M
1/64 CORNER SECTION 10, T5S, R1W, SLB&M
SOUTH 1/4 CORNER SECTION 10, T5S, R1W, SLB&M
MOUNTAIN VIEW CORRIDOR (PROPOSED)
PARCEL "B" CONTAINS: ±156.61 ACRES
PARCEL "C" CONTAINS: ±190.43 ACRES
PARCEL "D" CONTAINS: ±35.69 ACRES
PARCEL "E" CONTAINS: ±45.36 ACRES
HARVEST HILLS BLVD.
SEED CITY DR.
JACOB
MILITARY ROAD
LEGEND
SURVEYED DESCRIPTIONS
PARCEL "A"
A Portion of the West Half of Section 3, and the South Half of Section 3, Township 5 South, Range 1 West, Salt Lake Base and Meridian, described as follows:
Beginning at the North 1/4 Corner of Section 10, Township 5 South, Range 1 West, Salt Lake Base and Meridian, thence S0°11'02"W along the Quarter Section Line 5,319.15 feet; thence S89°59'36"W 276.30 feet; thence S0°00'18"W 234.21 feet; thence S26°41'14"E 132.11 feet; thence S62°07'12"W 359.04 feet to the proposed easterly right-of-way line of Mountain View Corridor; thence along said right-of-way line the following four (4) courses: N15°14'10"W 603.76 feet, thence along the arc of a 4200.00 foot radius curve to the right 2454.99 feet through a central angle of 33°43'53" (chord: N31°24'07"E 2391.41 feet); thence N14°49'17"E 609.55 feet; thence along the arc of a 3900.00 foot radius curve to the right 297.76 feet through a central angle of 4°55'04" (chord: N17°42'10"E 297.22 feet); thence tied 203.35 feet thence North 209.02 feet, thence West 123.48 feet to the proposed easterly right-of-way line of Mountain View Corridor; thence along said right-of-way line the following eight (8) courses: N21°46'10"E 11.51 feet; thence along the arc of a 3600.00 foot radius curve to the right 416.44 feet through a central angle of 7°57'27" (chord: N25°14'04"E 416.16 feet); Course along the arc of a 8590.00 foot radius curve to the left 1087.91 feet through a central angle of 7°15'23" (chord: N28°35'10"E 1087.18 feet); thence N32°37'50"E 315.75 feet; thence along the arc of a 2500.00 foot radius curve to the right 959.86 feet through a central angle of 22°00'13" (chord: N38°38'52"E 953.81 feet); thence S85°41'15"E 581.77 feet; thence along the arc of a 1600.00 foot radius curve to the left 472.75 feet through a central angle of 16°55'09" (chord: N36°46'16"E 471.3 feet); thence N78°30'45"E 314.16 feet to the East Line of Section 3, Township 5 South, Range 1 West, Salt Lake Base and Meridian, thence N0°03'01"E along the Section Line 1016.66 feet; thence N89°53'50"W 397.99 feet; thence S26°13'53"W along the extension of, and the easterly line of, Plats "W" & "BB", Harvest Hills Subdivisions 1976.34 feet; thence S89°56'20"W along Plats "Z, AA & CC" Harvest Hills Subdivisions 1276.34 feet; thence N0°53'01"E 2.0.56 feet, thence West 345.17 feet thence S31°19'"W 215.62 feet to the point of beginning.
Contains: ±155.80 Acres
PARCEL "B"
A Portion of the West Half of Section 10 and the South Half and Northwest Corner of Section 3, Township 5 South, Range 1 West, Salt Lake Base and Meridian, described as follows:
Beginning at a point located S0°11'02"W along the Quarter Section Line 3169.94 feet from the North 1/4 Corner of Section 10, Township 5 South, Range 1 West, Salt Lake Base and Meridian, thence S0°11'02"W along the Quarter Section Line 2152.21 feet to the South 1/4 Corner of said Section 10; thence N89°52'02"W along the Section Line 666.16 feet to the proposed easterly right-of-way line of Mountain View Corridor; thence along said right-of-way line the following thirteen (13) courses: northwesterly along the arc of a 1800.00 foot radius non-tangent curve to the left (radius bears: S85°54'35"W) 288.02 feet through a central angle of 9°23'54" (chord: N4°23'22"W 287.78 feet); thence N12°37'19"W 760.34 feet; thence along the arc of a 2400.00 foot radius curve to the left 255.95 feet through a central angle of 5°55'53" (chord: N15°36'13"W 255.79 feet); thence along the arc of a 2074.50 foot radius curve to the right 426.55 feet through a central angle of 11°46'52" (chord: N18°56'06"W 425.81 feet); thence along the arc of a 2342.50 foot radius curve to the right 1606.68 feet through a central angle of 18°11'03" (chord: N6°08'50"E 1578.95 feet); thence N9°14'12"E 197.23 feet; thence along the arc of a 1600.00 foot radius curve to the right 1455.26 feet through a central angle of 20°18'59" (chord: N19°38'51"E 1448.26 feet); thence N30°03'20"E 320.00 feet; thence along the arc of a 1085.00 foot radius curve to the left 843.66 feet through a central angle of 33°59'29" (chord: N13°03'36"E 844.39 feet); thence N35°09'50"W 562.76 feet; thence along the arc of a 1229.56 foot radius curve to the right 452.55 feet through a central angle of 21°05'23" (chord: N26°36'32"E 450.00 feet); thence N47°09'12"E 310.74 feet; thence N53°45'31"E 391.36 feet; thence N19°03'22"E 600.87 feet; thence along the arc of a 1900.00 foot radius curve to the right 2.43 feet through a central angle of 1°43'18" (chord: N20°20'12"E 21.43 feet); thence S61°17'28"W 1029.4, feet to the easterly Quarter Section Line; thence N0°02'51"E along the Quarter Section Line 2688.36 feet to the East 1/4 Corner of said Section 3; thence N0°03'01"E along the Section Line 209.33 feet to the proposed easterly right-of-way line of Mountain View Corridor; thence along said right-of-way line the following eight (8) courses: N78°30'45"W 314.16 feet; thence along the arc of a 1600.00 foot radius curve to the right 472.75 feet through a central angle of 16°55'09" (chord: S36°46'16"W 471.13 feet; thence N85°41'15"W 581.77 feet; thence along the arc of a 2500.00 foot radius curve to the left 959.86 feet through a central angle of 22°00'13" (chord: S38°38'52"W 897.33 feet); thence S32°37'50"W 342.75 feet; thence along the arc of a 8590.00 foot radius curve to the right 1087.91 feet through a central angle of 7°15'23" (chord: S28°35'10"W 1087.18 feet); thence along the arc of a 3600.00 foot radius curve to the left 416.44 feet through a central angle of 7°57'27" (chord: S25°14'04"W 416.16 feet); thence S21°46'10"W 11.51 feet; thence S21°46'10"W 11.84 feet; thence Case 22.38 feet; thence South 209.02 feet; thence West 200.35 feet to the proposed easterly right of way line of Mountain View Corridor; thence along said right-of-way line the following four (4) courses: thence southwesterly along the arc of a 3900.00 foot radius non-tangent curve to the left (radius bears: S88°16'42"E) 297.76 feet through a central angle of 4°55'04" (chord: S17°42'10"W 297.22 feet); thence S14°49'17"W 609.55 feet; thence along the arc of a 4200.00 foot radius curve to the left 2454.99 feet through a central angle of 33°43'53" (chord: S13°24'07"W 2391.41 feet); thence S15°19'09"W 603.76 feet; thence S62°07'12"W 359.04 feet; thence S26°41'14"E 132.11 feet; thence S0°00'18"W 234.21 feet; thence S89°59'36"E 276.30 feet to the point of beginning.
Contains: ±156.61 Acres
(SURVEYED DESCRIPTIONS CONTINUED ON SHEET 04)
SURVEYOR'S CERTIFICATE
I, Chad A. Poulsen do hereby certify that I am a Professional Land Surveyor, and that I hold Certificate No. 501182, as prescribed under the laws of the State of Utah. I further certify that I have supervised a survey of the land shown on this plat and that it correctly represents the existing conditions as shown. This plat does not represent a certification to the title or ownership of the land shown hereon.
Chad A. Poulsen, PLS
Oct. 17, 2013
Date
RECEIVED
Utah County Surveyor
NOTES
1. The purpose of this survey is to provide a Boundary/Topographic Survey of the area within Parcels for the client's own access and purpose.
2. The Basis of Bearing for this survey is S0°11'02"W along the Quarter Section Line from the South 1/4 Corner to the South 1/4 Corner of Section 10, Township 5 South, Range 1 West, Salt Lake Base and Meridian. Details of a plat of record have been added to the above mentioned Basis of Bearing. Record plat information are shown in parenthesis.
3. This survey does not constitute a legal subdivision of the property within hereon. Additional approvals from the local authority may be required in order to do so of and any or all.
4. This survey does not guarantee, grant, transfer or imply fee title ownership of any portion of real property in whole or part to any party or persons. This survey makes reference to various maps, deed and other data. Lines which are depicted hereon are the best of the surveyor's ability, however all information shown hereon should be verified by actually records, title companies and other qualified professionals to meet the specific purposes and needs of the client. Furthermore, the filing of this survey with the appropriate county in which the property is situated does not serve as an instrument to subdivide, transfer, sell or trade any portion of the property shown hereon. It is recommended that a qualified title company and/or other qualified parties need be contacted to address any and all questions regarding property ownership, title and the transfer of real property.
5. A title report prepared by Advanced Title Insurance Agency, LC, File No. 13902311, Effective Date: October 1, 2013 was used in the preparation of this survey and LEI Consulting Engineers and Surveyors, Inc. is entitled to rely on the accuracy of those reports, and is not liable for errors and omissions based on the reliance of said title reports. All easements and title exceptions shown hereon are referenced from said report.
6. The benchmark for the topographic information provided hereon is the found 1959 Utah County Monument in the North 1/4 Corner of sub Section 10, with NGVD29 Elevation of 4,896.56 feet. Contours are shown hereon at every 2 feet intervals.
7. This drawing, its design, and information thereon, is the property of LEI Consulting Engineers and Surveyors, Inc. and is submitted to, and is for the exclusive use of, the client referenced on the Survey. Only copies authorized by us/my and individually signed and sealed by the Surveyor may be used at the official work of the surveyor. This drawing and any copy thereof may not be relied upon for any purpose by any party, except as stated in the agreement between LEI Consulting Engineers and Surveyors, Inc. and the client.
8. This drawing and any copy thereof may not be relied upon for any purpose under any of the following conditions:
A. Original and any copies are not authentic by signature and sealed by Surveyor.
B. Dependent measurements of data are not published by others and used by the surveyor ... are subsequently found to be in error.
C. Improvements and/or features have altered, changed, or added to, subsequent to the Survey.
9. Except as specifically stated or shown on this plat, this survey does not purport to reflect any of the following which may be applicable to the properties shown hereon: easements, encumbrances, building setback lines, restrictive covenants, subdivision restrictions, zoning or other land use regulations, and any other facts that an accurate and current title search may disclose. Regarding any listing not specifically stated or shown on the survey, it is advised to seek the services of a competent title company.
10. Underground utilities have been shown hereon based on observed evidence. Additional underground utilities (including but not limited to: sewer, gas, electric, CO, water, sewer and sprinkler lines may exist within the boundaries of this survey and their stakes should be contacted prior to digging or in order to add the locations of such utilities to this survey. Engineers, contractors, and others who may use this information should be contacted that the locations, elevations, and pipe sizes of the existing utilities may not be relied on as being exact or complete. Additional exploration, verification and relocation of existing utilities is all the sole responsibility of the contractor prior to or during construction of any additional improvements.
11. All areas and/or lines from or of all for presentation and information.
12. Refer to sheets 2-7 for additional and specific information and notes regarding title gaps and overlaps, survey boundary relationship to base of occupation, utility easements and title exceptions, observable utilities and other pertinent information.
A Utah Corporation
ENGINEERS
SURVEYORS
PLANNERS
3302 N. Main Street
Spanish Fork, UT 84660
Phone: 801.798.0555
Fax: 801.798.9353
office@lei-eng.com
www.lei-eng.com
CHAD A. POULSEN
No. 501182
10/17/2013
BOUNDARY/TOPOGRAPHIC SURVEY
LOCATED IN THE SW 1/4 & NW 1/4 OF SECTION 10 & THE SW 1/4 & SE 1/4 OF SECTION 3, T5S, R1W, SLB&M, SARATOGA SPRINGS
PROPERTY OF: COLLINS BROTHERS & SUNRISE 3, LLC
PREPARED FOR: DAI
REVISIONS
LEI PROJECT #: 2013-0902
DRAWN BY: BLS
CHECKED BY: CAP
SCALE: 1" = 300'
DATE: 10/17/2013
SHEET: 1 of 7
13-200


PARCEL "D"
CONTAINS:
±35.69 ACRES
PARCEL "E"
CONTAINS:
±45.36 ACRES
PARCEL "B"
CONTAINS:
±156.61 ACRES
MOUNTAIN VIEW CORRIDOR (PROPOSED)
N5°03'04"E 911.08
S83°46'00"W 176.36
N83°46'00"E 193.56
N33°57'04"E 88.80
N70°29'56"W 62.40
N19°30'04"E 20.00
S70°29'56"E 67.56
N33°57'04"E 432.41
N0°20'24"E 928.72
R=741.78
Δ=52°50'00"
L=684.01
CH=N69°49'00"W 660.03
R=691.78
Δ=52°50'00"
L=637.90
CH=S69°49'00"E 615.54
R=2074.50
Δ=11°46'52"
L=426.55
CH=N14°50'08"W 425.80
R=3400.00
Δ=5°57'53"
L=353.95
CH=N17°44'37"W 353.79
N14°45'41"W 361.44
N18°36'18"W 693.76
N89°59'36"W 276.30
S0°00'18"W 231.71
S26°41'41"E 337.11
S62°07'12"W 359.04
N43°24'00"W 763.70
S43°24'00"E 763.70
R=741.78
Δ=28°15'00"
L=365.74
CH=N29°16'30"W 362.05
R=691.78
Δ=28°15'00"
L=341.09
CH=S29°16'30"E 337.64
N12°37'19"W 784.34
S15°09'00"E 354.05
N15°09'00"W 367.71
R=1800.00
Δ=8°31'54"
L=268.03
CH=N8°21'22"W 267.78
(RADIUS BEARS: S85°54'35"W)
S0°11'02"W 2158.21
1/64 CORNER
SECTION 10, T5S,
R1W, SLB&M
SOUTH 1/4 CORNER
SECTION 10, T5S,
R1W, SLB&M
SOUTH 1/4 CORNER
SECTION 10, T5S, R1W, SLB&M
N89°52'02"W 1860.68
W. MILITARY ROAD
SECTION LINE–N89°52'02"W 2655.93
87.26
N89°52'02"W
N89°52'02"W 656.16
JACOB WELBY CANAL
SEGO LILY DR.
800 W.
- A Utah Corporation -
ENGINEERS
SURVEYORS
PLANNERS
3302 N. Main Street
Spanish Fork, UT 84660
Phone: 801.798.0555
Fax: 801.798.9393
office@lei-eng.com
www.lei-eng.com
RECEIVED
Utah County
Surveyor
BOUNDARY/TOPOGRAPHIC SURVEY
LOCATED IN THE SW 1/4 & NW 1/4 OF SECTION 10 & THE SW 1/4, NW 1/4 & SE 1/4 OF
SECTION 3, T5S, R1W, SLB&M, SARATOGA SPRINGS
PROPERTY OF: COLLINS BROTHERS & SUNRISE 3, LLC
PREPARED FOR: DAI
REVISIONS
LEI PROJECT #:
2013-0902
DRAWN BY:
BLS
CHECKED BY:
CAP
SCALE:
1" = 100'
DATE:
10/17/2013
SHEET
2 of 7
13-200-2
13-200.2



13-200-3

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SURVEYORS
PLANNERS
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Spanish Fork, UT 84660
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Fax: 801.798.9393
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BOUNDARY/TOPOGRAPHIC SURVEY

LOCATED IN THE SW 1/4 & NW 1/4 OF SECTION 10 & THE SW 1/4 , NW 1/4 & SE 1/4 OF SECTION 3, T5S, R1W, SLB&M, SARATOGA SPRINGS

PROPERTY OF: COLLINS BROTHERS & SUNRISE 3, LLC

PREPARED FOR: DAI

REVISIONS

C.I. PROJECT #: 2013-0902

DRAWN BY: BLS

CHECKED BY: CAP

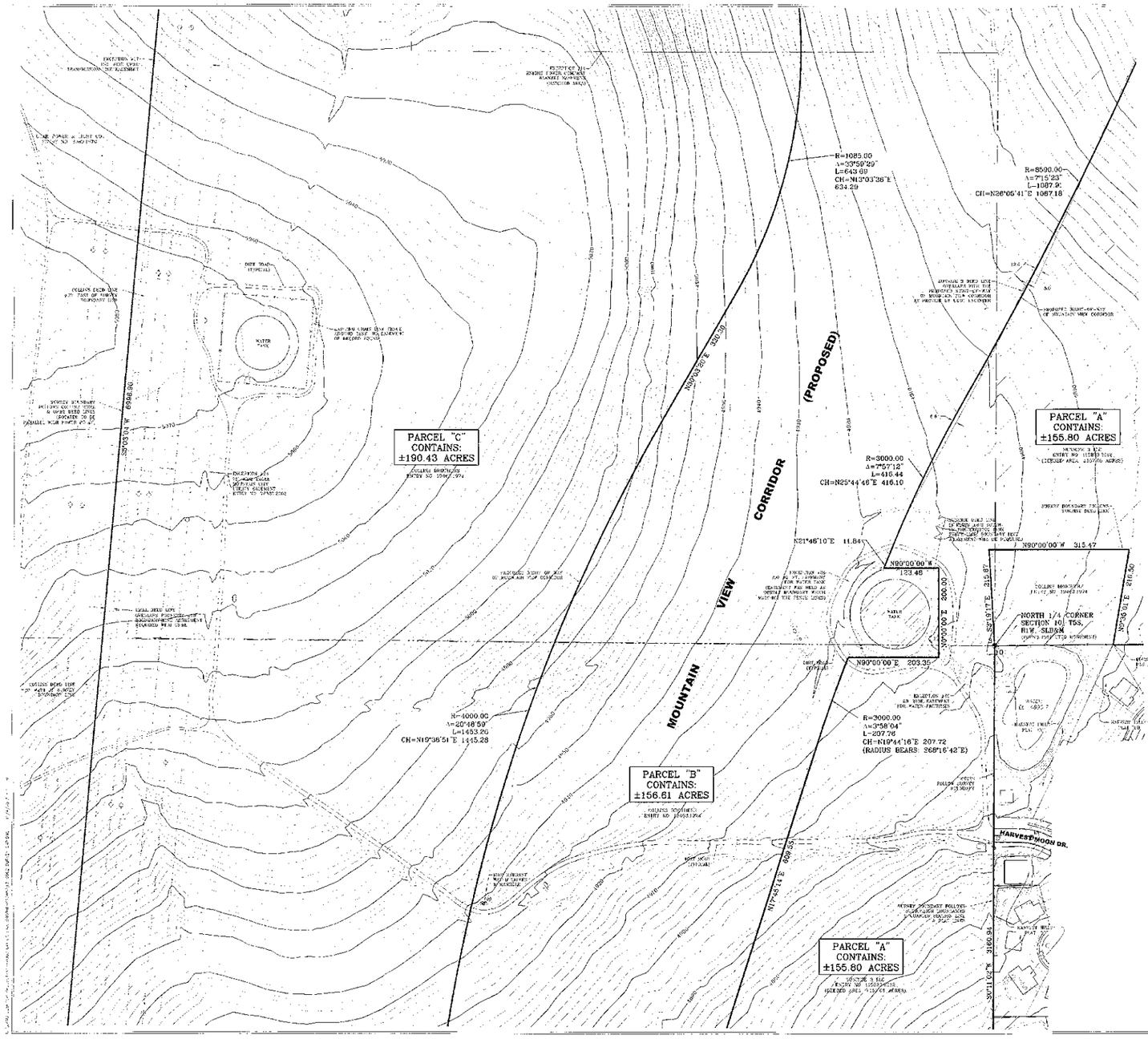
SCALE: 1" = 100'

DATE: 10/17/2013

SHEET

3 of 7

13-200-3



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SURVEYORS
PLANNERS

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Fax: 801.798.9303
office@lei-eng.com
www.lei-eng.com

SURVEYED DESCRIPTIONS (CONTINUED)

PARCEL "C"

A Portion of the West Half of Section 10 and West Half of Section 3, Township 5 South, Range 1 West, Salt Lake Base and Meridian, described as follows:

Beginning at a point located S0°11'02"W along the Quarter Section Line 2669.72 feet and West 1216.19 feet from the North 1/4 Corner of Section 10, Township 5 South, Range 1 West, Salt Lake Base and Meridian, thence S89°46'23"W 104.725 feet; thence N59°03'04"E 6098.56 feet; thence N80°52'43"E 1664.04 feet; thence S0°12'58"W 304.21 feet to the proposed westerly right-of-way line of Mountain View Corridor; thence along said right-of-way line the following twelve (12) courses: thence southwesterly along the arc of a 1500.00 foot radius non-tangent curve to the left (radius bears: S69°02'37"E) 2.43 feet through a central angle of 0°13'11" (chord: S20°20'12"W 21.31 feet); thence S 9°53'22"W 600.87 feet; thence S19°25'52"W 29.36 feet; thence N179°09'13"W 136.78 feet; thence along the arc of a 1250.00 foot radius curve to the left 452.55 feet through a central angle of 21°05'21" (chord: S6°36'22"W 450.00 feet); thence S37°56'09"E 560.26 feet; thence along the arc of a 1085.00 foot radius curve to the right 643.69 feet through a central angle of 33°59'29" (chord: S14°03'36"W 634.29 feet); thence S30°03'20"W 326.00 feet; thence along the arc of a 8590.00 foot radius curve to the left 1453.26 feet through a central angle of 20°48'59" (chord: S19°35'51"W 1445.28 feet); thence S9°14'21"W 197.32 feet; thence along the arc of a 3312.50 foot radius curve to the left 1686.65 feet through a central angle of 29°14'03" (chord: S6°30'20"E 1676.08 feet); thence S0°53'02"E 252.73 feet to the point of beginning.

Contains: ±190.43 Acres

PARCEL "B"

A Portion of the Southwest Quarter of Section 10, Township 5 South, Range 1 West, Salt Lake Base and Meridian, described as follows:

Beginning at a point located S0°11'02"W along the Quarter Section Line 2669.72 feet and West 1216.19 feet from the North 1/4 Corner of Section 10, Township 5 South, Range 1 West, Salt Lake Base and Meridian; thence S8°56'42"E 211.96 feet; thence along the arc of a 2974.50 foot radius curve to the left 426.85 feet through a central angle of 11°49'52" (chord: S 2°59'06"E 425.80 feet); thence along the arc of a 3400.00 foot radius curve to the right 353.76 feet through a central angle of 5°57'53" (chord: S 2°42'17"E 353.79 feet); thence S16°55'41"E 361.44 feet; thence S12°37'10"E 261.34 feet; thence along the arc of a 1800.00 foot radius curve to the right 268.03 feet through a central angle of 8°31'51" (chord: S8°21'22"E 267.78 feet) to the South Line of said Section 10; thence N89°52'12"W along the Section Line 87.25 feet to the northerly line of that real property described in Deed Entry No. 61632:2003 in the official records of the Utah County Recorder; thence along said real property the following five (5) courses: N15°05'30"W 367.31 feet; thence along the arc of a 741.78 foot radius curve to the left 165.34 feet through a central angle of 28°18'06" (chord: N29°16'39"W 362.05 feet); thence N43°24'09"W 763.70 feet; thence along the arc of a 741.78 foot radius curve to the left 184.41 feet through a central angle of 52°56'02" (chord: N69°09'09"W 660.01 feet); thence S83°46'40"W 78.36 feet; thence N59°04'47"W 911.08 feet; thence N00°40'27"E 1047.25 feet to the point of beginning.

Contains: ±155.80 Acres

PARCEL "A"

A Portion of the Southwest Quarter of Section 10, Township 5 South, Range 1 West, Salt Lake Base and Meridian, described as follows:

Beginning at the Southwest Corner of Section 10, Township 5 South, Range 1 West, Salt Lake Base and Meridian; thence N0°00'24"E along the Section Line 928.72 feet; thence N43°57'04"E 432.41 feet; thence S70°29'56"E 67.56 feet; thence N89°30'04"E 20.00 feet; thence N70°29'56"W 62.40 feet; thence N33°57'04"E 88.00 feet to the southerly line of that real property described in Deed Entry No. 61632:2003 in the official records of the Utah County Recorder; thence along said real property the following five (5) courses: N89°59'00"E 593.38 feet; thence along the arc of a 697.78 foot radius curve to the right 635.90 feet through a central angle of 52°50'27" (chord: S69°39'03"E 613.54 feet); thence S43°24'09"E 763.70 feet; thence along the arc of a 697.78 foot radius curve to the right 241.09 feet through a central angle of 28°15'06" (chord: S29°16'36"E 337.64 feet); thence S15°08'02"E 785.45 feet to the South Line of said Section 10; thence N89°52'02"W along the Section Line 1306.46 feet to the point of beginning.

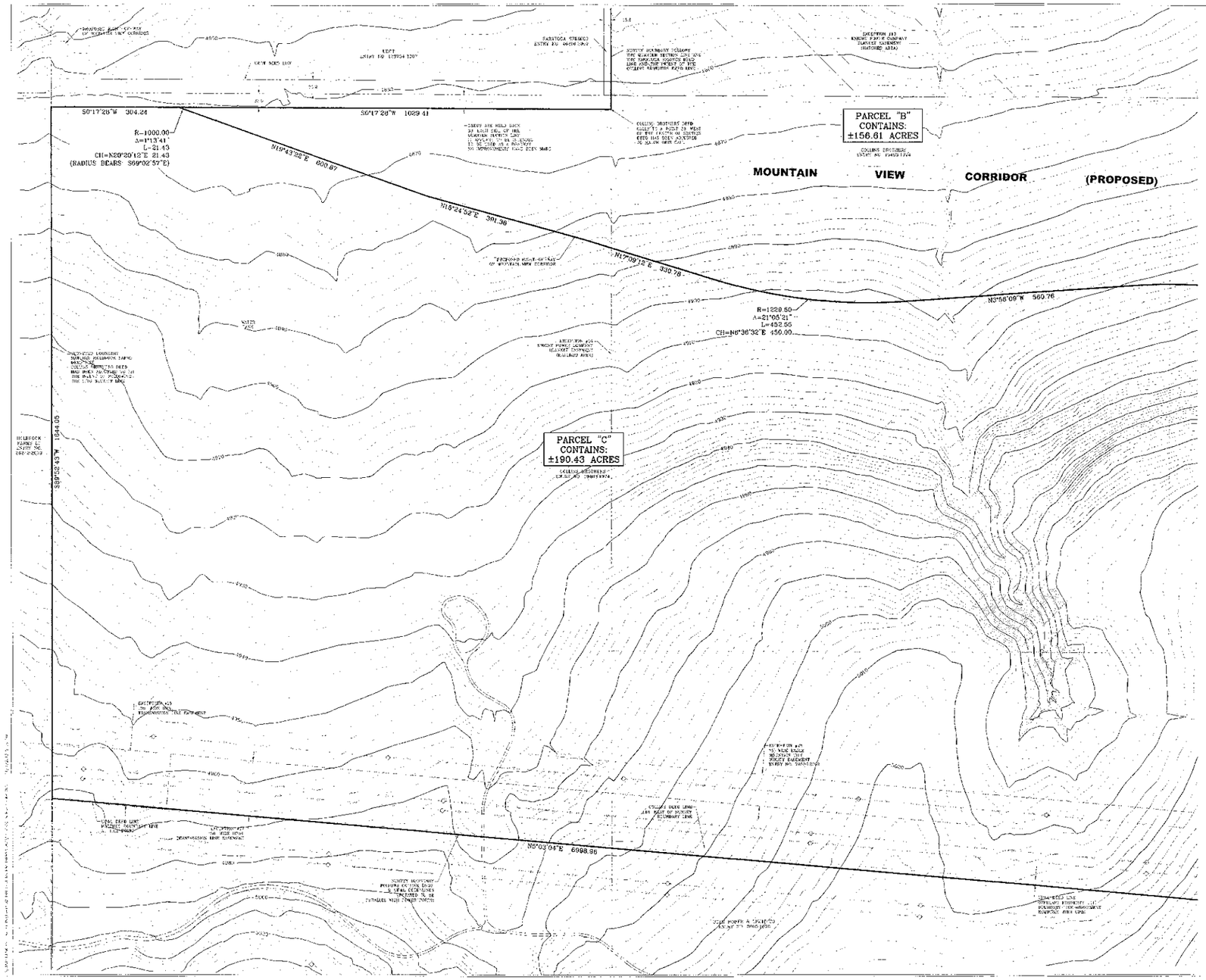
Contains: ±155.80 Acres

BOUNDARY/TOPOGRAPHIC SURVEY
LOCATED IN THE SW 1/4 & NW 1/4 OF SECTION 10 & THE SW 1/4, NW 1/4 & SE 1/4 OF SECTION 3, T5S, R1W, SLB&M, SARATOGA SPRINGS
PROPERTY OF: COLLINS BROTHERS & SUNRISE 3, LLC
PREPARED FOR: DAI

REVISIONS

LEI PROJECT #: 2013-0902
DRAWN BY: BLS
CHECKED BY: CAP
SCALE: 1" = 100'
DATE: 10/17/2013
SHEET: 4 of 7

13-200-4



13-200-5

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SURVEYORS
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office@iei-eng.com
www.iei-eng.com

CHAD A. PORSEN No. 5019382 UTAH LICENSED LAND SURVEYOR

BOUNDARY/TOPOGRAPHIC SURVEY

LOCATED IN THE SW 1/4 & NW 1/4 OF SECTION 10 & THE SW 1/4 , NW 1/4 & SE 1/4 OF SECTION 3, T5S, R1W, SL&BM, SARATOGA SPRINGS

PROPERTY OF: COLLINS BROTHERS & SUNRISE 3, LLC

PREPARED FOR: DAI

REVISIONS

IEI PROJECT #: 2013-0902

DRAWN BY: BLS

CHECKED BY: CAP

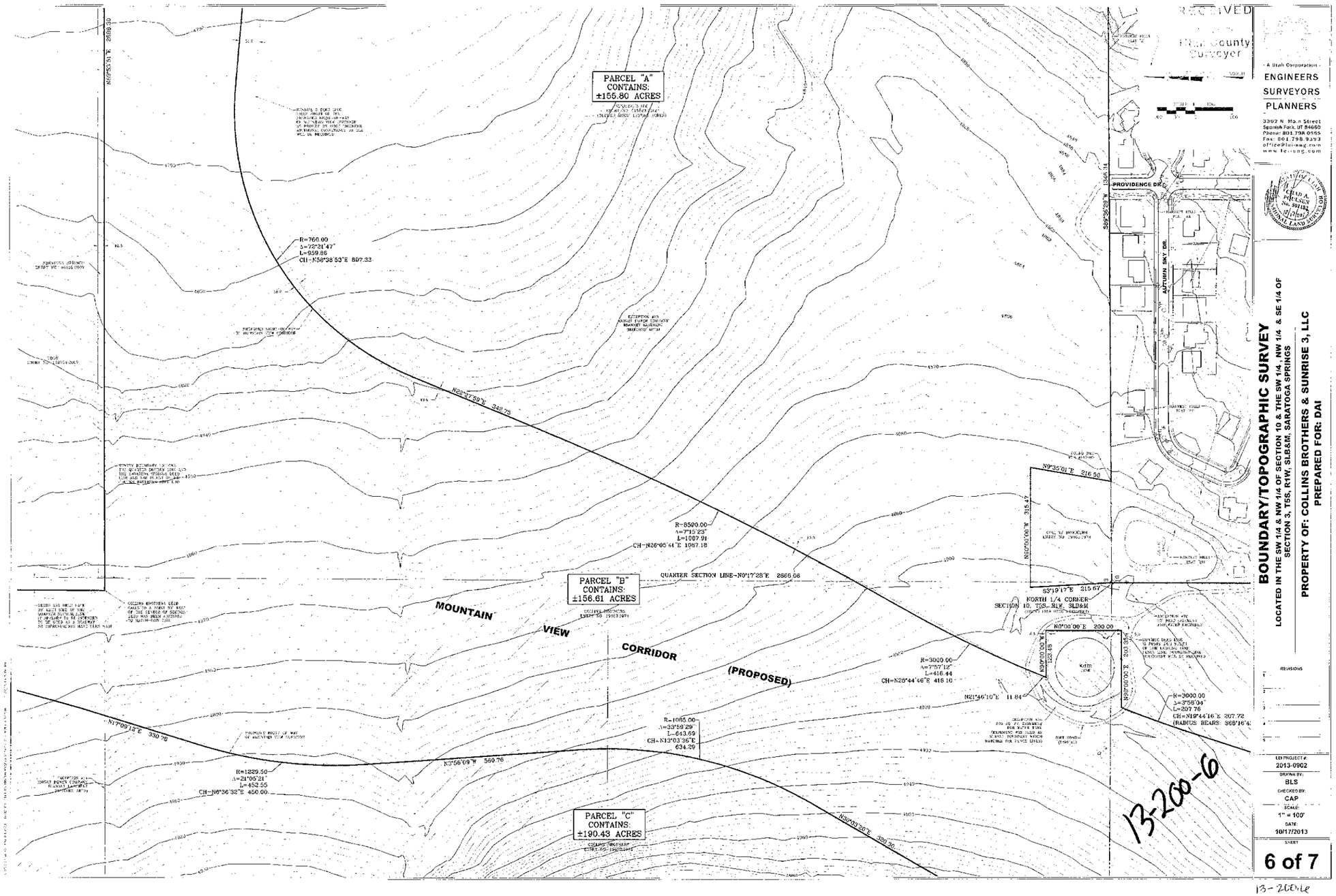
SCALE: 1" = 100'

DATE: 10/17/2013

SHEET

5 of 7

13-200-5


PARCEL "A"
CONTAINS:
±155.80 ACRES
PARCEL "B"
CONTAINS:
±156.61 ACRES
PARCEL "C"
CONTAINS:
±190.43 ACRES
MOUNTAIN VIEW CORRIDOR (PROPOSED)
QUARTER SECTION LINE-N0°17'28"E 2666.06
R=760.00
Δ=72°21'47"
L=959.86
CH=N38°38'53"E 897.33
R=8500.00
Δ=7°13'23"
L=1087.91
CH=N26°05'44"E 1087.18
R=3000.00
Δ=7°57'12"
L=416.44
CH=N25°44'46"E 416.10
R=1085.00
Δ=33°59'29"
L=643.69
CH=N13°03'36"E 634.20
R=1229.50
Δ=21°05'21"
L=452.55
CH=N6°36'32"E 450.00
R=3000.00
Δ=3°58'04"
L=207.76
CH=N19°44'16"E 207.72
(RADIUS BEARS: S68°16'4
N9°35'01"E 216.50
S3°19'17"E 215.67
NORTH 1/4 CORNER
SECTION 10, T5S.-R1W, SLB&M
N0°00'00"E 200.00
N21°46'10"E 11.84
N17°09'12"E 330.76
N3°56'09"W 560.76
N3°00'20"E 320.36
PROVIDENCE DR.
AUTUMN SKY DR.
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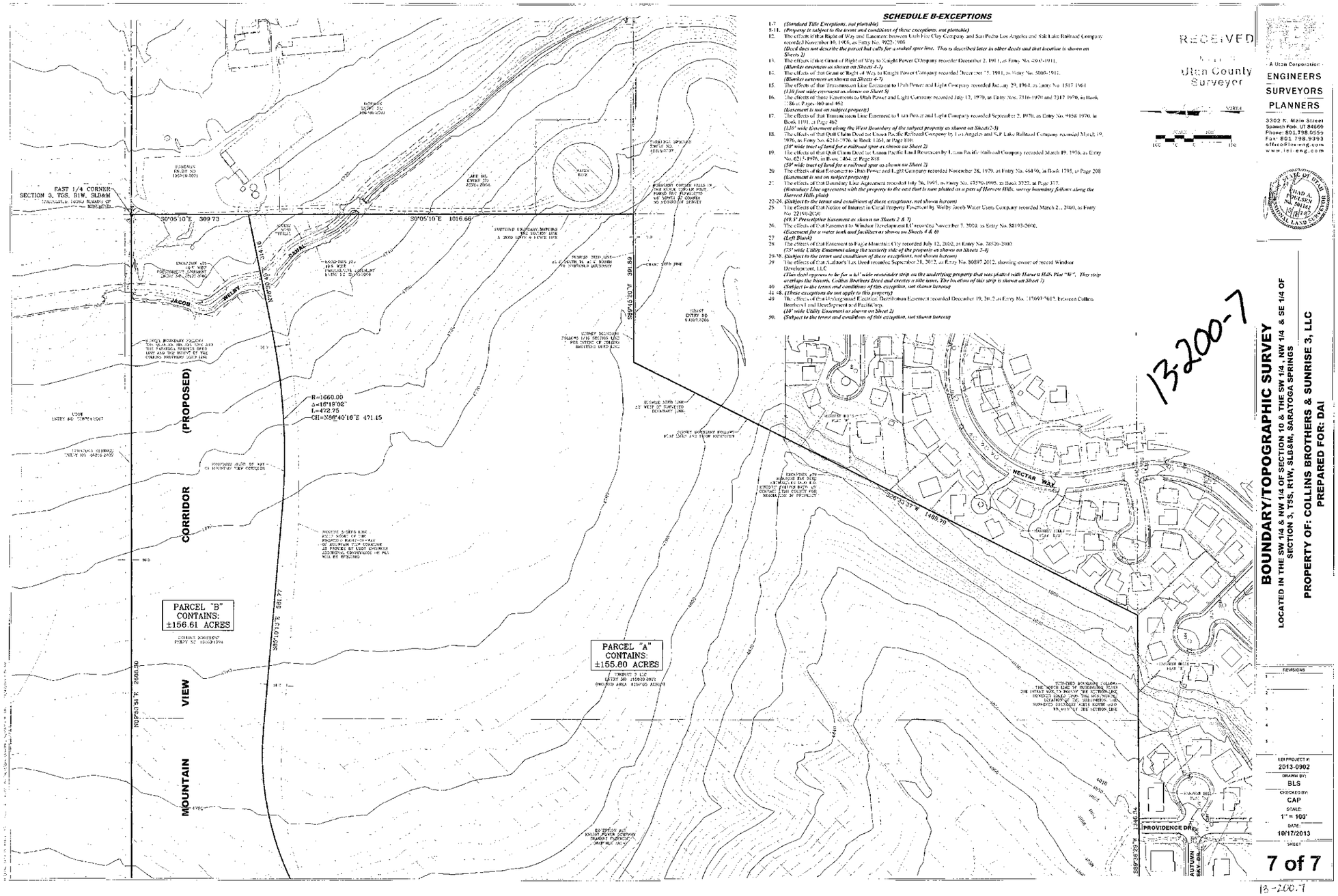
13-200-6
13-200-6



SCHEDULE B-EXCEPTIONS

1-7 *(Standard Title Exceptions, not plottable)*

8-11. *(Property is subject to the terms and conditions of these exceptions, not plottable)*

12. The effects of that Right of Way and Easement between Utah Fire Clay Company and San Pedro Los Angeles and Salt Lake Railroad Company recorded November 10, 1905, as Entry No. 9922-1906
(Deed does not describe the parcel but calls for a marked spur line. This is described later in other deeds and that location is shown on Sheets 2)

13. The effects of that Grant of Right of Way to Knight Power COmpany recorded December 2, 1911, as Entry No. 5009-1911.
(Blanket easement as shown on Sheets 4-7)

14. The effects of that Grant of Right of Way to Knight Power Company recorded December 5, 1911, as Entry No. 5009-1911.
(Blanket easement as shown on Sheets 4-7)

15. The effects of that Transmission Line Easement to Utah Power and Light Company recorded January 29, 1964, as Entry No. 1517-1964
(130 foot wide easement as shown on Sheet 5)

16. The effects of those Easements to Utah Power and Light Company recorded July 17, 1970, as Entry Nos. 7316-1970 and 7317-1970, in Book 1186 at Pages 460 and 462
(Easement is not on subject property)

17. The effects of that Transmission Line Easement to Utah Power and Light Company recorded September 2, 1970, as Entry No. 9858-1970, in Book 1191, at Page 462
(130' wide Easement along the West Boundary of the subject property as shown on Sheets2-5)

18. The effects of that Quit Claim Deed to Union Pacific Railroad Company by Los Angeles and Salt Lake Railroad Company recorded March 19, 1976, as Entry No. 4215-1976, in Book 1364, at Page 810
(50' wide tract of land for a railroad spur as shown on Sheet 2)

19. The effects of that Quit Claim Deed to Union Pacific Land Resources by Union Pacific Railroad Company recorded March 19, 1976, as Entry No. 4215-1976, in Book 1364 at Page 818
(50' wide tract of land for a railroad spur as shown on Sheet 2)

20. The effects of that Easement to Utah Power and Light Company recorded November 28, 1979, as Entry No. 4646-96, in Book 1795, at Page 208
(Easement is not on subject property)

21. The effects of Cost Boundary Line Agreement recorded July 26, 1995, as Entry No. 4559-1995, in Book 3725, at Page 373.
(Boundary Line agreement with the property to the east that is now platted as a part of Harvest Hills, survey boundary follows along the Harvest Hills plat)

22-24. *(Subject to the terms and conditions of these exceptions, not shown hereon)*

25. The effects of Cost Notice of Interest in Critical Property Function by Welby Jacob Water Users Company recorded March 2, 2040, as Entry No. 22150-2040
(49.5' Prescriptive Easement as shown on Sheets 2 & 7)

26. The effects of Cost Easement to Windsor Development LLC recorded November 7, 2000, as Entry No. 88103-2000.
(Easement for a water tank and facilities as shown on Sheets 4 & 6)

27. *(Left Blank)*

28. The effects of Cost Easement to Eagle Mountain City recorded July 12, 2002, as Entry No. 78520-2002
(25' wide Utility Easement along the westerly side of the property as shown on Sheets 2-4)

29-38. *(Subject to the terms and conditions of these exceptions, not shown hereon)*

39. The effects of Cost Auditor's Tax Deed recorded September 21, 2012, as Entry No. 90897-2012, showing owner of record Windsor Development, LLC
(This deed appears to be for a 3.1' wide remainder strip on the underlying property that was platted with Harvest Hills Plat "W". This strip overlaps the Bissom, Collins Brothers Deed and creates a title issue. The location of this strip is shown on Sheet 7)

40. *(Subject to the terms and conditions of this exception, not shown hereon)*

41-48. *(These exceptions do not apply to this property)*

49. The effects of that Underground Electric Distribution Easement recorded December 19, 2012 as Entry No. 115997-2012, between Collins Brothers Land Development and PacifiCorp.
(10' wide Utility Easement as shown on Sheet 2)

50. *(Subject to the terms and conditions of this exception, not shown hereon)*

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PROPERTY OF: COLLINS BROTHERS & SUNRISE 3, LLC

PREPARED FOR: DAI

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SHEET: 7 of 7

13-200-7

ASCENT ACADEMY SARATOGA SPRINGS

LOCATION:

APPROX. 1150 WEST 1600 NORTH
SARATOGA SPRINGS, UTAH

CONTRACTOR

ONE WEST CONST.

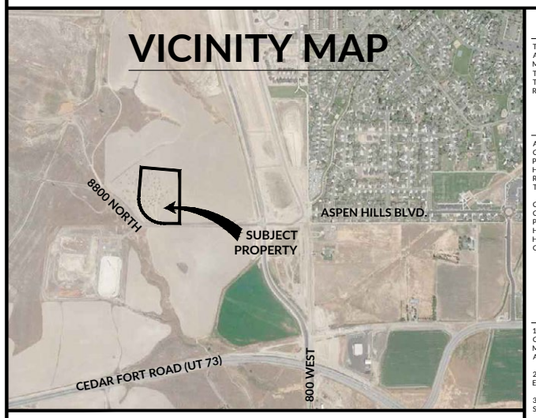
ATTN: TED LEWIS
290 N. FLINT STREET, SUITE A
KAYSVILLE, UTAH 84037
PHONE: (801) 860-0523

08-12-2020
JOSHUA R. LEWIS

SILVERPEAK ENGINEERING

177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM

VICINITY MAP



GOVERNING AGENCIES

CITY ENGINEER
GORDON MINER
1307 N. COMMERCE DRIVE
SARATOGA SPRINGS CITY, UT 84045
PH: 801-766-9793

CULINARY WATER
SARATOGA SPRINGS PUBLIC WORKS
213 NORTH 900 EAST
SARATOGA SPRINGS CITY, UT 84045
PH: 801-766-6506

FIRE DEPARTMENT
SARATOGA SPRINGS FIRE & RESCUE
995 WEST 1200 NORTH
SARATOGA SPRINGS CITY, UT 84045
PH: 801-766-6505

STORM DRAIN
SARATOGA SPRINGS PUBLIC WORKS
213 NORTH 900 EAST
SARATOGA SPRINGS CITY, UT 84045
PH: 801-766-6506

SEWER
SARATOGA SPRINGS PUBLIC WORKS
213 NORTH 900 EAST
SARATOGA SPRINGS CITY, UT 84045
PH: 801-766-6506

NATURAL GAS
DOMINION ENERGY
1140 200 S,
SALT LAKE CITY, UT 84104
PH: 801-324-5111

SECONDARY WATER
SARATOGA SPRINGS PUBLIC WORKS
213 NORTH 900 EAST
SARATOGA SPRINGS CITY, UT 84045
PH: 801-766-6506

POWER
ROCKY MOUNTAIN POWER
201 SOUTH MAIN ST., SUITE 2300
SALT LAKE CITY, UT 84111
ATTN: CURTIS GALVEZ
PH: 801-629-3479

TELEPHONE
CENTURYLINK TELEPHONE
1425 WEST 3100 SOUTH
SALT LAKE CITY, UT 84119
ATTN: GARY WEAVER
PH: 801-629-5380

UTILITY DISCLAIMER

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND / OR ELEVATIONS OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

NOTICE TO CONTRACTOR

ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT ALL EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS OF THE U.S. DEPARTMENT OF LABOR AND THE STATE OF UTAH DEPARTMENT OF INDUSTRIAL RELATIONS CONSTRUCTION SAFETY ORDERS." THE CIVIL ENGINEER SHALL NOT BE RESPONSIBLE IN ANY WAY FOR THE CONTRACTORS AND SUBCONTRACTORS COMPLIANCE WITH SAID REGULATIONS AND ORDERS.

CONTRACTOR FURTHER AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB-SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE CIVIL ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

TRAFFIC CONTROL & SAFETY NOTES

1. BARRICADING AND DETOURING SHALL BE IN CONFORMANCE WITH THE REQUIREMENTS OF THE CURRENT STATE OF UTAH DEPARTMENT OF TRANSPORTATION MANUAL OF TRAFFIC CONTROLS FOR CONSTRUCTION AND MAINTENANCE WORK ZONES, THE CURRENT SARATOGA SPRINGS CITY STANDARD DRAWING, AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO ANY WORK.

2. NO STREET SHALL BE CLOSED TO TRAFFIC WITHOUT WRITTEN PERMISSION FROM THE CITY TRAFFIC ENGINEER, EXCEPT WHEN DIRECTED BY LAW ENFORCEMENT OR FIRE OFFICIALS.

3. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PROVIDE FOR SMOOTH TRAFFIC FLOW AND SAFETY. ACCESS SHALL BE MAINTAINED FOR ALL PROPERTIES ADJACENT TO THE WORK.

4. ALL SIGNAGE AND TRAFFIC DEVICES TO BE USED DURING AND AFTER THE CONSTRUCTION PERIOD SHALL BE IN CONFORMANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

5. DETOURING OPERATIONS FOR A PERIOD OF SIX CONSECUTIVE CALENDAR DAYS, OR MORE, REQUIRE THE INSTALLATION OF TEMPORARY STREET STRIPING AND REMOVAL OF INTERFERING STRIPING BY SANDBLASTING. THE DETOURING STRIPING PLAN OR CONSTRUCTION TRAFFIC CONTROL PLAN MUST BE SUBMITTED TO THE CITY TRAFFIC ENGINEER FOR REVIEW AND APPROVAL.

6. ALL TRAFFIC CONTROL DEVICES SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT THE END OF THE WORK TO THE SATISFACTION OF THE CITY TRAFFIC ENGINEER.

7. TRAFFIC CONTROL DEVICES (TCDs) SHALL REMAIN VISIBLE AND OPERATIONAL AT ALL TIMES.

DEFERRED SUBMITTAL

1. FIRE SPRINKLER DRAWINGS & FIRE ALARM DRAWINGS WILL BE PROVIDED PRIOR TO INSTALLATION.

GENERAL NOTES

1) ALL WORK WITHIN THE PUBLIC RIGHT OF WAY SHALL CONFORM TO THE SARATOGA SPRINGS CITY STANDARDS & SPECIFICATIONS.

2) ALL WORK PERFORMED ON SARATOGA SPRINGS CITY OWNED UTILITIES & CONNECTIONS THERETO SHALL CONFORM TO THE SARATOGA SPRINGS CITY STANDARDS & SPECIFICATIONS. APWA STANDARDS WILL BE USED IN THE ABSENCE OF ANY SARATOGA SPRINGS CITY STANDARDS AND DETAILS.

3) THESE PLANS CALL FOR BUT ARE NOT DESIGN DRAWINGS FOR THE RELOCATION, AND/OR REMOVAL OF EXISTING DRY UTILITIES INFRASTRUCTURE. DESIGN DRAWINGS FOR SAID RELOCATIONS AND REMOVALS SHALL BE BY OTHERS.

4) CALL BLUESTAKES 48 HOURS PRIOR TO DIGGING.

5) CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL EXISTING MANHOLES AND OTHER UTILITIES BEFORE BUILDING OR STAKING ANY UTILITY LINES.

PERMISSION TO USE PLANS

ALL DESIGN INFORMATION DEPICTED IN THESE, THE "C" OR CIVIL DRAWINGS IS PROPRIETARY AND THE SOLE PROPERTY OF SILVERPEAK ENGINEERING, INC. THESE DRAWINGS MAY BE USED ONLY BY AUTHORIZATION BY SILVERPEAK ENGINEERING INC. THIS DESIGN IN PART OR IN TOTAL BY NOT BE USED OR DUPLICATED FOR ANY OTHER PROJECT OR PURPOSE. NON PAYMENT OR PARTIAL PAYMENT FOR THIS DESIGN AUTOMATICALLY REVOKES THE AUTHORIZATION OF USE.

INDEX TO DRAWINGS

C001	*CIVIL COVER SHEET*
C002	*GENERAL NOTES*
C100	*DEMOLITION PLAN*
C200	*SITE PLAN*
C201	*SITE DETAILS*
C300	*GRADING / DRAINAGE PLAN*
C301	*GRADING / DRAINAGE DETAILS*
C302	*DETENTION POND DETAIL*
C400	*UTILITY PLAN*
C401	*UTILITY DETAILS*
C402	*UTILITY DETAILS*
C500	*EROSION CONTROL PLAN*
C501	*STORM WATER POLLUTION PREVENTION NOTES*

811 *CALL BEFORE YOU DIG*
@ 1-800-662-4111
AT LEAST 48 HOURS
PRIOR TO COMMENCING
ANY CONSTRUCTION

REVISED:

DATE: 08-12-2020
PROJECT: AW003
DRAWN BY: CGB
CHECKED BY: JRL

ASCENT ACADEMY SARATOGA SPRINGS, APPROX. 1150 WEST 1600 NORTH, SARATOGA SPRINGS, UTAH

SHEET NUMBER:
C001
COVER

ALL INFORMATION SHOWN HEREON IS NOT FINAL OR APPROVED WITHOUT THE GOVERNING AGENCY'S STAMP AND SIGNATURE. ANY USE OF THE DRAWING AND ITS CONTENT WITHOUT SAID APPROVAL IS DONE AT THE INDIVIDUAL'S OWN RISK. SILVER PEAK ENGINEERING DOES NOT ASSUME LIABILITY FOR ANY SUCH USE.

GENERAL NOTES

CONTRACTOR SHALL OBTAIN A COPY OF, AND STRICTLY ADHERE TO THE CURRENT STANDARDS AND SPECIFICATIONS OF ALL APPLICABLE AGENCIES.

ALL WORK TO CONFORM TO SARATOGA SPRINGS CITY'S STANDARDS, DRAWINGS,AND SPECIFICATIONS. APWA STANDARDS WILL BE USED IN THE ABSENCE OF ANY SARATOGA SPRINGS CITY STANDARDS AND DETAILS.

CONTRACTOR TO NOTIFY SARATOGA SPRINGS CITY'S AND SILVERPEAK ENGINEERING 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION REQUIRED FOR THIS PROJECT.

NO ALLOWANCE WILL BE MADE FOR DISCREPANCIES OR OMISSIONS THAT CAN BE EASILY OBSERVED. CONTRACTOR MUST VERIFY ALL EXISTING CONDITIONS BEFORE BIDDING, AND BRING UP ANY QUESTIONS BEFOREHAND.

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, MAINTAINING, OR RESTORING ALL MONUMENTS AND MONUMENT REFERENCE MARKS WITHIN THE PROJECT SITE. CONTACT THE CITY OR COUNTY SURVEYOR FOR MONUMENT LOCATIONS AND CONSTRUCTION DETAILS.

CONTRACTOR SHALL PROVIDE A CONSTRUCTION SCHEDULE IN ACCORDANCE WITH THE CITY OR COUNTY REGULATIONS FOR WORKING IN THE PUBLIC WAY.

CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL ACCORDING TO GOVERNING AGENTS STANDARDS. WET DOWN DRY MATERIALS AND RUBBISH TO PREVENT BLOWING.

THE CONTRACTOR IS RESPONSIBLE TO FURNISH ALL MATERIALS TO COMPLETE THE PROJECT.

TRAFFIC CONTROL TO CONFORM TO THE CURRENT MUTCD AND UDOT STANDARDS.

THE LOCATIONS OF UNDERGROUND FACILITIES SHOWN ON THESE PLANS ARE BASED ON FIELD SURVEYS AND LOCAL UTILITY COMPANY RECORDS. IT SHALL BE THE CONTRACTORS FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR FACILITIES PRIOR TO PROCEEDING WITH CONSTRUCTION. NO ADDITIONAL COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR DAMAGE AND REPAIR TO THESE FACILITIES CAUSED BY HIS WORK FORCE.

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

ALL DIMENSIONS, GRADES, AND UTILITY DESIGN SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY DISCREPANCIES EXIST, PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO THE DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS, IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.

CONTRACTORS MUST START AT THE LOW END OF ALL GRAVITY FED LINES AND WORK UP HILL. FAILURE TO COMPLY WITH THIS NOTE SHALL RELEASE THE CIVIL ENGINEER OF ALL LIABILITY.

CONTRACTOR SHALL LAYOUT AND POTHOLE FOR ALL POTENTIAL CONFLICTS WITH UTILITY LINES ON OR OFF SITE AS REQUIRED PRIOR TO ANY CONSTRUCTION.

NO ALLOWANCE SHALL BE MADE FOR DISCREPANCIES OR OMISSIONS THAT CAN BE EASILY OBSERVED. CONTRACTOR MUST VERIFY ALL EXISTING CONDITIONS BEFORE BIDDING, AND BRING UP ANY QUESTIONS BEFOREHAND.

GEOTECHNICAL NOTES

1. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ALL SOFT, YIELDING OR UNSUITABLE MATERIALS AND REPLACING WITH SUITABLE MATERIALS AS SPECIFIED IN THE SOILS REPORT. ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED TO 96% STANDARD PROCTOR DENSITY PER ASTM TEST D-1557. MOISTURE CONTENT AT TIME OF PLACEMENT SHALL NOT EXCEED 2% ABOVE NOR 3% BELOW OPTIMUM. CONTRACTOR SHALL SUBMIT A COMPACTION REPORT PREPARED BY A QUALIFIED REGISTERED SOILS ENGINEER, VERIFYING THAT ALL FILLED AREAS AND SUB GRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED, HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT.
2. THE SOILS REPORT AND RECOMMENDATIONS SET FORTH THEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND IN CASE OF CONFLICT, SHALL TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCY BETWEEN SOILS REPORT AND PLANS, ETC.

UNDERGROUND INFORMATION

THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS IS BASED ON INFORMATION GATHERED FROM UTILITIES AND/OR FROM ABOVE-GROUND STRUCTURES OR EVIDENCE FOUND AT THE TIME OF SURVEY. AS SUCH, THE UNDERGROUND INFORMATION IS A BEST ESTIMATE. SILVER PEAK DOES NOT REPRESENT OR GUARANTEE THAT THE UNDERGROUND INFORMATION PROVIDED IS CORRECT OR UP TO DATE.

IT SHALL BE THE CONTRACTORS FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR FACILITIES PRIOR TO PROCEEDING WITH CONSTRUCTION. CALL BLUESTAKES A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY DIGGING OR UTILITY WORK.

NO ADDITIONAL COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR DAMAGE AND REPAIR TO THESE FACILITIES CAUSED BY HIS WORK FORCE.

UTILITY NOTES

CONTRACTOR SHALL OBTAIN A COPY OF, AND STRICTLY ADHERE TO THE CURRENT STANDARDS AND SPECIFICATIONS OF SARATOGA SPRINGS CITY. CONTRACTOR IS TO OBTAIN ANY REQUIRED PERMITS AND NOTIFY THE UTILITY OWNER AND SILVER PEAK ENGINEERING PRIOR TO BEGINNING ANY WORK ON WET UTILITIES. CONTRACTOR IS TO COORDINATE DRY UTILITY WORK WITH THE UTILITY OWNERS.

STORM DRAIN
SEE SARATOGA SPRINGS CITY STANDARDS & SPECIFICATIONS FOR ALL DETAILS & SPECIFICATIONS GOVERNING THE CONSTRUCTION & INSPECTION OF THE STORM DRAIN & APPURTENANCES WITHIN THE PUBLIC RIGHT-OF-WAY SHOWN ON THIS PLAN. SEE THE DETAILS PROVIDED ON THIS SET OF DRAWINGS FOR ALL OTHER STORM DRAIN CONSTRUCTION. APWA STANDARDS WILL BE USED IN THE ABSENCE OF ANY SARATOGA SPRINGS CITY STANDARDS AND DETAILS.

LAND DRAIN: NOT USED

SANITARY SEWER
SEE SARATOGA SPRINGS CITY STANDARDS & SPECIFICATIONS FOR ALL DETAILS & SPECIFICATIONS GOVERNING THE CONSTRUCTION & INSPECTION OF THE SANITARY SEWER & APPURTENANCES SHOWN ON THIS PLAN.

CULINARY WATER
SEE SARATOGA SPRINGS CITY STANDARDS & SPECIFICATIONS FOR ALL DETAILS & SPECIFICATIONS GOVERNING THE CONSTRUCTION & INSPECTION OF THE CULINARY WATER & APPURTENANCES SHOWN ON THIS PLAN.

SECONDARY WATER
SEE SARATOGA SPRINGS CITY STANDARDS & SPECIFICATIONS FOR ALL DETAILS & SPECIFICATIONS GOVERNING THE CONSTRUCTION & INSPECTION OF THE SECONDARY WATER & APPURTENANCES SHOWN ON THIS PLAN.

DRY UTILITIES
THESE PLANS SHOW THE LOCATION OF POWER, NATURAL GAS, AND COMMUNICATIONS UTILITIES, BUT ARE NOT DESIGN DRAWINGS FOR THE RELOCATION OR REMOVAL OF EXISTING DRY UTILITIES, NOR FOR ANY NEW DRY UTILITY STUBS. CONTRACTOR IS TO SUBMIT SITE PLAN TO DRY UTILITIES FOR DESIGN OF SERVICE CONNECTIONS TO BUILDING. ACTUAL CONSTRUCTION OF SAID SERVICES TO BE DONE BY RESPECTIVE UTILITY PROVIDERS.

CONTRACTOR MUST START AT THE LOW END OF ALL GRAVITY FED LINES AND WORK UP HILL. FAILURE TO COMPLY WITH THIS NOTE WILL RELEASE THE CIVIL ENGINEER OF ALL LIABILITY.

THE CONTRACTOR IS TO VERIFY DEPTHS OF UTILITIES IN THE FIELD BY POT HOLING A MINIMUM OF 300 FEET AHEAD OF PIPELINE CONSTRUCTION TO AVOID CONFLICTS WITH DESIGNED PIPELINE GRADE AND ALIGNMENT. IF A CONFLICT ARISES RESULTING FROM THE CONTRACTOR'S NEGLIGENCE TO POTHOLE UTILITIES THE CONTRACTOR WILL BE REQUIRED TO RESOLVE THE CONFLICT WITHOUT ADDITIONAL COST OR CLAIM TO THE OWNER OR ENGINEER.

ALL DIMENSIONS, GRADES, AND UTILITY DESIGN SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY DISCREPANCIES EXIST, PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO THE DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS, IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.

CONTRACTOR SHALL NOT ALLOW ANY GROUNDWATER OR DEBRIS TO ENTER THE NEW PIPE DURING CONSTRUCTION.

ALL THRUST BLOCKS SHALL BE POURED IN PLACE AGAINST UNDISTURBED SOIL AS PER SPECIFICATIONS, ALL VALVES, FITTINGS, AND APPURTENANCES TO BE BLOCKED.

CONTRACTOR TO LOOP NEW WATERLINE AROUND GRAVITY UTILITIES IF CONFLICT DOES OCCUR. (NOTIFY ENGINEER OF THE PROBLEM).

CONTRACTOR IS TO COORDINATE ALL UTILITIES WITH MECHANICAL DRAWINGS.

NO CHANGE IN DESIGN LOCATION OR GRADE WILL BE MADE BY THE CONTRACTOR WITHOUT THE WRITTEN APPROVAL OF THE PROJECT ENGINEER.

APWA STANDARDS WILL BE USED IN THE ABSENCE OF ANY SARATOGA SPRINGS CITY STANDARDS AND DEVICES.

DEMOLITION NOTES

1. CONTRACTOR TO LEGALLY REMOVE & DISPOSE OF ALL EXTRANEOUS UTILITIES , STRUCTURES, IMPROVEMENTS & DEBRIS ON THE SITE PRIOR TO CONSTRUCTING THE IMPROVEMENTS SHOWN ON THIS PLAN.
2. SAID DEMOLITION MAY INCLUDE, BUT IS NOT LIMITED TO UTILITY SERVICES AS WELL AS ASPHALT, CONCRETE, FENCES, TREES, SHRUBS & OTHER DELETERIOUS MATERIALS ON THE SITE.
3. SAID DEMOLITION EXCLUDES UTILITY MAINS UNLESS SPECIFICALLY SHOWN ON THIS PLAN.
4. SAID DEMOLITION EXCLUDES PUBLICLY OWNED STREET IMPROVEMENTS UNLESS SPECIFICALLY SHOWN ON THIS PLAN.
5. SITE CLEARING SHALL INCLUDE THE LOCATION AND REMOVAL OF ALL UNDERGROUND TANKS, PIPES, VALVES, ETC.
6. CONTRACTOR IS TO COORDINATE ALL PERMITS, FEES & INSPECTIONS AS REQUIRED BY ANY AGENCY HAVING JURISDICTION.
7. NATURAL VEGETATION AND SOIL COVER SHALL NOT BE DISTURBED PRIOR TO ACTUAL CONSTRUCTION OF A REQUIRED FACILITY OR IMPROVEMENT. MASS CLEARING OF THE SITE IN ANTICIPATION OF CONSTRUCTION SHALL BE AVOIDED. CONSTRUCTION TRAFFIC SHALL BE LIMITED TO ONE APPROACH TO SITE. THE APPROACH SHALL BE DESIGNATED BY THE GENERAL MANAGER.

ABOVE-GROUND IMPROVEMENTS

CONTRACTOR SHALL OBTAIN A COPY OF, AND STRICTLY ADHERE TO THE CURRENT SARATOGA SPRINGS CITY STANDARDS AND SPECIFICATIONS. APWA STANDARDS WILL BE USED IN THE ABSENCE OF ANY SARATOGA SPRINGS CITY STANDARDS AND DETAILS.

CONTRACTOR IS TO OBTAIN ANY REQUIRED PERMITS AND NOTIFY THE STREET OWNER AND SILVER PEAK ENGINEERING PRIOR TO BEGINNING ANY WORK WITHIN SAID STREET.

SITE WORK OUTSIDE OF THE PUBLICLY OWNED RIGHT OF WAY SHALL CONFORM WITH THE NOTES AND DETAILS SHOWN ON THIS SET OF PLANS. CONTRACTOR IS TO NOTIFY THE OWNER AND SILVERPEAK ENGINEERING PRIOR TO BEGINNING SAID WORK.

ALL DIMENSIONS, AND GRADES SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY DISCREPANCIES EXIST, PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO THE DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS, IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.

ALL EXISTING MANHOLES, WATER VALVES, CLEAN OUTS, ETC., ARE TO BE RAISED OR LOWERED TO GRADE.

ALL NEW VALVES, MANHOLES, ETC. SHALL BE INSTALLED A MINIMUM OF 6" BELOW FINISH GRADE & RAISED TO GRADE AS REQUIRED WITH A MINIMUM 6" CONCRETE RING.

FULL DEPTH EXPANSION JOINTS WILL BE PLACED AGAINST ANY OBJECT DEEMED TO BE FIXED, CHANGES IN DIRECTION, AND AT EQUAL INTERVALS NOT TO EXCEED 50 FEET. SLABS-ON-GRADE WILL BE TYPICALLY SCORED (1/2 THE DEPTH) AT INTERVALS NOT TO EXCEED THEIR WIDTH OR 12 TIMES THEIR DEPTH, WHICHEVER IS LESS. SCORING WILL BE PLACED TO PREVENT RANDOM CRACKING.

CONCRETE WATERWAYS, CURB WALLS, MOW STRIPS, CURB AND GUTTER, ETC., WILL TYPICALLY BE SCORED (1/2 THE DEPTH) AT INTERVALS NOT TO EXCEED 10 FEET, AND HAVE FULL DEPTH EXPANSION JOINTS THAT EQUAL SPACING NOT TO EXCEED 40 FEET.

UNLESS OTHERWISE NOTED, ALL SLABS-ON-GRADE WILL HAVE A MINIMUM 8" TURNED-DOWN EDGE TO HELP CONTROL FROST HEAVE.

UNLESS OTHERWISE NOTED, ALL ON-GRADE CONCRETE WILL BE PLACED ON A MINIMUM 4" GRAVEL BASE OVER A WELL COMPACTED (96% STANDARD PROCTOR DENSITY) SUB GRADE.

ALL EXPOSED SURFACES WILL HAVE A TEXTURED FINISH, RUBBED, OR BROOMED, ANY "PLASTERING" OF NEW CONCRETE WILL BE DONE WHILE IT IS STILL "GREEN".

ALL JOINTS (CONTROL JOINTS, CONSTRUCTION JOINTS, EXPANSION JOINTS, ETC.), WILL BE SEALED WITH A ONE PART POLYURETHANE SEALANT (SEE SPECIFICATION).

CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ADJACENT SURFACE IMPROVEMENTS.

ALL EXISTING ASPHALT WILL BE SAW CUT IN NEAT STRAIGHT LINES BY THE CONTRACTOR PRIOR TO EXCAVATION.

HANDICAP ACCESSIBILITY: ALL CONSTRUCTION SHALL MEET THE ADA HANDICAP ACCESSIBILITY REQUIREMENTS. FOR ANY DISCREPANCIES BETWEEN THE PLANS AND ADA REQUIREMENTS, ADA REQUIREMENTS WILL GOVERN.

STRIPING WILL BE PER THE PLANS AND/OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE. STRIPING TO INCLUDE HANDICAP INSIGNIAS, SIGNS, CROSS-HATCHING, DIRECTION ARROWS, ETC. AS SHOWN OR AS DIRECTED.

NO CHANGE IN DESIGN LOCATION OR GRADE WILL BE MADE BY THE CONTRACTOR WITHOUT THE WRITTEN APPROVAL OF THE PROJECT ENGINEER.

ABBREVIATIONS

NOT ALL ITEMS MAY BE APPLICABLE

Ø	DIAMETER
Δ	DELTA
°	DEGREES
'	MINUTES, FEET
"	SECONDS, INCHES
ADA	AMERICAN DISABILITIES ACT
ARCH	ARCHITECTURAL
B&C	BAR & CAP
BL	BOUNDARY LINE
BM	BENCHMARK
BND	BOUNDARY
BOW	BACK OF WALK
BRG	BEARING
BVC	BEGIN VERTICAL CURVE
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
C&G	CURB AND GUTTER
CB	CATCH BASIN
CH	CHORD
CHB	CHORD BEARING
CI	CAST IRON
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
COMBO	COMBINATION
CONC	CONCRETE
CONST	CONSTRUCTION
CUL	CULINARY
CW	CULINARY WATER
CWL	CULINARY WATERLINE
DEMO	DEMOLITION
DI	DUCTILE IRON
DIAM	DIAMETER
DIST	DISTANCE
E	EAST
EG	EXISTING GRADE
EOA	EDGE OF ASPHALT
ELEC	ELECTRICAL
EVC	END VERTICAL CURVE
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EXIST	EXISTING
EX	EXISTING
FDC	FIRE DEPARTMENT CONNECTION
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOWLINE
FND	FOUND
FND	FOUNDATION
FTG	FOOTING
GB	GRADE BREAK
GR	GRATE
GV	GATE VALVE
HDPE	HIGH-DENSITY POLYETHYLENE PIPE
HP	HIGH POINT
HPE	HIGH POINT ELEVATION
HPS	HIGH POINT STATION
HWM	HIGH WATER MARK
INV	INVERT
IRR	IRRIGATION
IRRMH	IRRIGATION MANHOLE
K	RADIUS OF CURVATURE
L	LENGTH
LAT	LATERAL SERVICE
LD	LAND DRAIN
LDMH	LAND DRAIN MANHOLE
LG	LIP OF GUTTER
LP	LIGHT POLE
LPE	LOW POINT ELEVATION
LPS	LOW POINT STATION
MECH	MECHANICAL
MH	MANHOLE
MON	MONUMENT
N	NORTH
NE	NORTHEAST
NR	NON-RADIAL
NW	NORTHWEST
OC	ON CENTER
PL	PROPERTY LINE
PROP	PROPERTY
PUE	PUBLIC UTILTIY EASEMENT
PU&DE	PUBLIC UTILITY & DRAINAGE EASEMENT
PUE&DE	PUBLIC UTILITY EASEMENT & DRAINAGE EASEMENT
PVC	POLYVINYLCHLORIDE
R	RADIUS
RCL	ROADWAY CENTERLINE
RCP	REINFORCED CONCRETE PIPE
S	SOUTH
SD	STORM DRAIN
SDCB	STORM DRAIN CATCH BASIN
SDCO	STORM DRAIN CLEANOUT
SDMH	STORM DRAIN MANHOLE
SE	SOUTHEAST
SEC	SECONDARY
SEC	SECTION
SLB&M	SALT LAKE BASE & MERIDIAN
SPEC	SPECIFICATION
SPECS	SPECIFICATIONS
SPP	STEEL PIPE
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEANOUT
SSMH	SANITARY SEWER MANHOLE
STD	STANDARD
STDS	STANDARDS
SW	SECONDARY WATER
SW	SOUTHWEST
SWL	SECONDARY WATERLINE
TAN	TANGENT
TB	THRUST BLOCK
TBC	TOP BACK OF CURB
TBW	TOP BACK OF WALK
TEL	TELEPHONE
TCW	TOP OF CURBWALL
TOA	TOP OF ASPHALT
TOC	TOP OF CONCRETE
TOG	TOP OF GRATE
TOW	TOP OF WALL
TYP	TYPICAL
UDOT	UTAH DEPARTMENT OF TRANSPORTATION
U.N.O.	UNLESS NOTED OTHERWISE
UP	UTILITY POLE
UTIL	UTILITY
V	VALVE
VC	VERTICAL CURVE
W	WATER
W	WEST
WL	WATERLINE
WM	WATER METER
WV	WATER VALVE
X	CROSS
X-SECT	CROSS-SECTION

CALL BEFORE YOU DIG
@ 1-800-662-4111
AT LEAST 48 HOURS
PRIOR TO COMMENCING
ANY CONSTRUCTION

SEAL:

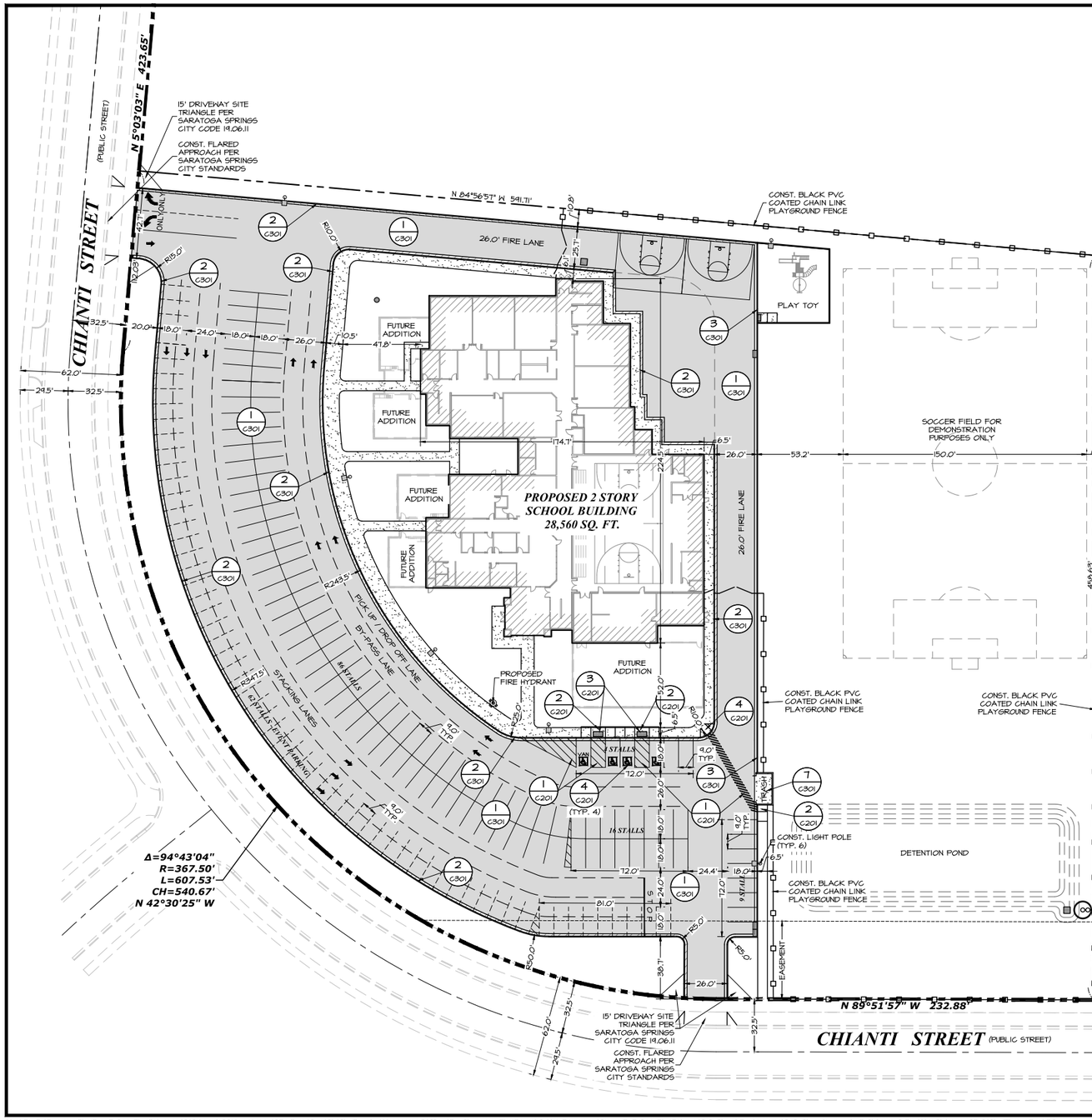
SILVERPEAK ENGINEERING
STRUCTURAL CIVIL SURVEY
177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM

ASCENT ACADEMY SARATOGA SPRINGS
APPROX. 1150 WEST 1600 NORTH
SARATOGA SPRINGS, UTAH

DATE: 08/12/2020
PROJECT: AW-053
DRAWN BY: CGR
REVISIONS:

GENERAL NOTES

SHEET NUMBER:
C002



LEGEND

NOT ALL ITEMS IN THE LEGEND MAY BE APPLICABLE

- BOUNDARY LINE
- CENTERLINE
- EASEMENT LINE
- SETBACK LINE
- IRR — NEW IRRIGATION LINE
- SD — NEW STORM DRAIN
- SS — NEW SANITARY SEWER
- SW — NEW SECONDARY WATERLINE
- W — NEW CULINARY WATERLINE
- IRR — EX. IRRIGATION LINE
- OHP — EX. OVERHEAD POWER LINE
- SD — EX. STORM DRAIN
- SS — EX. SANITARY SEWER
- SW — EX. SECONDARY WATERLINE
- T — EX. TELEPHONE LINE
- CTV — EX. CABLE TV LINE
- G — EX. GAS LINE
- W — EX. CULINARY WATERLINE
- SECTION CORNER
- MONUMENT
- CONTROL POINT
- 4250 — EG CONTOUR MINOR
- 4250 — EG CONTOUR MAJOR
- 4250 — FG CONTOUR MINOR
- 4250 — FG CONTOUR MAJOR
- NEW ASPHALT PER DETAIL 1/C301
- EXISTING ASPHALT
- EXISTING CURB & GUTTER
- 30" HIGH BACK CURB PER DETAIL 2/C301
- 30" RELEASE GUTTER PER DETAIL 3/C301

0 30 60 120

HORIZONTAL SCALE: 1"=30'

FEMA FLOOD ZONE: X (OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN)
PER FEMA MAP PANEL: 49049C0150F
DATED 06/19/2020

SITE AREA TABULATION

HARDSCAPE	98,077 SQ.FT.	2.252 AC.	37.56%
LANDSCAPE	134,567 SQ.FT.	3.089 AC.	51.52%
BUILDING FOOTPRINT	28,560 SQ.FT.	0.656 AC.	10.92%
TOTAL SITE	261,204 SQ.FT.	5.996 AC.	100.00%

PARKING PROVIDED 177 STALLS
PARKING REQUIRED WILL BE CALCULATED BY TRAFFIC ENGINEER

TOTAL BUILDING SQUARE FOOTAGE 47,113 SQ. FT.
CONSTRUCTION TYPE IIB, NON-COMBUSTIBLE MATERIALS
BUILDING WILL BE CONSTRUCTED WITH AUTOMATIC FIRE SPRINKLER SYSTEM

ASTER DRIVE?

SITE PLAN

CALL BEFORE YOU DIG @ 1-800-662-4111 AT LEAST 48 HOURS PRIOR TO COMMENCING ANY CONSTRUCTION

SEAL: 08-12-2020

177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
SILVERPEAK ENGINEERING
STRUCTURAL CIVIL SURVEY
WWW.SILVERPEAKENG.COM

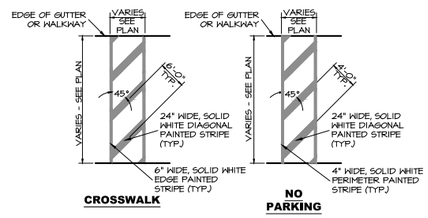
ASCENT ACADEMY SARATOGA SPRINGS
APPROX. 1150 WEST 1600 NORTH
SARATOGA SPRINGS, UTAH

DATE: 08/12/2020
PROJECT: AW-053
DRAWN BY: CGR
REVISIONS:

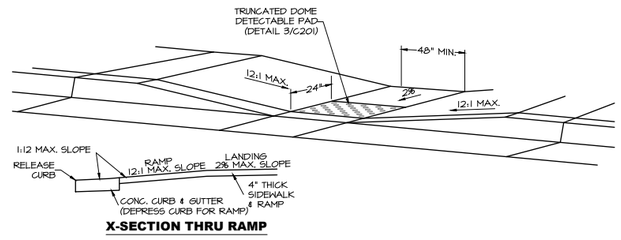
SITE PLAN

SHEET NUMBER: C200

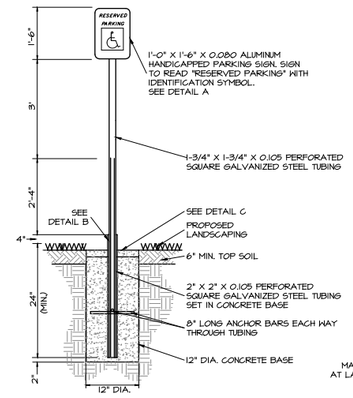
PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.



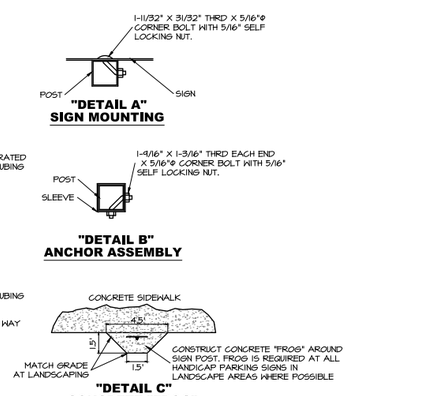
STRIPING DETAILS (1 / C201)
NOT TO SCALE



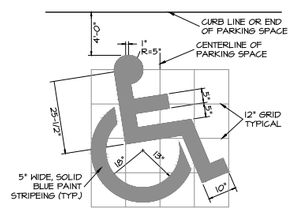
ADA RAMP (2 / C201)
NOT TO SCALE

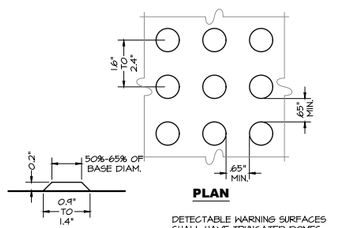


HANDICAPPED PARKING SIGN

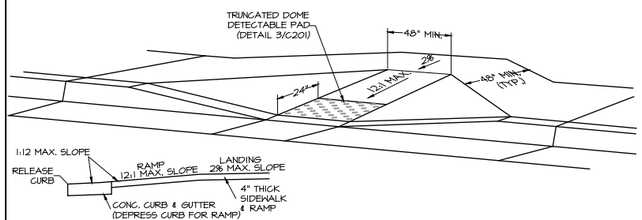


HANDICAP PARKING SIGN DETAILS (5 / C201)
NOT TO SCALE

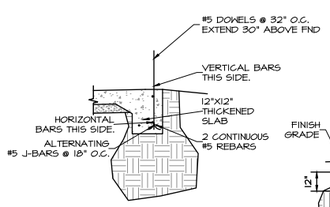




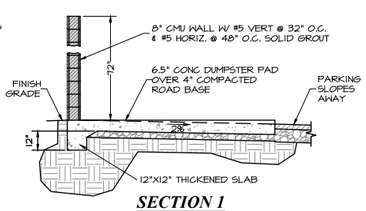
TRUNCATED DOME DETECTABLE PAD (3 / C201)
NOT TO SCALE



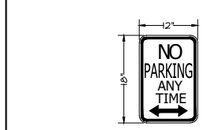
ADA RAMP (4 / C201)
NOT TO SCALE



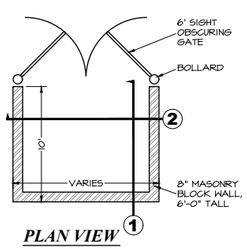
STEM WALL & FOUNDATION SECTION



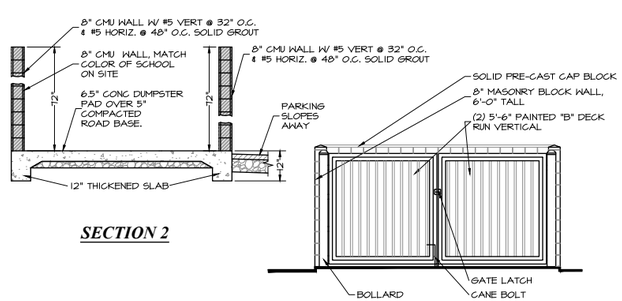
SECTION 1



TYPICAL NO PARKING SIGN (6 / C201)
NOT TO SCALE



PLAN VIEW



SECTION 2

DUMPSTER ENCLOSURE (7 / C201)
NOT TO SCALE

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SEAL:

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LAYTON, UT 84041
PHONE: (801) 499-5054
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SILVERPEAK ENGINEERING
STRUCTURAL CIVIL SURVEY

ASCENT ACADEMY SARATOGA SPRINGS
APPROX. 1150 WEST 1600 NORTH
SARATOGA SPRINGS, UTAH

DATE: 08/12/2020
PROJECT: AW-053
DRAWN BY: CGR
REVISIONS:

SITE DETAILS

SHEET NUMBER: C201

ENGINEER CERTIFICATION

I HEREBY CERTIFY THAT THIS DESIGN FOR THE ONSITE DRAINAGE OF THIS DEVELOPMENT WAS PREPARED BY ME (OR UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH THE PROVISIONS OF THE CITY OF SARATOGA SPRINGS' STANDARD SPECIFICATIONS AND DRAWINGS, AND WAS DESIGNED TO COMPLY WITH THE PROVISIONS THEREOF. I UNDERSTAND THAT THE CITY ASSUMES NO RESPONSIBILITY OR LIABILITY WHATSOEVER FOR THIS DESIGN.

GRADING NOTES:

1. ACCEPTED CONSTRUCTION DRAWINGS OR A GRADING PERMIT MUST BE OBTAINED FROM SARATOGA SPRINGS CITY PRIOR TO DISTURBING ANY VEGETATION OR MOVING ANY SOIL. CONTACT THE CITY ENGINEERING DEPARTMENT AT 801-766-4793.
2. A RIGHT-OF-WAY ENCROACHMENT PERMIT MUST BE OBTAINED FROM THE CITY OF SARATOGA SPRINGS PRIOR TO DOING ANY WORK IN THE EXISTING RIGHT-OF-WAY. CONTACT MARK EDWARDS AT 801-766-4793, EXT. 118.

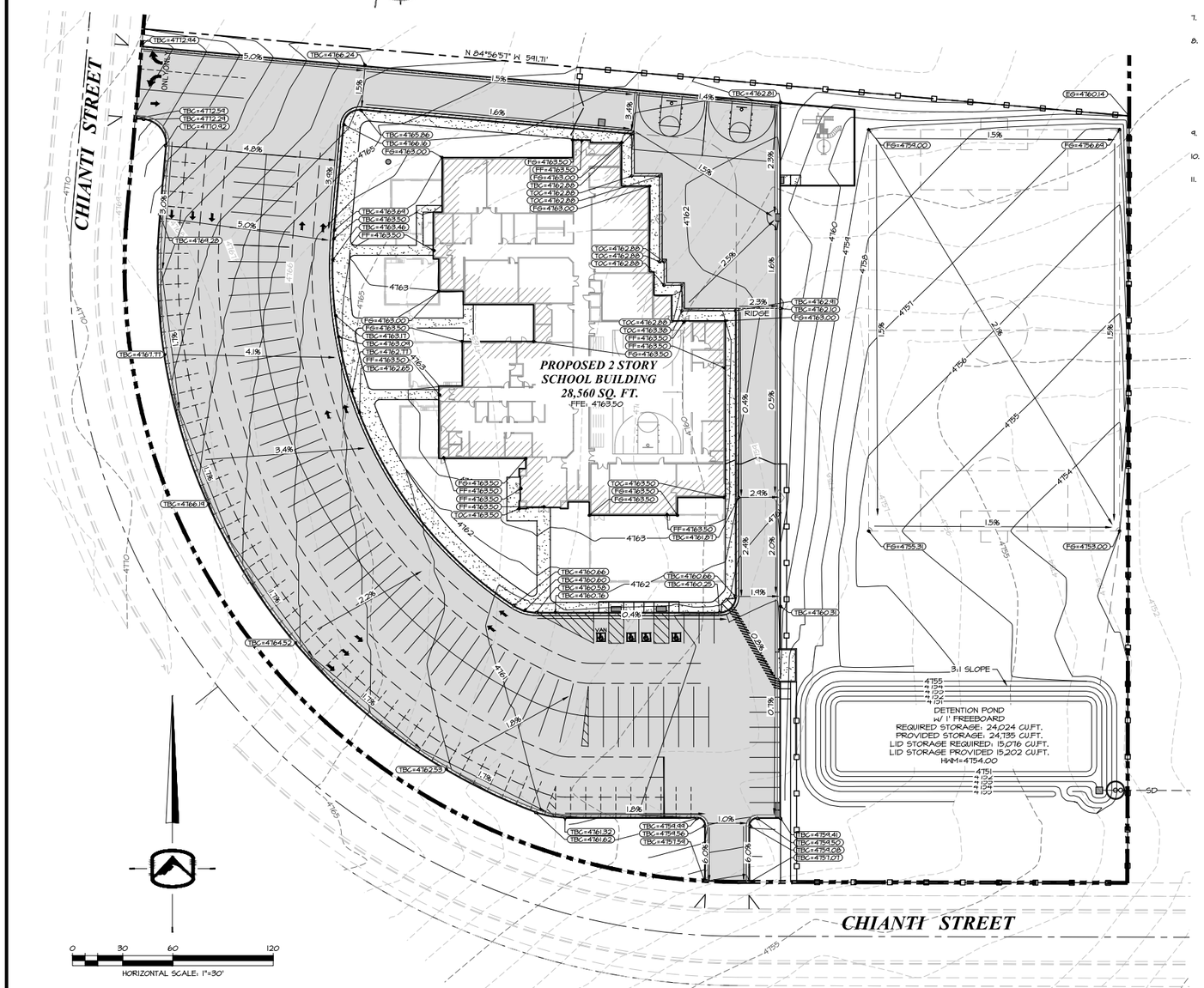
SITE BENCHMARK:

SOUTHWEST CORNER SECTION 10, TOWNSHIP 5 SOUTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN.

ELEV=4777.34 (CONVEYED TO SILVERPEAK FROM LEI ENGINEERS)

GENERAL NOTES:

1. ALL WORK TO COMPLY WITH GOVERNING AGENCY'S STANDARDS AND SPECIFICATIONS.
2. ALL IMPROVEMENTS MUST COMPLY WITH ADA STANDARDS AND RECOMMENDATIONS.
3. ALL WORK SHALL COMPLY WITH RECOMMENDATIONS OF THE GETECHNICAL ENGINEER POSSIBLY INCLUDING, BUT NOT LIMITED TO, REMOVAL OF UNCONSOLIDATED FILL, ORGANICS AND DEBRIS. PLACEMENT OF SUBSURFACE DRAIN LINES AND GEOTEXTILE, AND OVEREXCIVATION OF UNSUITABLE BEARING MATERIALS AND PLACEMENT OF ACCEPTABLE FILL MATERIAL.
4. THE CONTRACTOR SHALL BECOME FAMILIAR WITH EXISTING SOIL CONDITIONS.
5. ELEVATIONS HAVE BEEN TRUNCATED FOR CLARITY. XXXXX REPRESENTS ELEVATIONS OF 4XXXXX ON THESE PLANS.
6. LANDSCAPED AREAS REQUIRE SUBGRADE TO BE MAINTAINED AT A SPECIFIC ELEVATION BELOW FINISHED GRADE AND REQUIRE SUBGRADE TO BE PROPERLY PREPARED AND SACRIFICED. SEE LANDSCAPE PLANS FOR ADDITIONAL INFORMATION.
7. SLOPE ALL LANDSCAPED AREAS AWAY FROM BUILDING FOUNDATIONS TOWARD CURB AND GUTTER OR STORM DRAIN INLETS.
8. EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROPRIATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND LOCATION OF THE UTILITIES SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES. ANY ADDITIONAL COSTS INCURRED AS A RESULT OF THE CONTRACTORS FAILURE TO VERIFY THE LOCATIONS OF EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED INCLUDED IN THE CONTRACT. THE CONTRACTOR IS TO VERIFY ALL CONNECTION POINTS WITH THE EXISTING UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE EXISTING UTILITIES AND UTILITY STRUCTURES THAT ARE TO REMAIN. IF CONFLICTS WITH EXISTING UTILITIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION TO DETERMINE IF ANY FIELD ADJUSTMENTS SHOULD BE MADE.
9. THE CONTRACTOR SHALL ADJUST TO GRADE ALL EXISTING UTILITIES AS NEEDED PER LOCAL GOVERNING AGENCY'S STANDARDS AND SPECIFICATIONS.
10. NOTIFY ENGINEER OF ANY DISCREPANCIES IN DESIGN OR STAKING BEFORE PLACING CONCRETE, ASPHALT OR STORM DRAIN STRUCTURES OF PIPES.
11. THE CONTRACTOR IS TO PROTECT AND PRESERVE ALL EXISTING IMPROVEMENTS, UTILITIES, AND SIGNS, ETC., UNLESS OTHERWISE NOTED ON THESE PLANS.



DRAINAGE CALCULATION
FOR
Ascent Saratoga Springs

LOCATION: Saratoga Springs — PROJECT NO. AW-053
BY: Josh Jensen
DATE: 7/17/2020

AREA CALCULATIONS			AREA COEFFICIENTS	
LANDSCAPE AREA (Ai):	6.00	acres	Ci :	0.15
PAVED AND ROOF AREA (Ai):	4.13	acres	Cr :	0.90
GRAVEL AREA (Ag):	0.00	acres	Cg :	0.60
TOTAL AREA (A):	10.13	acres	TOTAL C:	0.455774926
			TOTAL C = (Ai x Ci + Ar x Cr + Ag x Cg) / A	

Rainfall data based on NOAA
Precipataion Intensity Estimates
For 100 Year Storm

ALLOWABLE RUNOFF
0.76 cfs

MINUTES	CA	I	T(sec)	CUMULATIVE RUNOFF	ALLOWABLE RUNOFF	STORAGE (ft^3)
15	4.62	3.86	900	16,039	684	15,355
30	4.62	2.60	1,800	21,608	1,368	20,240
60	4.62	1.61	3,600	26,760	2,736	24,024
180	4.62	0.58	10,800	29,021	8,208	20,813
360	4.62	0.31	21,600	31,015	16,416	14,599
720	4.62	0.17	43,200	34,705	32,832	1,873
1440	4.62	0.09	86,400	36,700	65,664	-28,964

Required Retention Volume = 0.41 inches of the 100 year storm

0.41" = 0.03 ft x 441262.8 sq. ft. = **15076 cubic ft**

STORAGE REQUIRED : 24,024 ft^3
STORAGE PROVIDED : 24,135 ft^3

OUTLET CONTROL

Q (cfs)=	0.8	HWM	4,754.0	TYPE OF PIPE:	RCP
C=	0.6	FL @ GATE	4,744.3	ROUGHNESS (n) =	0.013
g (ft/s^2)=	32.2	h (ft)=	9.7	PIPE DIA. (d) =	15
				%SLOPE (s) =	0.0345
AREA (in^2) =	7.29	= Q / (C x (2 x g x h)^0.5)		Q allow =	12.03
Reqd. Orifice =	3.0 "			Check Q (cfs)	OK

PROVIDE: 15" DIA. RCP PIPE
with 1/4" metal plate with 4.6" round hole as orifice.

LEGEND

NOT ALL ITEMS IN THE LEGEND MAY BE APPLICABLE

- BOUNDARY LINE
- CENTERLINE
- EASEMENT LINE
- SETBACK LINE
- IRR — NEW IRRIGATION LINE
- SD — NEW STORM DRAIN
- SS — NEW SANITARY SEWER
- SW — NEW SECONDARY WATERLINE
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- CTV — EX. CABLE TV LINE
- G — EX. GAS LINE
- W — EX. CULINARY WATERLINE
- SECTION CORNER
- MONUMENT
- CONTROL POINT
- 4250 — EG CONTOUR MINOR
- 4250 — EG CONTOUR MAJOR
- 4250 — FG CONTOUR MINOR
- 4250 — FG CONTOUR MAJOR
- NEW ASPHALT PER DETAIL 1/C301
- EXISTING ASPHALT
- EXISTING CURB & GUTTER
- 30" HIGH BACK CURB PER DETAIL 2/C301
- 30" RELEASE GUTTER PER DETAIL 3/C301

811 CALL BEFORE YOU DIG @ 1-800-662-4111 AT LEAST 48 HOURS PRIOR TO COMMENCING ANY CONSTRUCTION

GRADING / DRAINAGE PLAN

SEAL: 08-12-2020 JOSHUA D. JENSEN

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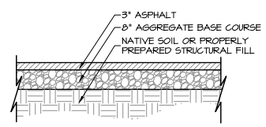
APPROX. 1150 WEST 1600 NORTH
SARATOGA SPRINGS, UTAH

DATE: 08/12/2020
PROJECT: AW-053
DRAWN BY: CGR
REVISIONS:

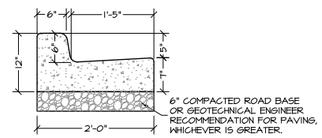
GRADING / DRAINAGE PLAN

SHEET NUMBER: C300

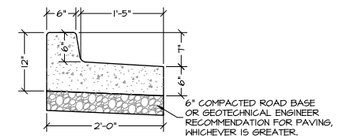
PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.



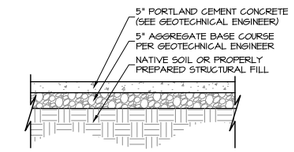
TYPICAL PARKING X-SECTION (1 / C301)
NOT TO SCALE



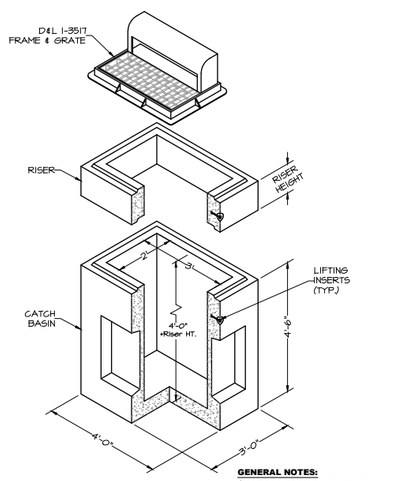
24" HIGH BACK CURB DETAIL (2 / C301)
NOT TO SCALE



24" RELEASE GUTTER DETAIL (3 / C301)
NOT TO SCALE

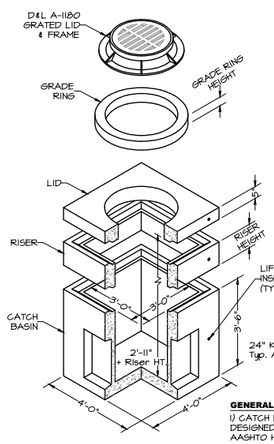


TYPICAL CONCRETE PAVING X-SECTION (4 / C301)
NOT TO SCALE



GENERAL NOTES:
1) CATCH BASINS ARE TO BE DESIGNED TO MEET ASTM C858 WITH AASHTO HS-20 LOADING

STORM DRAIN CATCH BASIN (SDCB) (5 / C301)
NOT TO SCALE



GENERAL NOTES:
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STORM DRAIN CLEAN OUT (SDCO) (6 / C301)
NOT TO SCALE

SEAL:

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STRUCTURAL CIVIL SURVEY

ASCENT ACADEMY SARATOGA SPRINGS
APPROX. 1150 WEST 1600 NORTH
SARATOGA SPRINGS, UTAH

DATE: 08/12/2020
PROJECT: AW-053
DRAWN BY: CGR
REVISIONS:

GRADING / DRAINAGE DETAILS

SHEET NUMBER:
C301

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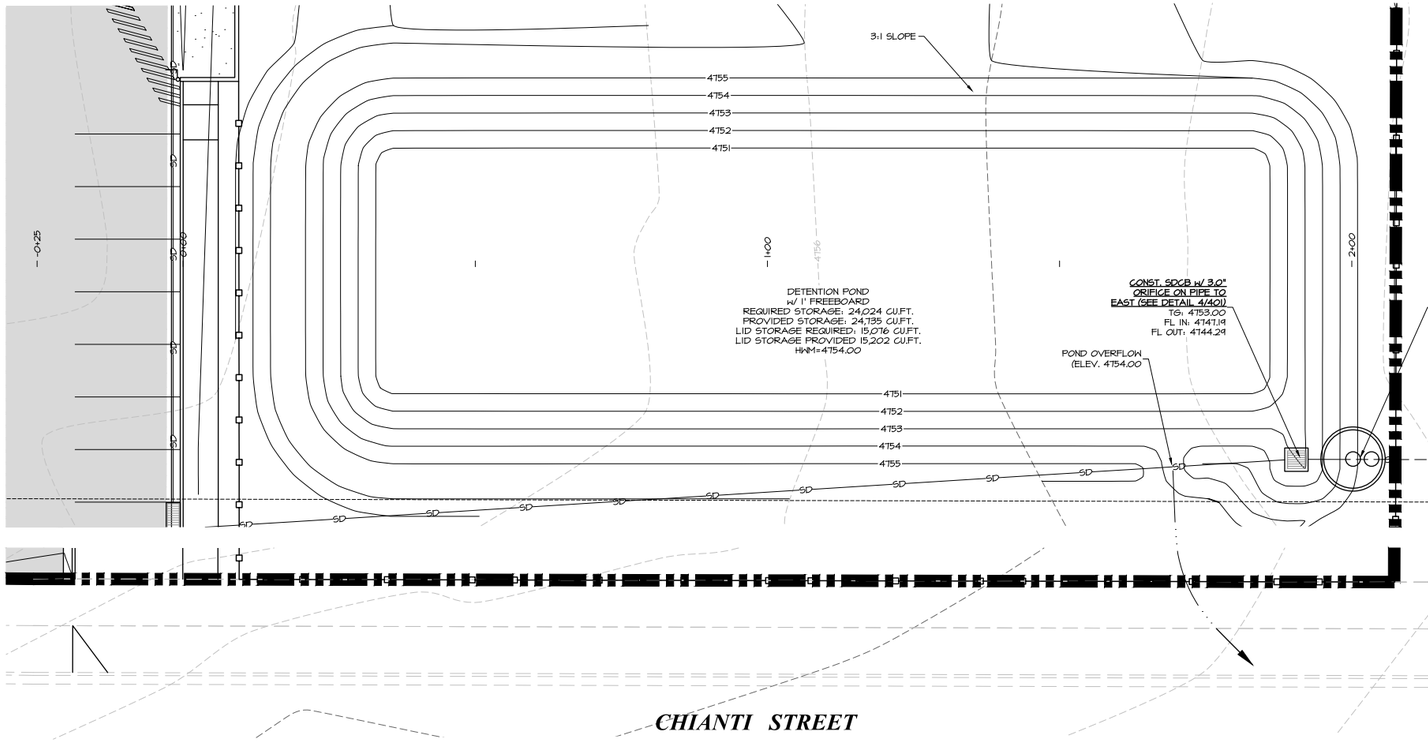
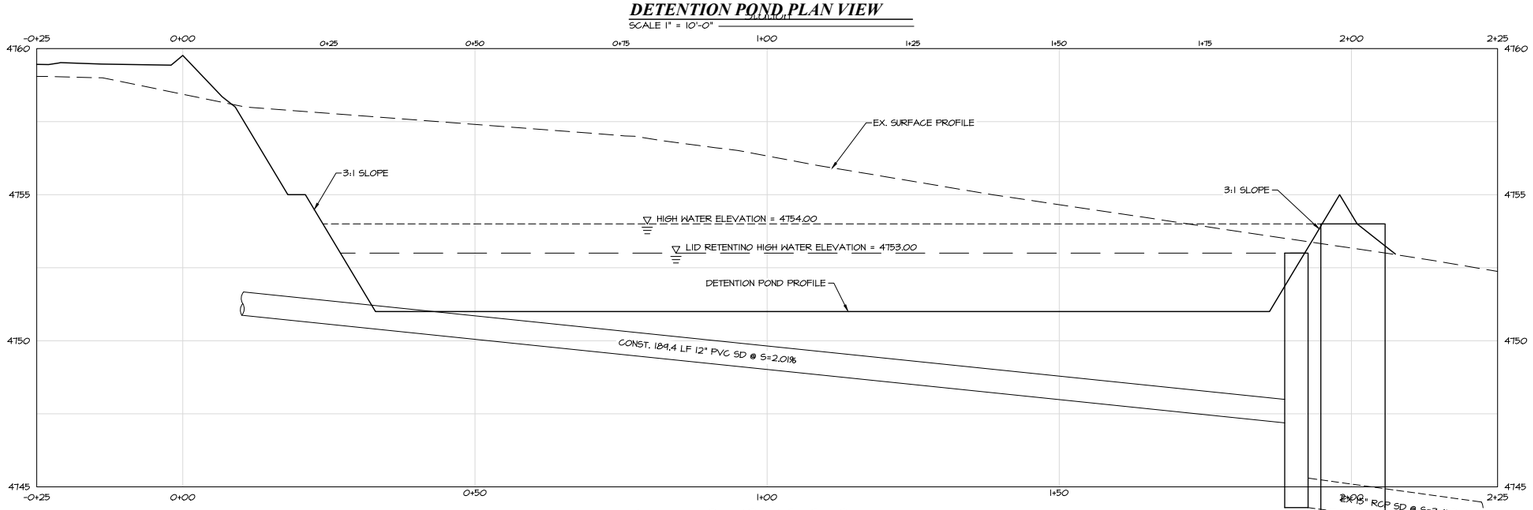


DETENTION POND PLAN VIEW

SCALE 1" = 10'-0"



DETENTION POND SECTION

HORIZ. SCALE 1" = 10'-0"
VERT. SCALE 1" = 2'-6"

ENGINEER CERTIFICATION

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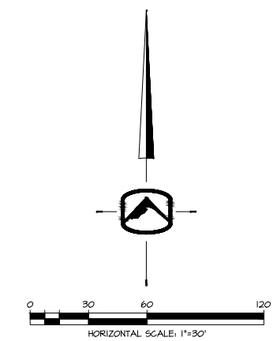
SEAL:

06-12-2020
JOSHUA R. CLEGG
STATE OF UTAH

06-10-2020
JOSHUA R. CLEGG
STATE OF UTAH



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DATE: 08/12/2020
PROJECT: AW-053
DRAWN BY: CGR
REVISIONS:

DETENTION POND DETAIL

SHEET NUMBER: C302

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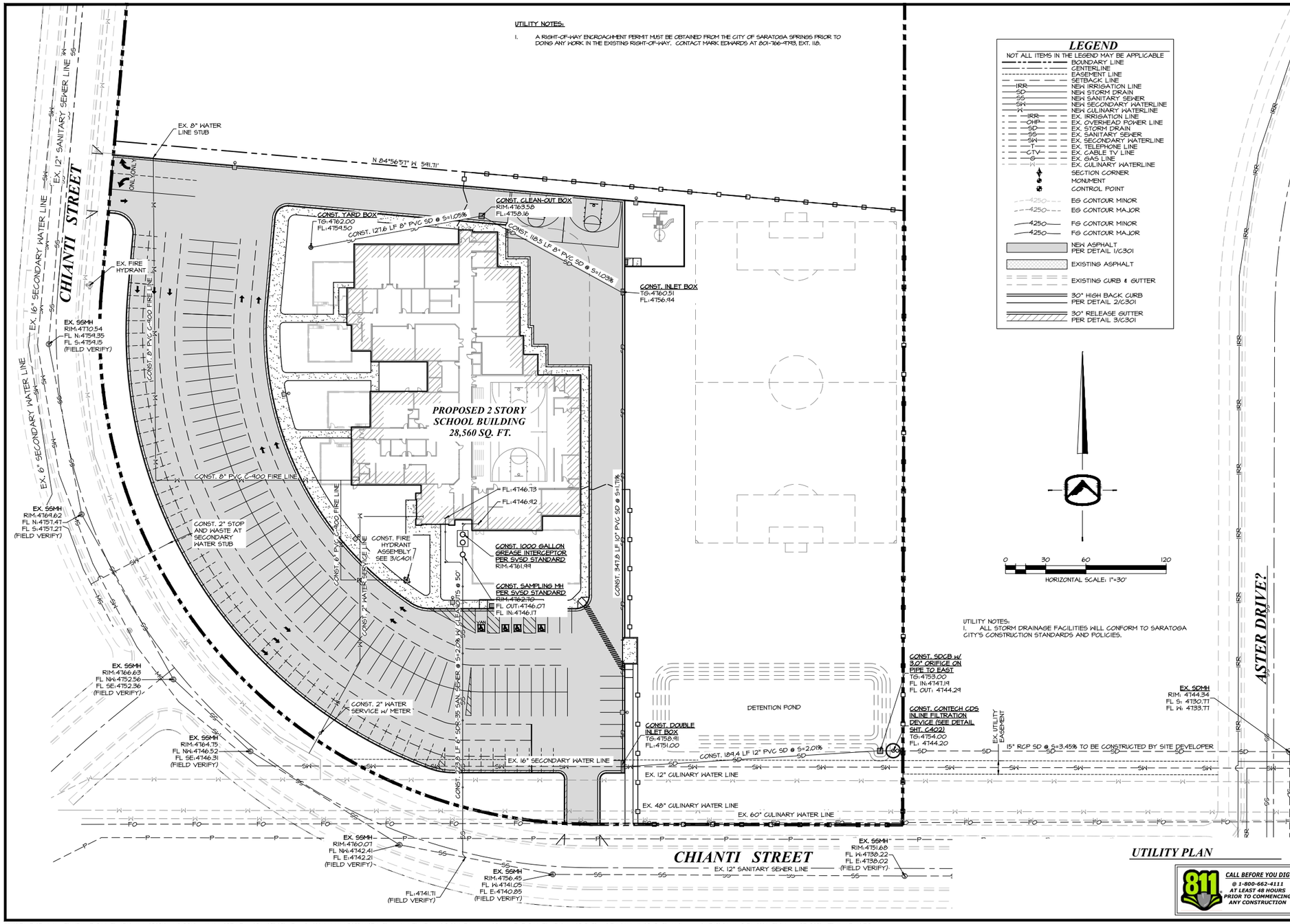

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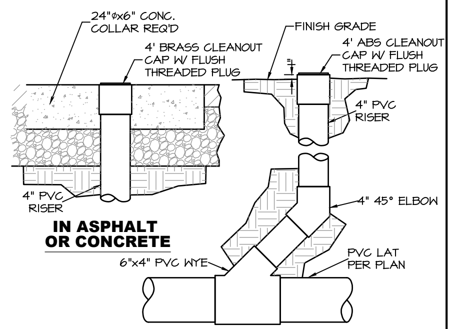
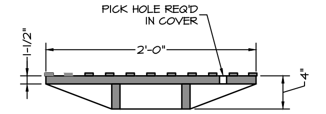
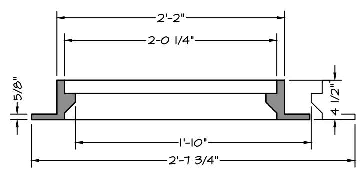


SANITARY SEWER CLEANOUT (1 / C401)
NOT TO SCALE



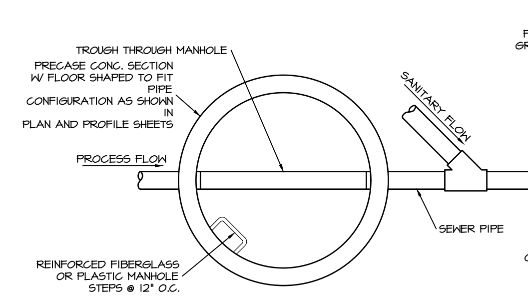
MANHOLE COVER



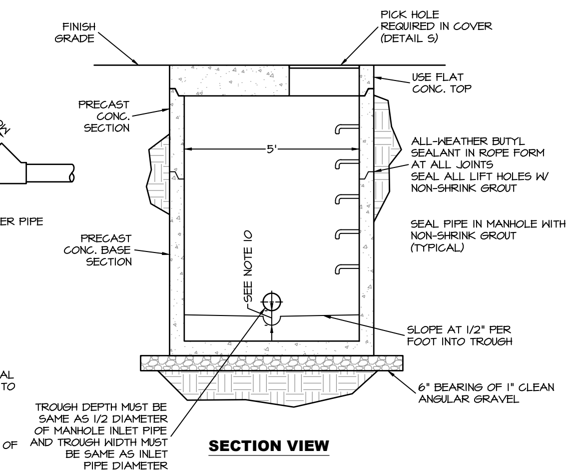
MANHOLE RING

NOTE:
IF CONCRETE GRADE RINGS ARE USED ON A SAMPLING MANHOLE INSTALLATION, THE TOTAL HEIGHT OF THE STACKED RINGS MUST NOT EXCEED 12".

MANHOLE COVER & RING (2 / C401)
NOT TO SCALE



PLAN VIEW

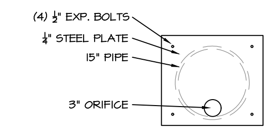


SECTION VIEW

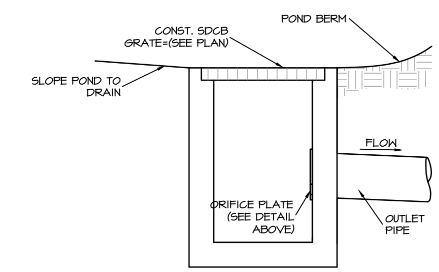
NOTES

1. PIPING, CLEANOUT CONFIGURATION, SIZE AND TYPE OF PIPING MATERIAL AS PER CITY OR SANITARY DISTRICT. INSPECTION BY SVWRF PRIOR TO BACKFILLING IS REQUIRED.
2. WIDTH OF TROUGH IN THE MANHOLE MUST BE THE SAME SIZE AS THE INLET PIPE INTO MANHOLE. DEPTH OF TROUGH MUST BE THE SAME AS 1/2 OF INLET PIPE DIAMETER.
3. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
4. REINFORCEMENT STEEL SHALL BE ASTM A615 GRADE 60.
5. THE CONCRETE COVER OVER REINFORCEMENT STEEL SHALL BE A MINIMUM OF 1-1/2" INCHES.
6. THE STRUCTURE SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF UTAH.
7. THE STRUCTURE SHALL BE DESIGNED FOR THE FOLLOWING LOADING CONFIGURATION:
   A) WALLS DESIGNED FOR A SATURATED EQUIVALENT FLUID AT-REST SOIL PRESSURE OF 90 PCF PLUS TRUCK SURCHARGES.
   B) TRUCK LOADING USING AN AASHTO H-20 TRUCK LOAD.
8. MANHOLES OVER 4 FEET IN DEPTH WILL HAVE STAINLESS OR PLASTIC STEPS.
9. ALL MANHOLES MUST HAVE ROUND NOTCHED COVERS WITH PICK HOLE FOR REMOVAL.
10. FOR NEW CONSTRUCTION, BOTTOM OF INLET PIPE INTO MANHOLE MUST BE AT LEAST 3 INCHES ABOVE THE BOTTOM OF THE TROUGH THROUGH THE MANHOLE.

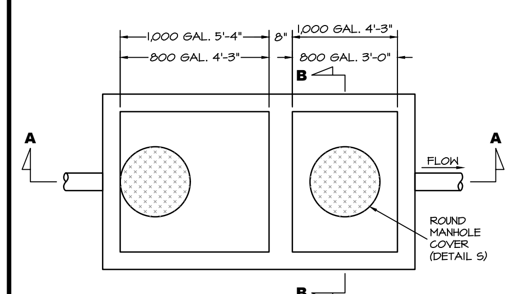
SAMPLING MANHOLE (3 / C401)
NOT TO SCALE



ORIFICE DETAIL



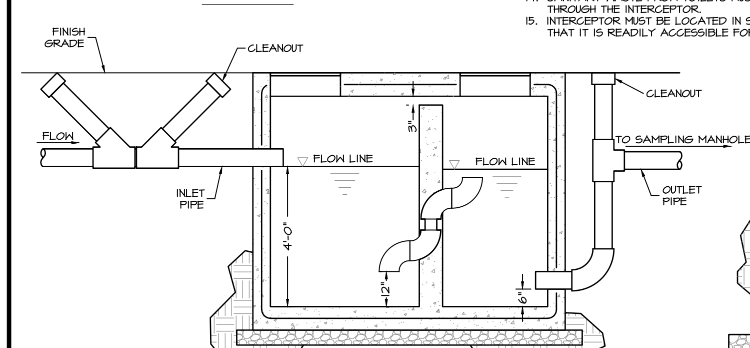
2x2 SDCB DETAIL W/ORIFICE PLATE (4 / C401)
NOT TO SCALE



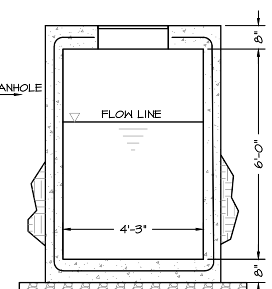
PLAN VIEW

NOTES

1. PIPING CLEANOUT CONFIGURATION, SIZE AND TYPE OF PIPING MATERIAL AS PER CITY OR SANITARY DISTRICT. INSPECTION BY SVWRF PRIOR TO BACKFILLING IS REQUIRED.
2. INTERCEPTOR PIPING AND OTHER ASSOCIATED PIPING CHANGES THAT ARE NECESSARY TO INSTALL INTERCEPTOR MUST BE IN ACCORDANCE WITH LOCAL REGULATIONS.
3. INTERCEPTOR MUST BE PROPERLY VENTED IN ACCORDANCE WITH UNIFORM PLUMBING CODE STANDARDS.
4. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
5. REINFORCEMENT STEEL SHALL BE ASTM A615 GRADE 60.
6. THE CONCRETE COVER OVER REINFORCEMENT STEEL SHALL BE A MINIMUM OF 1-1/2" INCHES.
7. THE STRUCTURE SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF UTAH.
8. THE STRUCTURE SHALL BE DESIGNED FOR THE FOLLOWING LOADING CONFIGURATION:
   A) WALLS DESIGNED FOR A SATURATED EQUIVALENT FLUID AT-REST SOIL PRESSURE OF 90 PCF PLUS TRUCK SURCHARGES.
   B) TRUCK LOADING USING AN AASHTO H-20 TRUCK LOAD.
9. MANWAY FRAME AND COVER SHALL BE A TRAFFIC TYPE CASTING FOR H-20 TRUCK LOAD.
10. THE INLET PIPE SHALL BE AT AN ELEVATION 1 INCH HIGHER THAN THE OUTLET PIPE.
11. WHERE THE SEWER LINE ALREADY EXISTS, THE SEWER INVERT INTO AND OUT OF THE INTERCEPTOR SHALL BE 4'-0" ABOVE THE INTERCEPTOR FLOOR.
12. THE BAFFLE IN THE INTERCEPTOR SHALL BE WITHIN 3 INCHES OF THE CEILING.
13. COVERS SHALL BE CIRCULAR AND SOLID.
14. SANITARY WASTE FROM TOILETS MUST NOT BE PLUMBED THROUGH THE INTERCEPTOR.
15. INTERCEPTOR MUST BE LOCATED IN SUCH A MANNER THAT IT IS READILY ACCESSIBLE FOR CLEANING.

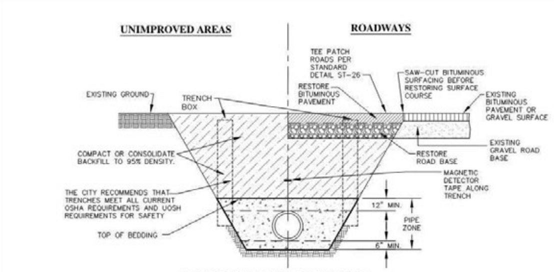


SECTION A-A



SECTION B-B

GREASE INTERCEPTOR (5 / C401)
NOT TO SCALE



CROSS-SECTION: TYPICAL TRENCH

RECOMMENDED TRENCH QUANTITIES

PIPE DIAMETER (INCHES)		RECOMMENDED MAXIMUM TRENCH WIDTH FOR FILL IN PIPE ZONE		RECOMMENDED MAXIMUM WIDTH FOR FILL & SURFACING ABOVE PIPE ZONE MEASURED AT TOP OF TRENCH CENTERED ON PIPE	
inches	mm	inches	mm	inches	mm
4	101.6	72	1828.8	96	2438.4
6	152.4	72	1828.8	96	2438.4
8	203.2	72	1828.8	96	2438.4
10	254.0	72	1828.8	96	2438.4
12	304.8	72	1828.8	96	2438.4
15	381.0	72	1828.8	96	2438.4
18	457.2	72	1828.8	96	2438.4
21	533.4	72	1828.8	96	2438.4
24	609.6	72	1828.8	96	2438.4
30	762.0	84	2133.6	108	2743.2
36	914.4	84	2133.6	108	2743.2
42	1066.8	96	2438.4	120	3048.0
48	1219.2	96	2438.4	120	3048.0
54	1371.6	108	2743.2	132	3352.8
60	1524.0	120	3048.0	144	3657.6

NOTES:

1. THE CITY RECOMMENDS CONTRACTOR MEET ALL OF THE REQUIREMENTS ESTABLISHED FOR SAFE TRENCHING. (SEE OSHA AND UOSH REQUIREMENTS, LATEST EDITIONS).

2. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES BEFORE LAYING PIPE WITHIN 50' OF SAID UTILITIES WHICH MAY BE EXPOSED, DAMAGED OR CROSSED AS SHOWN ON THE DRAWINGS OR AS "BLUE STAKED". THE CONTRACTOR WILL MAKE ARRANGEMENTS WITH THE UTILITY COMPANY TO MOVE THE UTILITY IF NECESSARY OR OBTAIN PERMISSION FROM THE CITY ENGINEER TO MODIFY GRADE OF PIPELINE IN ORDER TO GO AROUND UTILITIES.

3. TESTING: ALL NEW SANITARY SEWERS TO BE "TELEVISED" AND NECESSARY REPAIRS MADE BEFORE ACCEPTANCE. ALL LINES SHALL BE PRESSURE TESTED TO 3.5 psi MIN. FOR 5 MINUTES. A MANDRAL OR BALL CAN BE USED TO VERIFY DEFORMATION OF A PIPE AS DETERMINED FROM THE VIDEO UNLESS SPECIFIED OTHERWISE. MANHOLES SHALL BE TESTED AS PER CITY STANDARDS.

4. ALL SEWER LINES TO BE INSTALLED IN PUBLIC RIGHT-OF-WAY OR RECORDED SEWER EASEMENT UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

5. WHERE COLLAPSIBLE SOILS ARE ENCOUNTERED, FURNISH, PLACE AND COMPACT IMPORTED BACKFILL MATERIALS AS REQUIRED AND AS DIRECTED.

6. MIN. DEPTH SHALL BE 3' TO TOP OF PIPE. A 2' SPACING MUST BE MAINTAINED BETWEEN ALL WATER LINE PIPE CROSSINGS AND THE TOP OF THE SEWER PIPE.

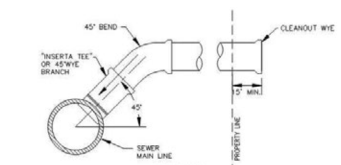
7. IF THE SEWER LINE IS NOT 13' DEEP A NOTE MUST BE PLACED ON THE PLAT "SHALLOW SEWER DEPTHS. BEFORE EXCAVATING BASEMENTS, CONTRACTOR MUST VERIFY SEWER DEPTH"

8. MAX. DEPTH SHALL BE 20' TO THE TOP OF PIPE UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER.

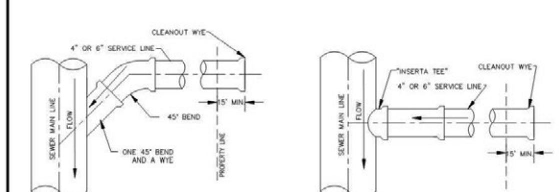
9. INSTALL MAGNETIC DETECTOR TAPE 3' ABOVE PIPE, OR 2' ABOVE PIPE WHEN PIPE IS SHALLOWER THAN 4'.

10. IN ROCKY SUB-GRADES A MINIMUM OF 18" CLEARANCE ON ALL SIDES OF THE PIPE SHALL BE PROVIDED.

SANITARY SEWER PIPE TRENCH
DATE: AUGUST 2017 | DRAWING NAME: SS-1 | DRAWN BY: ETL | CHECKED | APPROVED
REVISIONS: REV | DATE | BY | COMMENTS
SARATOGA SPRINGS CITY
STANDARD DETAILS | SANITARY SEWER | **SS-1**



PROFILE



PLAN VIEW- 45° WYE BRANCH | **PLAN VIEW- "INSERTA TEE"**

NOTES:

1. ALL RESIDENTIAL SERVICES SHALL BE 4" DIAMETER. NON-RESIDENTIAL SHALL BE 6" DIAMETER UNLESS DIRECTED OTHERWISE AND SHALL BE EXTENDED FROM MAIN LINES TO PROPERTY LINES.
2. EVERY RESIDENTIAL UNIT SHALL HAVE A SEPARATE SEWER LATERAL.
3. MINIMUM GRADE SHALL BE 2% FOR SERVICE LINES.
4. ALL 90° BENDS AT CONNECTION TO MAIN MUST BE CONSTRUCTED WITH ONE 45° BEND AND A WYE.
5. DIRECT NOSE ON IS ALLOWED WHEN CONNECTING TO EXISTING MAIN LINE. USE RUBBER BOOT AS PER CITY WITH STAINLESS STEEL STRAPS, IF REQUIRED. CORE CUT EXISTING PIPE, DO NOT BREAK OUT WITH A HAMMER.
6. NOTIFY CITY 24 HOURS IN ADVANCE OF ANY CONNECTION. EVERY CONNECTION TO BE INSPECTED BY CITY.
7. CONNECTION TO USERS TO BE DONE BY OTHERS.
8. CAST IRON WYES ARE REQUIRED FOR ALL NON-RESIDENTIAL CONNECTIONS.

SEWER SERVICE CONNECTION
DATE: APRIL 2018 | DRAWING NAME: SS-3 | DRAWN BY: ETL | CHECKED | APPROVED
REVISIONS: 1 | 8-31-17 | RM | ADDED NOTE
SARATOGA SPRINGS CITY
STANDARD DETAILS | SANITARY SEWER | **SS-3**

SEAL: 08-12-2020 JOSHUA R. JENSEN

SILVERPEAK ENGINEERING
STRUCTURAL CIVIL SURVEY
177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
WWW.SILVERPEAKENG.COM

ASCENT ACADEMY SARATOGA SPRINGS
APPROX. 1150 WEST 1600 NORTH
SARATOGA SPRINGS, UTAH

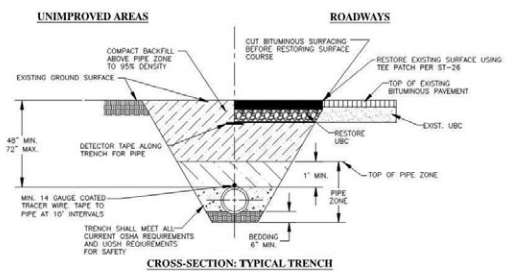
DATE: 08/12/2020
PROJECT: AW-053
DRAWN BY: CGR
REVISIONS:

UTILITY DETAILS

SHEET NUMBER: C401

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

DRINKING WATER PIPE TRENCH



CROSS-SECTION: TYPICAL TRENCH

NOTES:

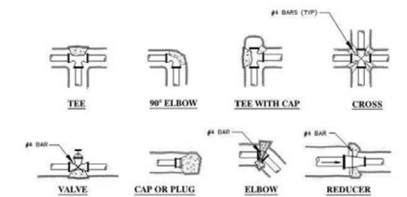
1. VALVES 12 INCHES AND LARGER SHALL BE BUTTERFLY VALVES.
2. WHENEVER POSSIBLE "HOT TAP" CONNECTIONS REQUIRED. HOT TAP VALVE TO BE SUPPORTED DURING CONNECTION. CONTRACTOR TO NOTIFY CITY 24 HOURS IN ADVANCE OF MAKING CONNECTION.
3. PIPE ZONE SHALL BE BACKFILLED WITH BEDDING MATERIAL, OR OTHER ACCEPTABLE MATERIAL.
4. TRACING WIRE TO BE BROUGHT OUTSIDE OF BOTTOM PORTION OF VALVE BOX AND INSIDE TOP TO SURFACE.
5. FURNISH AND INSTALL POLY-WRAP ON DUCTILE IRON PIPE.
6. WHERE COLLAPSIBLE SOILS ARE ENCOUNTERED, FURNISH, PLACE AND COMPACT IMPORTED BACKFILL MATERIALS AS REQUIRED AND AS DIRECTED.

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING ALL OF THE REQUIREMENTS ESTABLISHED FOR SAFE TRENCHING. (SEE OSHA AND UOSH REQUIREMENTS, LATEST EDITIONS).
2. MINIMUM COVER OVER TOP OF PIPE SHALL BE 48-INCHES BELOW THE FINISHED GRADE. THIS DEPTH MAY BE INCREASED AS REQUIRED TO MISS UNDERGROUND UTILITIES, STORM DRAINS, OR OTHER OBSTRUCTIONS, OR WHERE INDICATED ON THE DRAWINGS.
3. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES BEFORE LAYING PIPE WITHIN 200 FEET OF UTILITY CROSSINGS SHOWN ON THE DRAWINGS, OR AS "BLUE-STAKED."
4. SEWER MAINS, WATER MAINS, GAS MAINS AND OTHER UTILITIES ARE SHOWN ON THE PLANS IN A GENERAL SCHEMATIC WAY ACCORDING TO INFORMATION RECEIVED FROM OTHERS AND SOMETIMES FROM FIELD MEASUREMENTS. THE ACCURACY OR COMPLETENESS OF THE LOCATIONS SHOWN IS NOT GUARANTEED. THE CONTRACTOR SHALL DETERMINE THE ACTUAL LOCATION OF EXISTING SERVICE CONNECTIONS AND UTILITIES AND TAKE THE NECESSARY STEPS TO AVOID THEM.
5. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S SOLE EXPENSE.
6. THE CONTRACTOR MAY, AT HIS DISCRETION, USE SLOPING WALLS IN UNIMPROVED TERRAIN.
7. THE PIPE ZONE WIDTH AS RECOMMENDED BY THE PIPE MANUFACTURER. THE WIDTH OF THE PIPE ZONE IS MEASURED AT THE PIPE SPRING LINE AND INCLUDES ANY NECESSARY SHEATHING. IN TRENCH BOX APPLICATIONS, FOLLOW THE MANUFACTURER'S RECOMMENDATIONS. IN ROCKY SUB-GRADES A MINIMUM OF 18" CLEARANCE ON ALL SIDES OF PIPE SHALL BE PROVIDED.

DRINKING WATER PIPE TRENCH — DATE: AUGUST 2017 — DRAWING NAME: DW-1 — DRAWN BY: ETL — CHECKED — APPROVED — REVISIONS: REV 1, DATE 09-21-17, BY ETL, COMMENTS: ADDED AND EDITED NOTES AND CALLOUTS — SARATOGA SPRINGS CITY — STANDARD DETAILS — DRINKING WATER — **DW-1**

CONCRETE THRUST BLOCKS



SAFE BEARING LOADS

SOIL TYPE	SAFE BEARING LOAD (lb/ft²)
SAND	1000
SAND & GRAVEL	1500
SAND & GRAVEL CEMENTED WITH CLAY	2000
SHALE	5000

SAFE BEARING LOAD FORMULA

THRUST BLOCK AREA AGAINST TRENCH WALL (SQUARE FEET) = THRUST ON FITTING / SAFE BEARING LOAD OF SOIL

NOTES:

1. REINFORCING BARS REQUIRED FOR HANGING THRUST BLOCKS AND SHALL BE EPOXY COATED.
2. RESIDENT PROJECT ENGINEER WILL CALCULATE QUANTITIES OF CONCRETE REQ'D AND SPECIFY PLACEMENT METHODS & REQUIREMENTS, WHICH SHALL BE APPROVED BY CITY ENGINEER.
3. CONCRETE SHALL BE 4000 PSI MIN.
4. POUR CONCRETE AGAINST UNDISTURBED SOIL.

THRUST ON FITTINGS

POUNDS @ 1 POUND PER SQUARE INCH OF WATER PRESSURE*

PIPE SIZE	TEES/PLUGS	90° BENDS	45° BENDS	22.5° BENDS
4"	18.5	26.1	14.2	7.2
6"	38	53.7	29.1	14.7
8"	65.8	93	50.4	25.5
10"	107.5	152	82.4	41.7
12"	153.1	216.4	117.2	59.4
14"	215.5	304.7	164.9	84
16"	281.5	398.1	215.4	109.8
18"	356.3	503.8	272.6	139
20"	439.8	622	336.6	171.6
24"	633.3	895.6	484.7	247.1

*MULTIPLY THRUST BY MAXIMUM WATER PRESSURE

*PIPE SIZES LARGER THAN 24" SHALL BE THRUST BLOCKED AS PER ENGINEER RECOMMENDATION

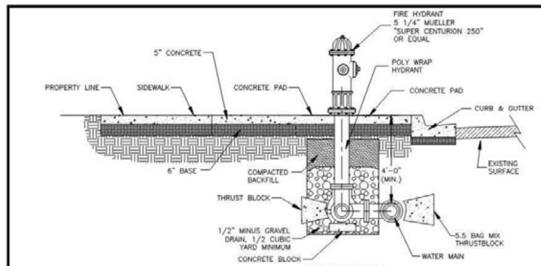
THRUST BLOCK AREA AGAINST TRENCH WALL (SQUARE FEET)

ASSUMING SAND AND MAX PRESSURE OF 150 PSI SIZE MAY BE REDUCED WITH AN ENGINEERED SUBMITTAL AND AS APPROVED BY THE CITY ENGINEER

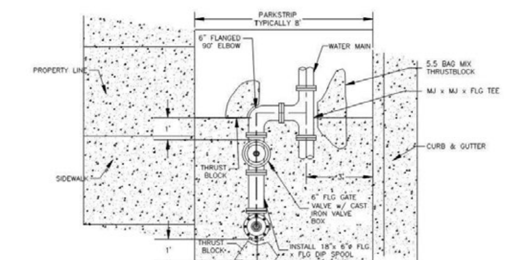
PIPE SIZE	TEES/PLUGS	90° BENDS	45° BENDS	22.5° BENDS
4"	2.8	3.9	2.1	1.1
6"	5.7	8.1	4.4	2.2
8"	9.9	14.0	7.6	3.8
10"	16.1	22.8	12.4	6.3
12"	23.0	32.5	17.6	8.9
14"	32.3	45.7	24.7	12.6
16"	42.2	59.7	32.3	16.5
18"	53.4	75.6	40.9	20.9
20"	66.0	93.3	50.5	25.7
24"	95.0	134.3	72.7	37.1

CONCRETE THRUST BLOCKS — DATE: AUGUST 2017 — DRAWING NAME: DW-2 — DRAWN BY: ETL — CHECKED — APPROVED — REVISIONS: REVISION, DATE, BY, COMMENTS — SARATOGA SPRINGS CITY — STANDARD DETAILS — DRINKING WATER — **DW-2**

FIRE HYDRANT CONNECTION



SECTION VIEW



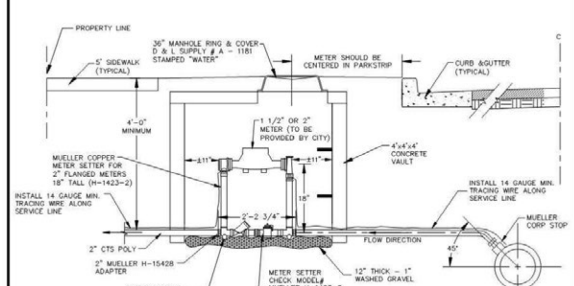
PLAN VIEW

NOTES:

1. HYDRANT SHALL BE "TRAFFIC" TYPE WITH A REPLACEABLE BREAK-AWAY UNIT IMMEDIATELY ABOVE GROUND.

FIRE HYDRANT CONNECTION — DATE: AUGUST 2017 — DRAWING NAME: DW-4 — DRAWN BY: ETL — CHECKED — APPROVED — REVISIONS: REV 1, DATE 09-20-17, BY ETL, COMMENTS: ADDED CONCRETE PAD AND DELETED NOTE — SARATOGA SPRINGS CITY — STANDARD DETAILS — DRINKING WATER — **DW-4**

NON-RESIDENTIAL METER CONNECTION 2" OR 1 1/2"

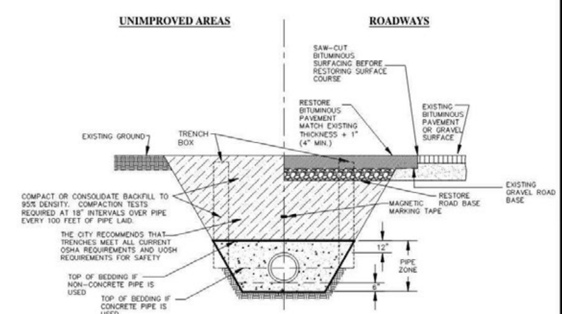


NOTES:

1. INSPECTION: METER BOX AND SERVICE LINE SHALL BE INSPECTED BY CITY PRIOR TO BACKFILLING.
2. BACKFILL: INSTALL BACKFILL IN LIFTS NOT EXCEEDING 8" AFTER COMPACTION. COMPACT EACH LIFT TO AN AVERAGE DRY DENSITY OF 97% WITH NO DENSITY TEST RESULT LESS THAN 95%
3. CONTRACTOR TO SUPPLY ALL MATERIALS EXCLUDING METER.
4. METER BOXES SHALL BE A 4'x4'x4' CONCRETE VAULT.
5. PIPE: INSTALL MINIMUM 2" CTS POLY PIPE FROM MAIN TO METER AND FROM METER TO BUILDING. INSTALL TRACING WIRE FROM MAIN LINE TO METER
6. PLACEMENT: ALL METERS ARE TO BE INSTALLED IN THE PARK STRIP, MUST BE PLACED NEAR THE MIDPOINT OF THE LOT, AND MUST NOT BE LOCATED IN A DRIVEWAY OR IN A SIDEWALK.
7. METER SETTER TO BE MUELLER H-1423-2, OR ACCEPTABLE EQUAL. INSTALL CORRECT SIZE METAL PIPE TO STABILIZE SETTER.
8. PIPE SPLICES SHALL BE MADE USING A COMPRESSION FITTING; MUELLER 110 COMPRESSION CONNECTION (MUELLER H-15403) W/ STAINLESS STEEL INSERTS
9. WATER SERVICES SHALL BE STUBBED TO A POINT APPROXIMATELY 1 (ONE) FOOT BEYOND UTILITY EASEMENT.
10. IN TRAFFIC AREAS, BOXES SHOULD BE ABLE TO SUPPORT H-20 LOADING. (NOTE: TYPICALLY WATER METERS ARE NOT ALLOWED IN TRAFFIC AREAS.)
11. METER LID TO BE 1" ABOVE THE LINE GRADE OF WALK/CURB.
12. 1 1/2-INCH METER INSTALLATION TO BE SIMILAR; USING 1 1/2-INCH METER, PIPE, FITTINGS AND SETTER.

NON-RESIDENTIAL METER CONNECTION 2" OR 1 1/2" — DATE: AUGUST 2017 — DRAWING NAME: DW-6 — DRAWN BY: ETL — CHECKED — APPROVED — REVISIONS: REV 1, COMMENTS: CONCRETE BOX WITH CORP STOP — SARATOGA SPRINGS CITY — STANDARD DETAILS — DRINKING WATER — **DW-6**

STORM DRAIN PIPE TRENCH



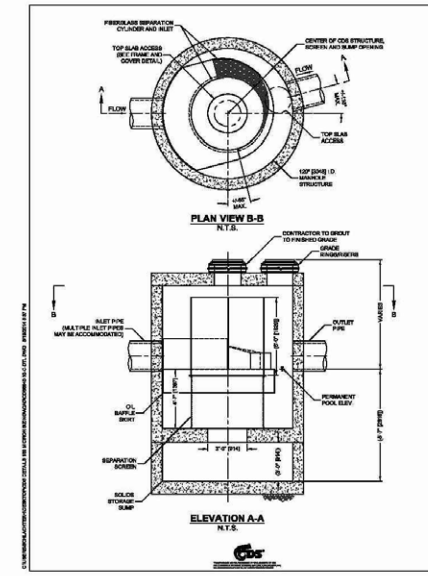
CROSS-SECTION: TYPICAL TRENCH

NOTES:

1. THE CITY RECOMMENDS CONTRACTOR MEET ALL OF THE REQUIREMENTS ESTABLISHED FOR SAFE TRENCHING. (SEE OSHA AND UOSH REQUIREMENTS, LATEST EDITIONS).
2. CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES BEFORE LAYING PIPE WITHIN 50' OF SAID UTILITIES WHICH MAY BE EXPOSED, DAMAGED OR CROSSED AS SHOWN ON THE DRAWINGS OR AS "BLUE STAKED". THE CONTRACTOR WILL MAKE ARRANGEMENTS WITH THE UTILITY COMPANY TO MOVE THE UTILITY IF NECESSARY OR OBTAIN PERMISSION FROM THE CITY ENGINEER TO MODIFY GRADE OF PIPELINE IN ORDER TO GO AROUND UTILITIES.
3. TESTING: ALL STORM DRAIN LINES TO BE "VIDEOED" AND NECESSARY REPAIRS MADE BEFORE ACCEPTANCE. A MANDRAL OR BALL CAN BE USED TO VERIFY DEFORMATION OF A PIPE AS DETERMINED FROM THE VIDEO UNLESS SPECIFIED OTHERWISE.
4. ALL STORM DRAIN TO BE INSTALLED IN PUBLIC RIGHT-OF-WAY OR RECORDED DRAINAGE EASEMENT UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
5. WHERE COLLAPSIBLE SOILS ARE ENCOUNTERED, FURNISH, PLACE AND COMPACT IMPORTED BACKFILL MATERIALS AS REQUIRED AND AS DIRECTED.
6. MIN. DEPTH OF COVER SHALL MEET MANUFACTURERS RECOMMENDATIONS.
7. IN ROCKY SUB-GRADES 18" OF CLEARANCE SHALL BE PROVIDED ON ALL SIDES OF PIPE.
8. INSTALL MAGNETIC DETECTOR TAPE 3' ABOVE PIPE IN TRENCH.

STORM DRAIN PIPE TRENCH — DATE: AUGUST 2017 — DRAWING NAME: SD-1 — DRAWN BY: ETL — CHECKED — APPROVED — REVISIONS — SARATOGA SPRINGS CITY — STANDARD DETAILS — STORM DRAIN — **SD-1**

CDS5640-10-C INLINE CDS STANDARD DETAIL



CDS5640-10-C DESIGN NOTES

THE STANDARD CDS5640-10-C CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

CONFIGURATION DESCRIPTION

- GRATED INLET ONLY (NO INLET PIPE)
- GRATED INLET WITH INLET PIPE OR PIPES
- CURB INLET ONLY (NO INLET PIPE)
- CURB INLET WITH INLET PIPE OR PIPES
- SEPARATE OIL BAFFLE (SINGLE INLET PIPE REQUIRED FOR THIS CONFIGURATION)
- SEDIMENT WEIR FOR NJDEP / NJCAT CONFORMING UNITS

FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			
WATER QUALITY FLOW RATE (CFS OR L/s)			*
PEAK FLOW RATE (CFS OR L/s)			*
RETURN PERIOD OF PEAK FLOW (YRS)			*
SCREEN APERTURE (2400 OR 4700)			*
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*
INLET PIPE 2	*	*	*
OUTLET PIPE	*	*	*
RIM ELEVATION			*
ANTI-FLOTATION BALLAST		WIDTH	HEIGHT
		*	*
NOTES/SPECIAL REQUIREMENTS:			

* PER ENGINEER OF RECORD

GENERAL NOTES

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.contechES.com
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES

A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

CONTECH ENGINEERED SOLUTIONS LLC — www.contechES.com — 9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069

CDS5640-10-C
INLINE CDS
STANDARD DETAIL

SEAL: 08-12-2020 — JOSHUA R. JENSEN — STATE OF UTAH

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STRUCTURAL CIVIL SURVEY WWW.SILVERPEAKENG.COM

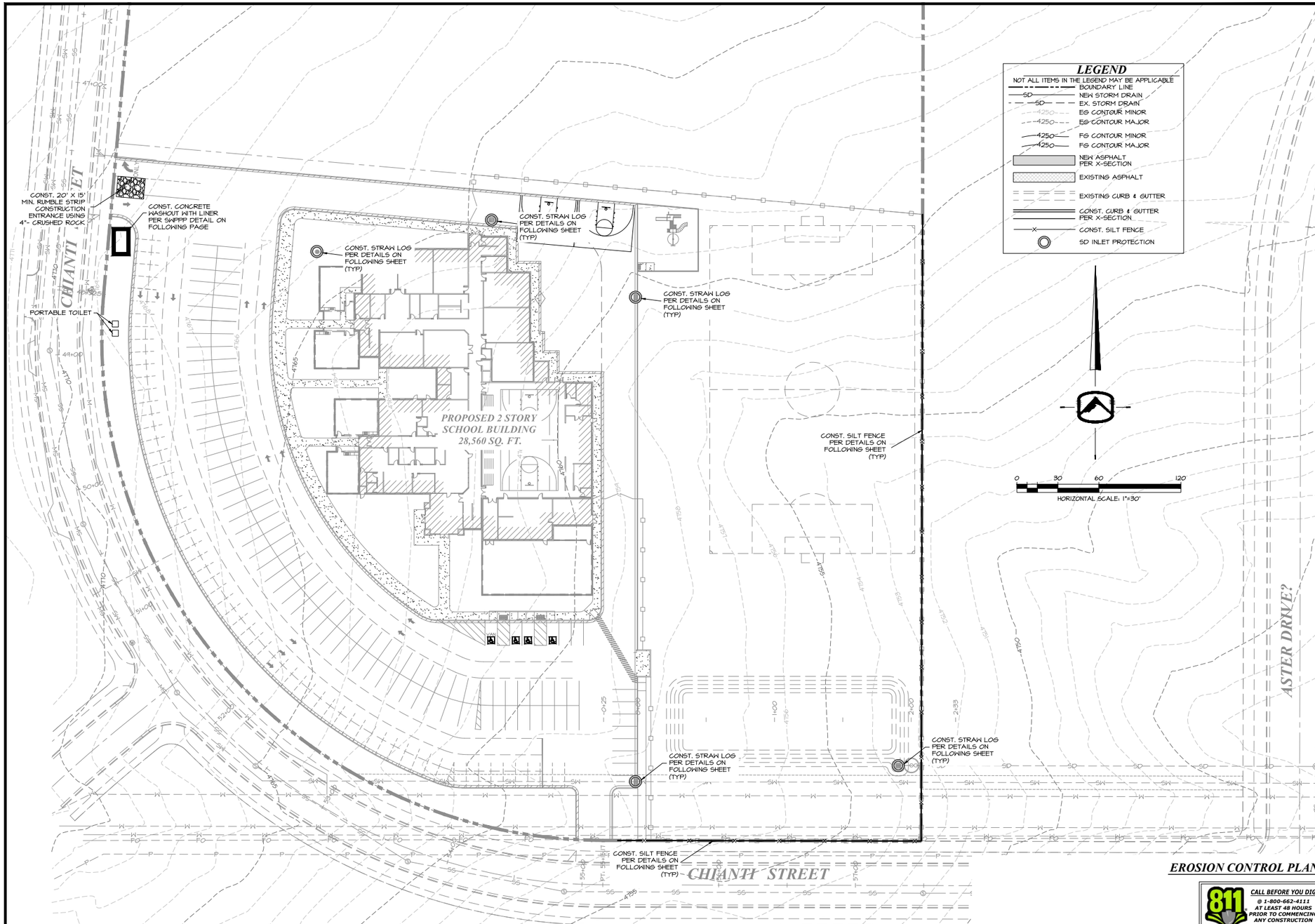
ASCENT ACADEMY SARATOGA SPRINGS
APPROX. 1150 WEST 1600 NORTH
SARATOGA SPRINGS, UTAH

DATE: 08/12/2020
PROJECT: AW-053
DRAWN BY: CGR
REVISIONS:

UTILITY DETAILS

SHEET NUMBER:
C402

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.



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SILVERPEAK ENGINEERING
STRUCTURAL CIVIL SURVEY

ASCENT ACADEMY SARATOGA SPRINGS
APPROX. 1150 WEST 1600 NORTH
SARATOGA SPRINGS, UTAH

DATE: 08/12/2020
PROJECT: AW-053
DRAWN BY: CGR
REVISIONS:

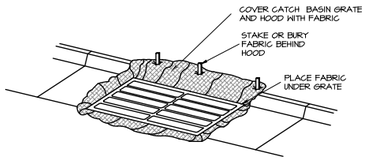
EROSION CONTROL PLAN

SHEET NUMBER: C500

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

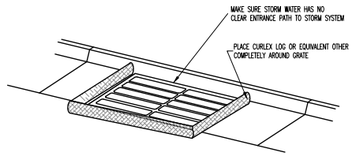
STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

ASCENT ACADEMY SARATOGA SPRINGS



FABRIC UNDER GRATE

MAINTENANCE: LIFT GRATE & CLEAN SEDIMENT OFF OF FABRIC WEEKLY & AFTER A STORM. TAKE CARE WHILE LIFTING GRATE TO PREVENT SEDIMENT FROM FALLING INTO THE CATCH BASIN. DISPOSE OF SEDIMENT AWAY FROM THE STORM DRAIN.



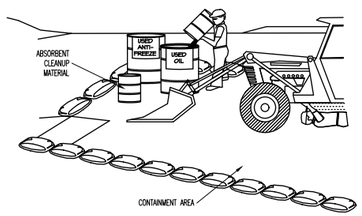
CURLEX LOG (STRAW/CLOTH SACK)

MAINTENANCE: REMOVE & CLEAN CULEX LOGS THOROUGHLY EACH WEEK OR AFTER A STORM. TAKE CARE WHILE MOVING ROCK SACKS TO PREVENT SEDIMENT FROM FALLING INTO THE CATCH BASIN. DISPOSE OF SEDIMENT AWAY FROM THE STORM DRAIN.

INLET PROTECTION

NOTES:

1. USE FABRIC UNDER GRATE TO PROTECT THE CATCH BASIN FROM SEDIMENTATION.



CONCRETE WASTE MANAGEMENT

NOTES:

1. EXCESS AND WASTE CONCRETE SHALL NOT BE WASHED INTO THE STREET OR INTO A DRAINAGE SYSTEM.

2. FOR WASHOUT OF CONCRETE AND MORTAR PRODUCTS, A DESIGNATED CONTAINMENT FACILITY OF SUFFICIENT CAPACITY TO RETAIN LIQUID AND SOLID WASTE SHALL BE PROVIDED ON SITE. THIS DISCHARGE AREA MUST BE LINED WITH AN IMPERMEABLE BARRIER.

3. SLURRY FROM CONCRETE AND ASPHALT SAW CUTTING SHALL BE VACUUMED OR CONTAINED, DRIED, PICKED UP, AND DISPOSED OF PROPERLY.

CONSTRUCTION & BMP SEQUENCING

BMP INSPECTION AND MAINTENANCE SHALL BEGIN WITH THE INSTALLATION OF THE FIRST BMP AND CONTINUE UNTIL THE LAST BMP (REVEGETATION) HAS BEEN COMPLETED.

CATCH BASIN PROTECTION

1 CATCH BASIN PROTECTION PER DETAIL LABELLED "CURLEX LOG" AND/OR "FABRIC UNDER GRATE" SHALL BE INSTALLED UPON COMPLETION OF STORM DRAIN CONSTRUCTION.
2 FOR CATCH BASINS LOCATED IN CURB AND GUTTER:
 A "CURLEX LOG" SHALL REMAIN IN PLACE UNTIL CURB AND GUTTER IS CONSTRUCTED.
 B CATCH BASIN PROTECTION PER DETAIL LABELED "FABRIC UNDER GRATE" SHALL BE INSTALLED UPON COMPLETION OF CURB AND GUTTER CONSTRUCTION, AND SHALL REMAIN IN PLACE UNTIL ALL FINISH GRADING IS COMPLETED.
3 FOR CATCH BASINS LOCATED IN LANDSCAPE AREAS:
 A "CURLEX LOG" SHALL REMAIN IN PLACE UNTIL SITE GRADING OCCURS.
 B CATCH BASIN PROTECTION PER DETAIL LABELED "CURLEX LOG" AND/OR "FABRIC UNDER GRATE" SHALL BE INSTALLED UPON COMPLETION OF SITE GRADING, AND SHALL REMAIN IN PLACE UNTIL ALL GRADING & LANDSCAPING IS COMPLETED.

CONCRETE WASTE MANAGEMENT

1 A CONCRETE WASTE MANAGEMENT FACILITY SHALL BE CONSTRUCTED PRIOR TO POURING ANY CONCRETE ON THE SITE, AND SHALL REMAIN IN PLACE UNTIL THE LAST CONCRETE POUR HAS BEEN COMPLETED.
2 CONTRACTOR IS TO REMOVE THE CONCRETE WASTE MANAGEMENT FACILITY BY LEGALLY REMOVING AND DISPOSING OF WASTE CONCRETE AND, IF NECESSARY, ANY NON-SOIL BERM MATERIALS.

REGEVETATION

1 SEEDING AND PLANTING OF THE SITE PER THE LANDSCAPE PLAN SHALL OCCUR WITHIN 14 DAYS OF COMPLETION OF THE FINISH GRADING, IF SAID 14 DAYS OCCUR BETWEEN APRIL 15 AND SEPTEMBER 15. OTHERWISE, SEEDING AND PLANTING SHALL BEGIN APRIL 15.
2 PLANTING EFFORTS SHALL BE COMPLETED WITHIN 15 DAYS.
3 SEEDING AND PLANTING SHALL BE CONSIDERED COMPLETE WHEN 70% OF PLANTINGS ARE ESTABLISHED.

EQUIPMENT MAINTENANCE/REPAIR

NOTES:

1. LEAKING VEHICLES AND EQUIPMENT SHALL NOT BE ALLOWED ON-SITE. EQUIPMENT AND VEHICLES SHALL BE INSPECTED FREQUENTLY FOR LEAKS AND SHALL BE REPAIRED IMMEDIATELY. CLEAN UP SPILLS AND LEAKS PROMPTLY WITH ABSORBENT MATERIALS; DO NOT FLUSH WITH WATER.

2. VEHICLES AND EQUIPMENT SHALL BE MAINTAINED, AND REPAIRED ON-SITE ONLY IN DESIGNATED AREAS. PREVENT RUN-ON AND RUN-OFF FROM DESIGNATED AREAS.

3. CONTAINMENT DEVICES SHALL BE PROVIDED AND AREAS SHALL BE COVERED IF NECESSARY.

4. DESIGNATE ON-SITE VEHICLE AND EQUIPMENT MAINTENANCE AREAS, AWAY FROM STORM DRAIN INLETS AND WATERCOURSES.

5. ALWAYS USE SECONDARY CONTAINMENT, SUCH AS A DRAIN PAN OR DROP CLOTH TO CATCH SPILLS AND LEAKS WHEN REMOVING OR CHANGING FLUIDS. LEGALLY DISPOSE OF USED OILS, FLUIDS AND LUBRICANTS.

6. PROVIDE SPILL CONTAINMENT DIKES OR SECONDARY CONTAINMENT AROUND STORED OIL, FUEL, AND CHEMICAL DRUMS.

7. MAINTAIN AN ADEQUATE SUPPLY OF ABSORBENT SPILL CLEANUP MATERIALS IN DESIGNATED AREAS.

STORM WATER POLLUTION PREVENTION PLAN SPECIFIC NOTES

1. THIS STORM WATER POLLUTION PREVENTION PLAN (SWPPP) WAS DEVELOPED AT THE REQUEST OF THE OWNER FOR THE CONSTRUCTION OF COMMERCIAL CONSTRUCTION IN SARATOGA SPRINGS CITY, UTAH COUNTY, STATE OF UTAH. THIS PLAN IDENTIFIES POTENTIAL SOURCES OF POLLUTANTS OF STORM WATER, PRESENTS POLLUTION CONTROL MEASURES, AND ASSISTS IN INSURING IMPLEMENTATION AND MAINTENANCE OF THE BEST MANAGEMENT PRACTICES (BMP'S) INDICATED HEREIN.

2. A NOTICE OF INTENT SHALL BE FILED WITH THE STATE OF UTAH DIVISION OF WATER QUALITY BY THE OWNER SO THAT THIS CONSTRUCTION PROJECT MAY BE COVERED UNDER THE STATE GENERAL PERMIT. THE PERMIT IS UTAH POLLUTION DISCHARGE ELIMINATION SYSTEM (UPDES) GENERAL PERMIT (NO. UTR 300000) FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY. PERMIT FORMS ARE AVAILABLE FOR DOWNLOAD FROM THE DEPARTMENT OF ENVIRONMENTAL QUALITY AT WWW.WATERQUALITY.UTAH.GOV/UPDES/SWCONO2.PDF

3. IN THE EVENT OF A CHANGE IN OWNERSHIP, A NEW NOTICE OF INTENT SHALL BE FILED WITH THE DIVISION OF WATER QUALITY.

4. IN THE EVENT OF A RELEASE OF A REPORTABLE QUANTITY OF A POLLUTANT, THE CONTRACTOR SHALL ADVISE THE OWNER TO NOTIFY THE UTAH RESPONSE CENTER, SARATOGA SPRINGS CITY, AND SILVERPEAK ENGINEERING IF NECESSARY. THIS SWPPP SHOULD BE REVISED TO REFLECT THE CHANGE IN CONDITIONS OF THE CONSTRUCTION ACTIVITY. A REPORTABLE QUANTITY IS ESTABLISHED BY 40 CODE OF FEDERAL REGULATIONS (CFR) 117.3 OR 40 CFR 302.4.

5. ALL CONTRACTORS AND THEIR PERSONNEL WHOSE WORK CAN CONTRIBUTE TO OR CAUSE POLLUTION OF STORM WATER SHALL BE MADE FAMILIAR WITH THIS SWPPP PLAN. ADEQUATE TRAINING FOR IMPLEMENTATION OF THE MEASURES PRESENTED HEREIN SHALL BE PROVIDED TO THE CONTRACTORS AND THEIR PERSONNEL. ALL CONTRACTORS AND SUBCONTRACTORS, EVEN ON RESIDENTIAL CONSTRUCTION WITH DISTURBANCE AREAS LESS THAN ONE ACRE, SHALL ABIDE BY THIS SWPPP.

6. CHANGES IN CONSTRUCTION OR IN CONDITIONS WHICH ARE NOT COVERED BY THIS SWPPP SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER, SKYLAND INVESTMENTS AND DEVELOPMENT AND SILVERPEAK ENGINEERING. IF NECESSARY, THIS SWPPP WILL BE REVISED TO REFLECT THE CHANGE IN CONSTRUCTION OR IN CONDITIONS.

7. ALL PREVENTION AND CLEAN UP MEASURES SHALL BE CONDUCTED IN ACCORDANCE WITH SARATOGA SPRINGS CITY ORDINANCES, AS WELL AS STATE AND FEDERAL REGULATIONS. WASTE MATERIALS SHOULD BE DISPOSED OF IN A LEGAL MANNER. ALL DISCHARGERS OF STORM WATER MUST COMPLY WITH THE LAWFUL REQUIREMENTS OF SARATOGA SPRINGS CITY REGARDING THE DISCHARGES OF STORM WATER TO STORM DRAINS.

8. THIS SWPPP DOES NOT COVER THE REMOVAL OF HAZARDOUS OR TOXIC WASTE. IN THE EVENT OF A DISCHARGE OR RELEASE OF A REPORTABLE QUANTITY OF TOXIC WASTE, WORK SHALL BE STOPPED UNTIL THE SPILL CAN BE ASSESSED AND A MITIGATION REPORT PREPARED BY A QUALIFIED ENVIRONMENTAL CONSULTANT, AND IF NECESSARY, REVIEWED BY SARATOGA SPRINGS CITY AND ANY OTHER AGENCY HAVING JURISDICTION.

9. THIS SWPPP SHALL BE MADE AVAILABLE TO THE PUBLIC UNDER SECTION 308(B) OF THE CLEAN WATER ACT. UPON REQUEST BY MEMBERS OF THE PUBLIC, THE DISCHARGER SHALL MAKE AVAILABLE FOR REVIEW A COPY OF THIS SWPPP EITHER TO THE DIVISION OF WATER QUALITY OR DIRECTLY TO THE REQUESTER. THIS SWPPP MUST BE KEPT ON SITE DURING CONSTRUCTION ACTIVITY AND MADE AVAILABLE UPON REQUEST OF A REPRESENTATIVE OF THE DIVISION OF WATER QUALITY AND/OR THE LOCAL AGENCY.

10. CONTACTS

CONTRACTOR/DISCHARGER	ONE WEST CONSTRUCTION
ADDRESS	290 N FLINT STREET
CITY, STATE	KAYSVILLE, UTAH 84037
TELEPHONE	(801) 860-0523
CIVIL ENGINEER	SILVERPEAK ENGINEERING
PROJECT MANAGER	JOSHUA R. JENSEN, P.E., S.E.
ADDRESS	177 E ANTELOPE DR, SUITE B
CITY, STATE	LAYTON, UT 84041
TELEPHONE	801-499-5054
SARATOGA SPRINGS CITY	
ADDRESS	1307 COMMERCE DRIVE #200
CITY, STATE	SARATOGA SPRINGS, UT 84045
TELEPHONE	801-766-9793
STATE OF UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF WATER QUALITY	288 NORTH 1460 WEST P.O. BOX 144870 SALT LAKE CITY, UTAH 84114-4870
U.S. EPA	
ENVIRONMENTAL PROTECTION AGENCY DENVER, COLORADO	REGION VIII 800-759-4372
ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460	202-475-9518

11. REFERENCES
 A. PLAN PER SILVERPEAK ENGINEERING,
 B. STORMWATER POLLUTION PREVENTION PLAN PREPARED BY SILVERPEAK ENGINEERING

12. THE PROPOSED CONSTRUCTION ACTIVITY IS THE CONSTRUCTION OF ONE BUILDING PLUS THE CONSTRUCTION OF ALL IMPROVEMENTS, UTILITIES, AND DRAINAGE AND GRADING FEATURES AS SHOWN ON THE PLANS.

13. THE ESTIMATED RUN-OFF COEFFICIENT AFTER COMPLETION IS 0.46

14. A NEGLIGIBLE AMOUNT OF WATER FLOWS ONTO THE SITE.

A. PROHIBITION ON MOST NON-STORM WATER DISCHARGES

 ONLY STORM WATER FROM THE PROJECT SITE SHALL BE ALLOWED TO FLOW INTO THE ON-SITE STORM DRAIN SYSTEM. CLEAN WATER FROM THE FLUSHING OF FIRE HYDRANTS, WATER MAINS, AND STORM DRAINS MAY BE DISCHARGED TO THE STORM DRAIN IF IT IS NOT ALLOWED TO COLLECT DIRT, DEBRIS, AND TRASH WHILE FLOWING TO A STORM DRAIN INLET.

B. POTENTIAL SOURCES OF STORM WATER POLLUTANTS

 POTENTIAL STORM WATER POLLUTANTS INCLUDE SOIL SEDIMENT AND NUTRIENTS, OIL, GREASE, TOXIC POLLUTANTS, AND HEAVY METALS. SOURCES OF STORM WATER POLLUTANTS INCLUDE BUT ARE NOT LIMITED TO SOIL EROSION BY WATER AND/OR WIND; CLEARING OF VEGETATION; GRADING; VEHICLE AND EQUIPMENT REFUELING AND MAINTENANCE; WASHING OF CONCRETE TRUCKS, MIXERS AND HANDLING EQUIPMENT; PAINTS, SOLVENTS AND ADHESIVES; AND LANDSCAPING WORK.

C. EROSION AND SEDIMENT CONTROLS

 1. COVER EXPOSED STOCKPILES OF SOILS, CONSTRUCTION AND LANDSCAPING MATERIALS WITH HEAVY PLASTIC SHEETING.
 2. IN LANDSCAPING AREAS WHERE THE VEGETATION HAS NOT ESTABLISHED GROWTH AND TAKEN HOLD, CONSTRUCT SANDBAG OR DIRT BERMS AROUND THEIR PERIMETER TO INSURE THAT WATER WILL BE CONTAINED INSIDE THE LANDSCAPING AREA AND THAT IT WILL NOT BE CONVEYED TO A STORM DRAIN INLET.
 3. DISTURBED AREAS SHALL BE SEEDED BY THE THE DEVELOPER. SILT BARRIERS SHALL BE MAINTAINED BY THE DEVELOPER IN THE MEAN TIME. OR, THE DEVELOPER SHALL RE-SEED DISTURBED AREAS AS THEY SEE FIT AND REMOVE THE SEDIMENT CONTROLS.
 4. THROUGHOUT CONSTRUCTION, CONTRACTOR SHALL DIVERT STORM WATER RUNOFF AROUND DISTURBED SOILS WITH BERMS OR DIRT SWALES.

D. OTHER CONTROLS

 1. WASTE DISPOSAL

  A. KEEP WASTE DISPOSAL CONTAINERS COVERED.
  B. PROVIDE FOR THE WEEKLY (OR MORE FREQUENT, IF NECESSARY) DISPOSAL OF WASTE CONTAINERS.
  C. PROVIDE CONTAINERS AT CONVENIENT LOCATIONS AROUND THE SITE.

 2. SWEEPING OF SITE

  A. PROVIDE DAILY, IF NECESSARY, SWEEPING BY HAND OR MECHANICAL MEANS TO KEEP THE PAVED AREAS OF THE SITE FREE OF DUST, DIRT, AND DEBRIS IF NECESSARY DURING PERIODS OF CONSTRUCTION.
  B. DISPOSE OF ACCUMULATED DIRT IN WASTE CONTAINERS, OR HAUL IT OFF THE SITE TO A LANDFILL.

 3. SANITARY/SEPTIC DISPOSAL

  PORTABLE TOILETS AND OTHER SANITARY FACILITIES SHALL BE SERVICED WEEKLY AND PUMPED CLEAN BY A WASTE DISPOSAL COMPANY. NO TOXIC OR HAZARDOUS WASTE SHALL BE DISPOSED OF IN A PORTABLE TOILET OR IN THE ON-SITE SANITARY SEWER. TOILETS SHALL BE ANCHORED AGAINST OVERTURNING.

 4. SPILLS

  A. STORE ADEQUATE ABSORBENT MATERIALS, RAGS, BROOMS, SHOVELS, AND WASTE CONTAINERS ON THE SITE TO CLEAN-UP SPILLS OF MATERIALS SUCH AS FUEL, PAINT, SOLVENTS, OR CLEANERS. CLEAN UP MINOR SPILLS IMMEDIATELY.
  B. FOR REPORTABLE QUANTITY OF HAZARDOUS OR TOXIC SUBSTANCE, SECURE THE SERVICES OF QUALIFIED PERSONNEL FOR CLEAN-UP AND DISPOSAL.

 5. CONTROL OF ALLOWABLE NON-STORM WATER DISCHARGES LANDSCAPING IRRIGATION, EROSION CONTROL MEASURES, PIPE FLUSHING AND TESTING, AND PAVEMENT WASHING ARE ALLOWED IF THEY CANNOT FEASIBLY BE ELIMINATED, COMPLY WITH THIS PLAN, DO NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF WATER QUALITY STANDARDS, AND ARE NOT REQUIRED TO BE PERMITTED BY THE LOCAL REGIONAL WATER QUALITY CONTROL BOARD.

 6. VEHICLES AND EQUIPMENT

  A. FIX LEAKS OF FUEL, OIL AND OTHER SUBSTANCES IMMEDIATELY.
  B. PERFORM REFUELING AND SERVICE OF VEHICLES OR EQUIPMENT OFF-SITE WHEN POSSIBLE. IF REFUELING OR SERVICE OF EQUIPMENT IS PERFORMED ON-SITE, THEN PROVIDE AN IMPERVIOUS, CONTAINED AREA WHERE ANY SPILLS CAN BE CONTAINED WITHOUT FLOWING TO A STORM WATER INLET OR INTO THE GROUND.
  C. USE DRIP PANS TO CATCH LEAKS AND SMALL SPILLS.

 7. CONCRETE TRUCKS, MIXERS AND HANDLING EQUIPMENT

  A. DO NOT DISPOSE OF WASHOUT FROM THE WASHING OF CONCRETE TRUCKS,MIXERS, AND HANDLING EQUIPMENT WHERE IT WILL FLOW INTO A STORM WATER INLET OR INTO A PUBLIC STREET.
  B. PROVIDE A HOLDING TANK TO RECEIVE ANY WASHOUT FROM CONCRETE EQUIPMENT. DISPOSAL OF TANK CONTENTS SHALL BE CONDUCTED BY CONTRACTOR.
  C. PROVIDE, DESIGNATE AND POST A SIGN MARKING A DESIGNATED AREA FOR WASHING ANY VEHICLES OR EQUIPMENT. DRAINAGE FROM THIS AREA SHOULD BE CONTAINED OR FLOW TO A HOLDING TANK.

 8. LANDSCAPING OPERATIONS

  A. USE ONLY THE MINIMUM AMOUNT OF LANDSCAPING FERTILIZES, NUTRIENTS, AND OTHER CHEMICALS THAT ARE NEEDED.
  B. DO NOT OVER WATER FERTILIZED OR TREATED LANDSCAPE AREAS. MINIMIZE RUNOFF OF IRRIGATION WATER FROM LANDSCAPING.
  C. DO NOT PLACE LANDSCAPING MATERIAL IN THE STREET ONCE PAVING IS COMPLETE.

 9. STORM WATER INLETS

  CONTRACTOR SHALL PROVIDE STRAW FILLED BAGS OR SOCKS AROUND INLETS WITHIN 1000 FEET OF CONSTRUCTION AS BARRIERS TO PREVENT SEDIMENT ENTERING THE INLETS. TRAPPED SEDIMENT SHALL BE REMOVED FOLLOWING STORM EVENTS. BARRIERS SHALL BE REMOVED FOLLOWING COMPLETION OF CONSTRUCTION.

E. INSPECTION

 1. REGULAR INTERVAL INSPECTION AND INSPECTION BEFORE AND AFTER STORMS

  A. VISUALLY INSPECT THE SITE WEEKLY TO INSURE THAT STORM WATER INLETS ARE FREE OF DIRT AND DEBRIS.
  B. BEFORE A STORM, INSPECT THE SITE TO INSURE THAT STORM WATER POLLUTION CONTROL MEASURES ARE IN PLACE.
  C. AFTER A STORM, INSPECT ALL STORM WATER INLETS TO INSURE THAT THEY ARE CLEAR OF DIRT AND DEBRIS. CLEAN THOSE STORM WATER INLETS THAT ARE NOT CLEAR AND FREE OF DEBRIS.
  D. THE DIVISION OF WATER QUALITY MAY REQUIRE THE DISCHARGER TO CONDUCT ADDITIONAL SITE INSPECTIONS, SUBMIT REPORTS AND CERTIFICATIONS, OR TO PERFORM SAMPLING AND ANALYSIS.

 2. CONDUCT INSPECTIONS OF THE CONSTRUCTION SITE PRIOR TO ANTICIPATED STORM EVENTS AND AFTER ACTUAL STORM EVENTS, TO IDENTIFY AREAS CONTRIBUTING TO A STORM WATER DISCHARGE, TO EVALUATE WHETHER MEASURES TO REDUCE POLLUTANT LOADINGS IDENTIFIED IN THIS SWPPP ARE ADEQUATE, TO PROPERLY IMPLEMENT IN ACCORDANCE WITH THE TERMS OF THE GENERAL PERMIT, AND TO DETERMINE WHETHER ADDITIONAL CONTROL PRACTICES ARE NEEDED.

 3. PREPARATION OF REPORTS AND RETENTION OF RECORDS

  A. EACH DISCHARGER MUST CERTIFY ANNUALLY THAT ITS CONSTRUCTION ACTIVITY IS IN COMPLIANCE WITH THE REQUIREMENTS OF THE GENERAL PERMIT AND THIS SWPPP. THIS CERTIFICATION MUST BE BASED ON THE SITE INSPECTIONS. THE FIRST CERTIFICATION MUST BE COMPLETED BY JULY 1, 2009, AND EACH JULY 1 THEREAFTER.
  B. THE DISCHARGER IS REQUIRED TO RETAIN RECORDS OF ALL MONITORING INFORMATION, COPIES OF ALL REPORTS REQUIRED BY THIS GENERAL PERMIT, AND RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT FOR CONSTRUCTION ACTIVITY FOR A PERIOD OF AT LEAST THREE YEARS. THIS PERIOD MAY BE EXTENDED BY REQUEST OF THE STATE. WITH THE EXCEPTION OF NONCOMPLIANCE REPORTING, DISCHARGERS ARE NOT REQUIRED TO SUBMIT THE RECORDS EXCEPT UPON SPECIFIC REQUEST BY THE STATE DEQ DIVISION OF WATER QUALITY.

  C. DISCHARGERS WHO CANNOT CERTIFY COMPLIANCE MUST NOTIFY THE STATE DEQ DIVISION OF WATER QUALITY. THIS NOTIFICATION SHALL IDENTIFY THE TYPE OR TYPES OF NONCOMPLIANCE, DESCRIBE THE ACTIONS NECESSARY TO ACHIEVE COMPLIANCE, AND INCLUDE A TIME SCHEDULE, SUBJECT TO THE MODIFICATIONS BY THE STATE DEQ DIVISION OF WATER QUALITY, INDICATING WHEN COMPLIANCE WILL BE ACHIEVED. NONCOMPLIANCE REPORTS MUST BE SUBMITTED WITHIN 30 DAYS OF THE IDENTIFICATION OF THE NONCOMPLIANCE.

F. MAINTENANCE OF CONTROLS

 1. MAINTENANCE AND REPAIR ALL CONTROLS AND MEASURES INDICATED ON THIS PLAN SHALL BE MAINTAINED IN GOOD AND EFFECTIVE CONDITION. IF ANY CONTROLS OR MEASURES ARE DAMAGED OR REMOVED, THEY SHALL BE PROMPTLY REPAIRED OR RESTORED.
 2. PLAN REVISIONS IF CONSTRUCTION ACTIVITY OR CONDITIONS CHANGE FROM THOSE SHOWN IN THIS PLAN, THEN THIS PLAN SHALL BE REVISED TO REFLECT THE CURRENT CONDITIONS.

G. FINAL STABILIZATION AND POST-CONSTRUCTION CONTROLS

 1. AFTER CONSTRUCTION HAS BEEN COMPLETED, THE SITE SHALL BE SWEPT CLEAN, STORM WATER INLETS (GRATES AND BASINS) SHALL BE CLEANED, AND ALL WASTE AND LEFTOVER MATERIALS SHALL BE REMOVED FROM THE SITE.
 2. ALL LANDSCAPING AND PLANTING AREAS SHALL BE WELL MAINTAINED TO PREVENT EROSION. AVOID OVER WATERING OF LANDSCAPING.
 3. ALL PAVED AREAS SHALL BE SWEPT WEEKLY EITHER BY HAND OR BY MECHANICAL MEANS TO KEEP THE SITE CLEAR OF DIRT, DUST, AND DEBRIS.
 4. WASTE MATERIALS ON-SITE SHALL BE STORED IN COVERED CONTAINERS WHICH ARE CLEANED OUT REGULARLY.
 5. TESTING OF FIRE HYDRANTS ON-SITE SHALL NOT BE CONDUCTED UNTIL THE AREA WHERE THE WATER DISCHARGES HAS BEEN SWEPT CLEAN OF DIRT AND DEBRIS.
 6. STORM DRAIN LINES SHALL BE CHECKED AND CLEANED ANNUALLY TO KEEP THEM CLEAN AND CLEAR OF DEBRIS.
 7. ALL ON-SITE STORM WATER INLETS SHOULD BE CLEARLY MARKED "STORM WATER ONLY".

H. COMPLETION OF CONSTRUCTION ACTIVITIES AND NOTICE OF TERMINATION

 WHEN CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED ON THIS SITE, THE OWNER SHALL FILE A LETTER WITH THE STATE DEQ DIVISION OF WATER QUALITY. THIS LETTER SHALL CERTIFY THAT THE CONSTRUCTION ACTIVITY HAS BEEN COMPLETED, THAT ALL ELEMENTS OF THE SWPPP HAVE BEEN IMPLEMENTED, THAT CONSTRUCTION AND EQUIPMENT MAINTENANCE WASTES HAVE BEEN DISPOSED OF PROPERLY, THAT THE SITE IS IN COMPLIANCE WITH ALL LOCAL STORM WATER REQUIREMENTS INCLUDING EROSION/SEDIMENT CONTROL REQUIREMENTS, POLICIES, AND GUIDELINES.

DEFINITIONS

1. "BEST MANAGEMENT PRACTICES" ("BMP'S") MEANS SCHEDULES OF ACTIVITIES, PROHIBITIONS OF PRACTICES, MAINTENANCE PROCEDURES, AND OTHER MANAGEMENT PRACTICES TO PREVENT OR REDUCE THE POLLUTION OF WATERS OF THE UNITED STATES. BMP'S ALSO INCLUDE TREATMENT REQUIREMENTS, OPERATING PROCEDURES, AND PRACTICES TO CONTROL SITE RUNOFF, SPILLAGE OR LEAKS, WASTE DISPOSAL, OR DRAINAGE FROM RAW MATERIAL STORAGE.

2. "CLEAN WATER ACT" ("CWA") MEANS THE FEDERAL WATER POLLUTION CONTROL ACT ENACTED BY PUBLIC LAW 92-500 AS AMENDED BY PUBLIC LAWS 95-217, 95-576, 96-483, AND 97-111; 33 USC 1251 ET SEQ.

3. "CONSTRUCTION SITE" IS THE LOCATION OF THE CONSTRUCTION ACTIVITY.

4. "NON-STORM WATER DISCHARGE" MEANS ANY DISCHARGE TO STORM DRAIN SYSTEMS THAT IS NOT COMPOSED ENTIRELY OF STORM WATER EXCEPT DISCHARGE PURSUANT TO AN NPDES PERMIT AND DISCHARGES RESULTING FROM FIRE FIGHTING ACTIVITIES.

5. "SIGNIFICANT MATERIALS" INCLUDES, BUT IS NOT LIMITED TO RAW MATERIALS; FUELS; MATERIALS SUCH AS SOLVENTS, DETERGENTS, AND PLASTIC PELLETS; FINISHED MATERIALS SUCH AS METALLIC PRODUCTS; RAW MATERIALS USED IN FOOD PROCESSING OR PRODUCTION HAZARDOUS SUBSTANCES DESIGNATED UNDER SECTION 101(14) OF THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERLCA); ANY CHEMICAL THE FACILITY IS REQUIRED TO REPORT PURSUANT TO SECTION 313 OF TITLE III OF SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (SARA); FERTILIZERS; PESTICIDES; AND WASTE PRODUCTS SUCH AS ASHES, SLAG, AND SLUDGE THAT HAVE THE POTENTIAL TO BE RELEASED WITH STORM WATER DISCHARGES.

6. "SIGNIFICANT QUANTITIES" IS THE VOLUME, CONCENTRATIONS, OR MASS OF A POLLUTANT IN STORM WATER DISCHARGE THAT CAN CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR NUISANCE; ADVERSELY IMPACT HUMAN HEALTH OR THE ENVIRONMENT; AND CAUSE OR CONTRIBUTE TO A VIOLATION OF ANY APPLICABLE WATER QUALITY STANDARDS FOR THE RECEIVING WATER.

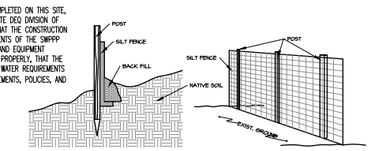
7. "STORM WATER" MEANS STORM WATER RUNOFF, SNOW MELT RUNOFF, SURFACE RUNOFF AND DRAINAGE. IT EXCLUDES INFILTRATION AND RUNOFF FROM AGRICULTURAL LAND.

8. "POLLUTION" MEANS THE "MAN-MADE OR MAN-INDUCED ALTERATION OF THE CHEMICAL, PHYSICAL, BIOLOGICAL, AND RADIOLOGICAL INTEGRITY OF WATER" [CLEAN WATER ACT SECTION 502(19)]. POLLUTION ALSO MEANS "AN ALTERATION OF THE QUALITY OF THE WATERS OF THE STATE BY WASTE TO A DEGREE WHICH UNREASONABLY AFFECTS EITHER... THE WATERS FOR BENEFICIAL USES... OR FACILITIES WHICH SERVE THESE BENEFICIAL USES." [CALIFORNIA WATER CODE SECTION 13050(l)].

9. "CONTAMINATION" MEANS "AN IMPAIRMENT OF THE QUALITY OF THE WATERS OF THE STATE BY WASTE TO A DEGREE WHICH CREATES A HAZARD TO THE PUBLIC HEALTH THROUGH POISONING OR THROUGH THE SPREAD OF DISEASE...INCLUDING ANY EQUIVALENT EFFECT RESULTING FROM THE DISPOSAL OF WASTE, WHETHER OR NOT WATERS OF THE STATE ARE AFFECTED."

10. "NUISANCE" MEANS "ANYTHING WHICH MEETS ALL OF THE FOLLOWING REQUIREMENTS: (1) IS INJURIOUS TO HEALTH , OR IS INDECENT OR OFFENSIVE TO THE SENSES, OR AN OBSTRUCTION TO THE FREE USE OF PROPERTY, SO AS TO INTERFERE WITH THE COMFORTABLE ENJOYMENT OF LIFE AND PROPERTY; (2) AFFECTS AT THE SAME TIME AN ENTIRE COMMUNITY OR NEIGHBORHOOD, OR ANY CONSIDERABLE NUMBER OF PERSONS, ALTHOUGH THE EXTENT OF THE ANNOYANCE OR DAMAGE INFLICTED UPON INDIVIDUALS MAY BE UNEQUAL; (3) OCCURS DURING OR AS A RESULT OF THE TREATMENT OR DISPOSAL OF WASTES."

11. "LOCAL AGENCY" MEANS ANY AGENCY THAT IS INVOLVED WITH REVIEW, APPROVAL, OR OVERSIGHT OF THE CONSTRUCTION SITES' (a) CONSTRUCTION ACTIVITY, (b) EROSION AND SEDIMENT CONTROLS, (c) STORM WATER DISCHARGE.



SILT FENCE DETAIL

SWPPP NOTES

CALL BEFORE YOU DIG @ 1-800-662-4111 AT LEAST 48 HOURS PRIOR TO COMMENCING ANY CONSTRUCTION

SEAL:

06-12-2020

177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE:(801) 499-5054
WWW.SILVERPEAKENG.COM
SILVERPEAK ENGINEERING
STRUCTURAL CIVIL SURVEY

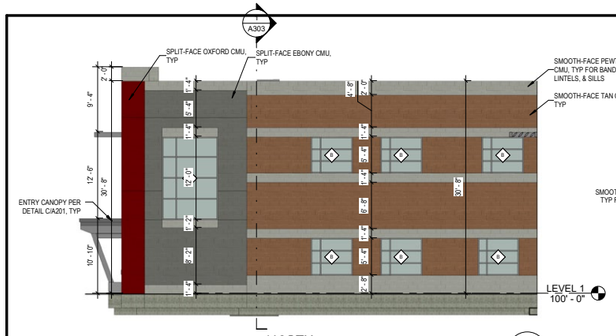
ASCENT ACADEMY SARATOGA SPRINGS
APPROX. 1150 WEST 1600 NORTH
SARATOGA SPRINGS, UTAH

DATE: 08/12/2020
PROJECT: AW-053
DRAWN BY: CGR
REVISIONS:

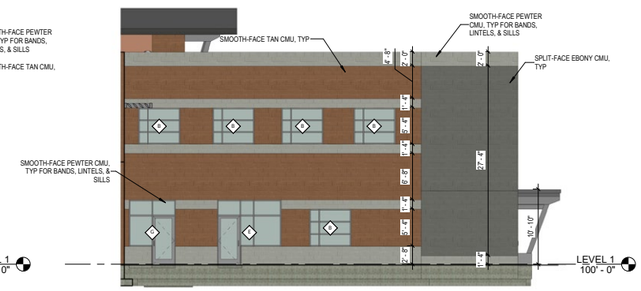
SWPPP NOTES

SHEET NUMBER:
C501

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.



NORTH
1/8" = 1'-0"
5 A201



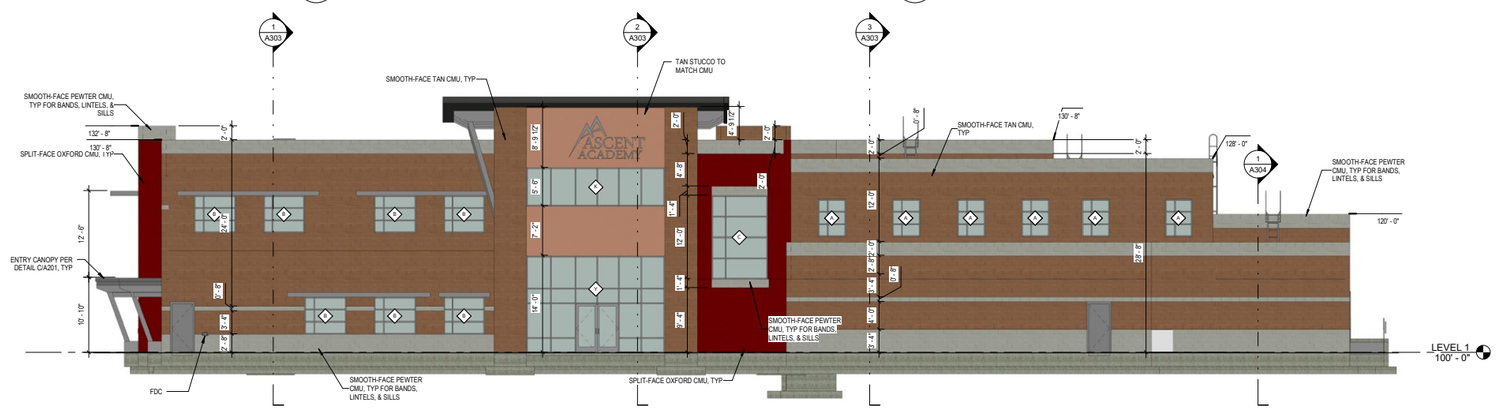
SOUTH
1/8" = 1'-0"
6 A201

MASONRY NOTES:

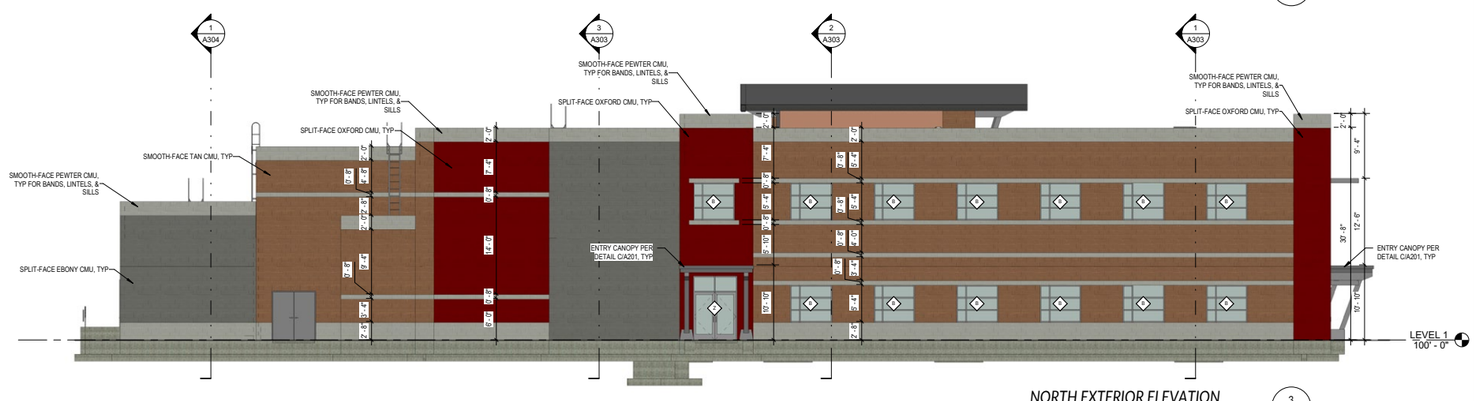
1. MASON TO PLACE CONTROL JOINTS IN CMU WALLS NOT MORE THAN 40'-0" APART.
2. ALL CMU IS 8" U.N.O.

EXTERIOR FINISH LEGEND

- STANDARD-FACE (COLONIAL TAN)
- STANDARD-FACE (PEWTER)
- SPLIT-FACE (OXFORD)
- SPLIT-FACE (EBONY)



SOUTH EXTERIOR ELEVATION
1/8" = 1'-0"
1 A201



NORTH EXTERIOR ELEVATION
1/8" = 1'-0"
3 A201

SEAL:

SILVERPEAK ENGINEERING
177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
STRUCTURAL CIVIL SURVEY WWW.SILVERPEAKENG.COM

ASCENT ACADEMY
APX 1150 W 1600 N
SARATOGA SPRINGS, UT

DATE: 06/02/2020
PROJECT: AW-053
DRAWN BY: DB
REVISIONS:

EXTERIOR ELEVATIONS

SHEET NUMBER:
A201

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.

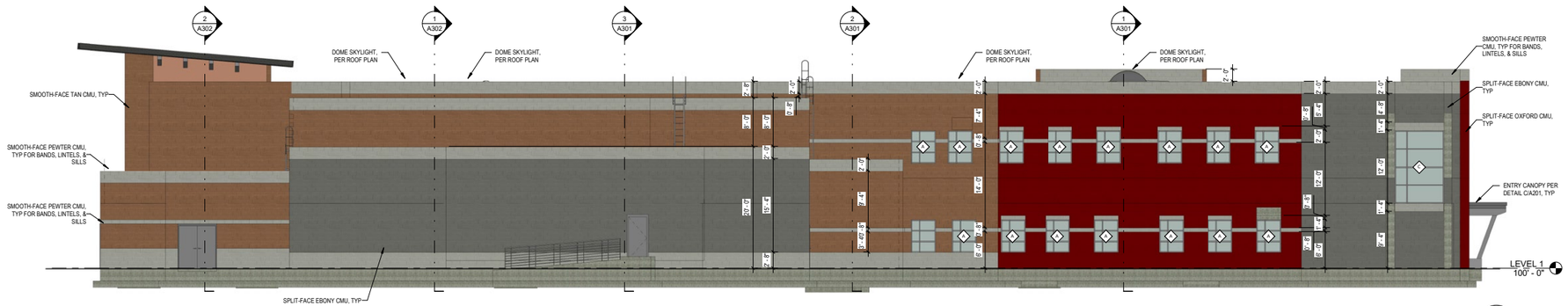
MASONRY NOTES:

1. MASON TO PLACE CONTROL JOINTS IN CMU WALLS NOT MORE THAN 40'-0" APART.

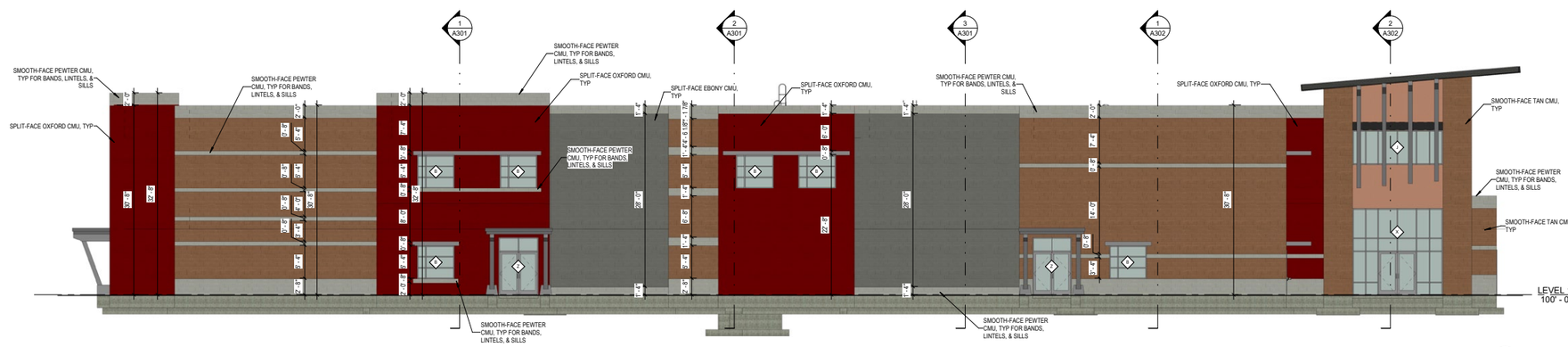
2. ALL CMU IS 8" U.N.O.

EXTERIOR FINISH LEGEND

- STANDARD-FACE (COLONIAL TAN)
- STANDARD-FACE (PEWTER)
- SPLIT-FACE (OXFORD)
- SPLIT-FACE (EBONY)



EAST EXTERIOR ELEVATION
1/8" = 1'-0"
1 A202



WEST EXTERIOR ELEVATION
1/8" = 1'-0"
2 A202

SEAL:

SILVERPEAK ENGINEERING
177 E. ANTELOPE DR. STE. B
LAYTON, UT 84041
PHONE: (801) 499-5054
STRUCTURAL CIVIL SURVEY WWW.SILVERPEAKENG.COM

ASCENT ACADEMY
APX 1150 W 1600 N
SARATOGA SPRINGS, UT

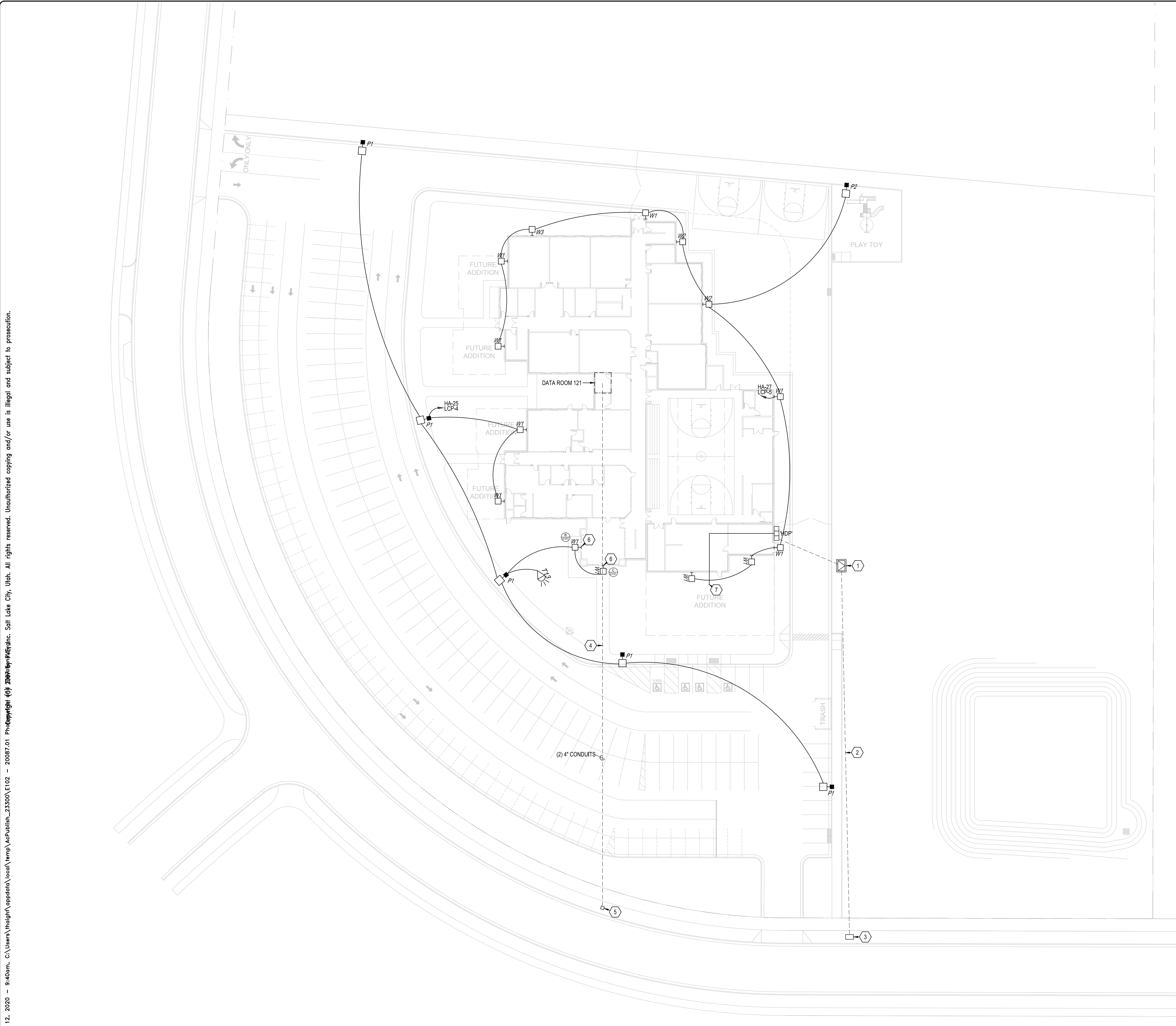
DATE: 07/02/20
PROJECT: AW-053
DRAWN BY: Author

REVISIONS:

EXTERIOR ELEVATIONS

SHEET NUMBER:
A202

PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.



A ELECTRICAL SITE PLAN
E101 SCALE: 1" = 30'-0"

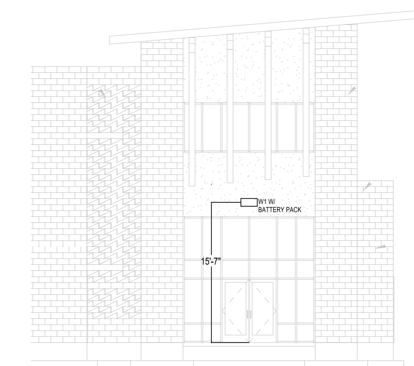
By: thaight; Aug 12, 2020 – 9:40am, C:\Users\thaight\appdata\local\temp\AcPublish_23300\E102 – 20087.01 Photometric Copyright (c) 2007 by PVE, Inc. Salt Lake City, Utah. All rights reserved. Unauthorized copying and/or use is illegal and subject to prosecution.

GENERAL NOTES:

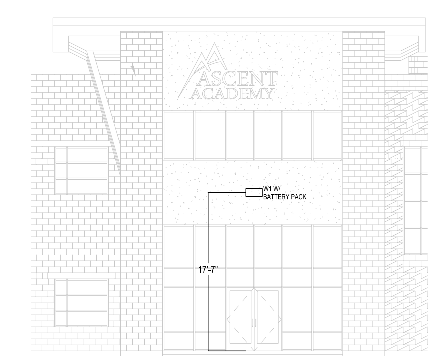
A. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL UTILITY LOCATIONS AND REQUIREMENTS WITH EACH UTILITY COMPANY PRIOR TO TRENCHING OR SETTING ANY EQUIPMENT. LOCATIONS SHOWN ON PLANS ARE PRELIMINARY AND ESTIMATES OF ACTUAL EQUIPMENT LOCATIONS.

KEYED NOTES (#):

1. UTILITY TRANSFORMER. CONFIRM LOCATION WITH ROCKY MOUNTAIN POWER.
2. UTILITY TRANSFORMER PRIMARY CONDUIT, SEE E401. CONFIRM ROUTING AND TIE-IN LOCATION WITH ROCKY MOUNTAIN POWER.
3. UTILITY GROUND SLEEVE. CONFIRM LOCATION WITH ROCKY MOUNTAIN POWER.
4. TELECOMMUNICATIONS CONDUITS, SEE E401. CONFIRM ROUTING AND FINAL LOCATION WITH UTILITY COMPANY.
5. TELECOMMUNICATIONS PEDESTAL. CONFIRM LOCATION WITH UTILITY COMPANY.
6. LIGHT FIXTURE TO BE PROVIDED WITH BATTERY PACK. PROVIDE UN-SWITCHED WIRE TO BATTERY PACK.
7. PROVIDE (1) 3" CONDUIT FROM HDP TO FUTURE ADDITION AREA.



B ENTRY EGRESS LIGHT HEIGHT DETAIL
E101 SCALE: NTS



C ENTRY EGRESS LIGHT HEIGHT DETAIL
E101 SCALE: NTS

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ENGINEERING AND ELECTRICAL SERVICES
DESIGN BUILD – COMMERCIAL - INDUSTRIAL

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REGISTERED PROFESSIONAL ENGINEER
No. 9816146
TODD A. HAIGHT
STATE OF UTAH
8-10-2020

PVE Inc.
Consulting Mechanical Electrical Engineers
1040 North 2200 West, Suite 100
Salt Lake City, Utah 84116
(801) 359-3158 Fax: (801) 521-4114

ASCENT ACADEMY
APPROX. 9000 N & 900 W
SARATOGA SPRINGS, UTAH

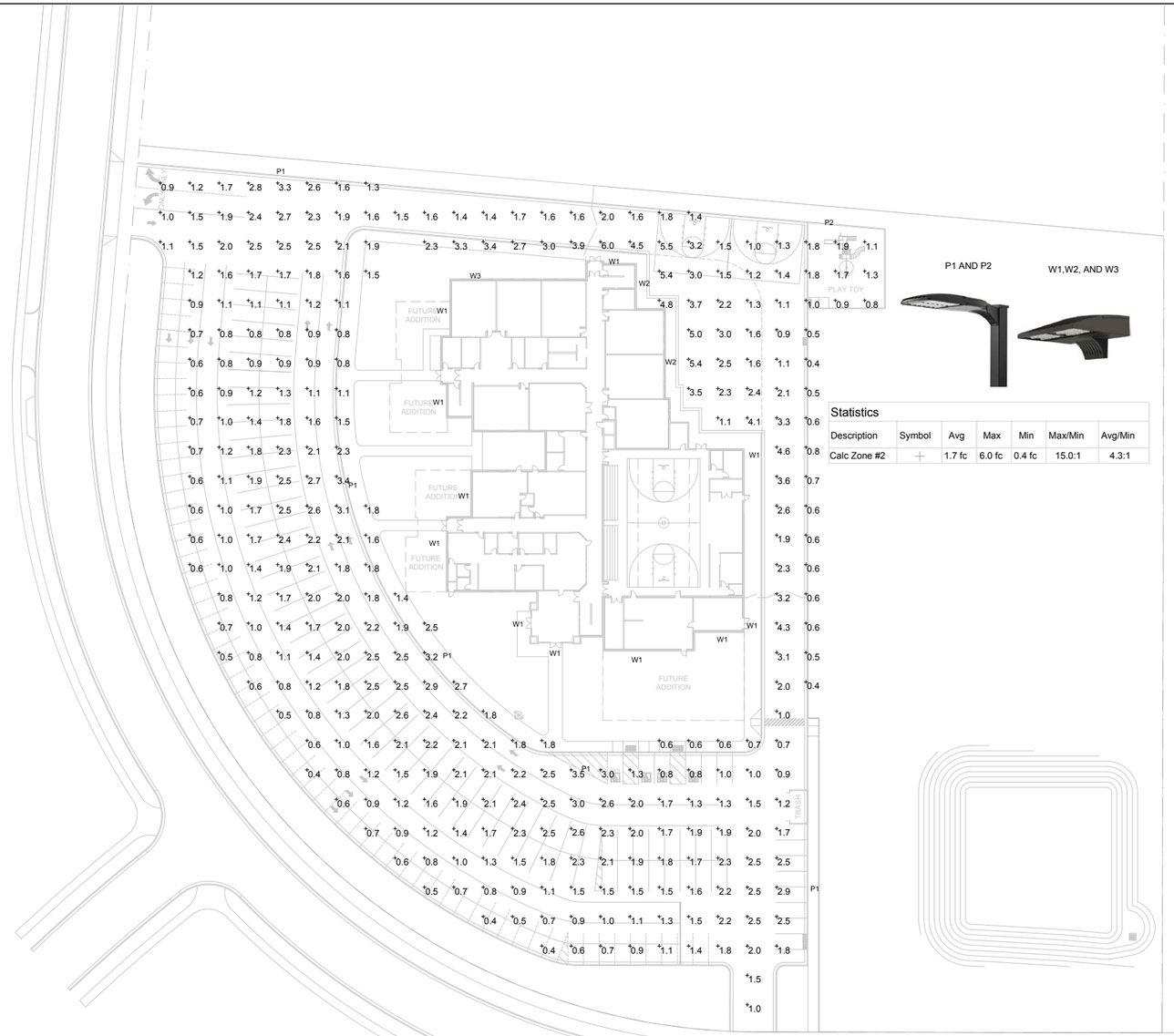
REVISIONS:

NO.	DATE	DESCRIPTION

DATE: 8-7-2020
SCALE: SEE DWG.
DRAWN: JS
CHECKED: TH
JOB NO.: 20087.01

SHEET TITLE
ELECTRICAL SITE PLAN

SHEET NO.
E101



P1 AND P2

W1,W2, AND W3

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #2	+	1.7 fc	6.0 fc	0.4 fc	15.0:1	4.3:1

A E102 ELECTRICAL PHOTOMETRIC PLAN

SCALE: 1" = 30'-0"

ALDER ELECTRIC

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(801) 359-3158 Fax: (801) 521-4114

ASCENT ACADEMY
APPROX. 9000 N & 900 W
SARATOGA SPRINGS, UTAH

REVISIONS:

NO.	DATE	DESCRIPTION

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DRAWN: JS
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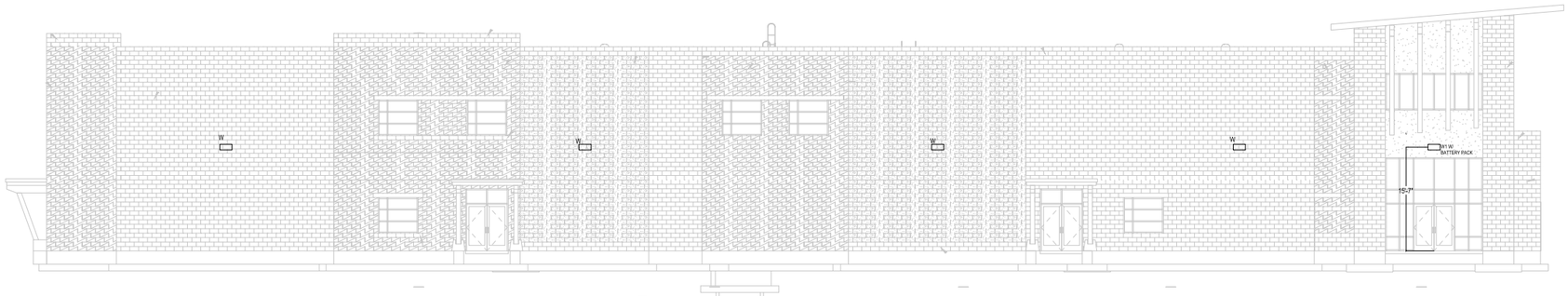
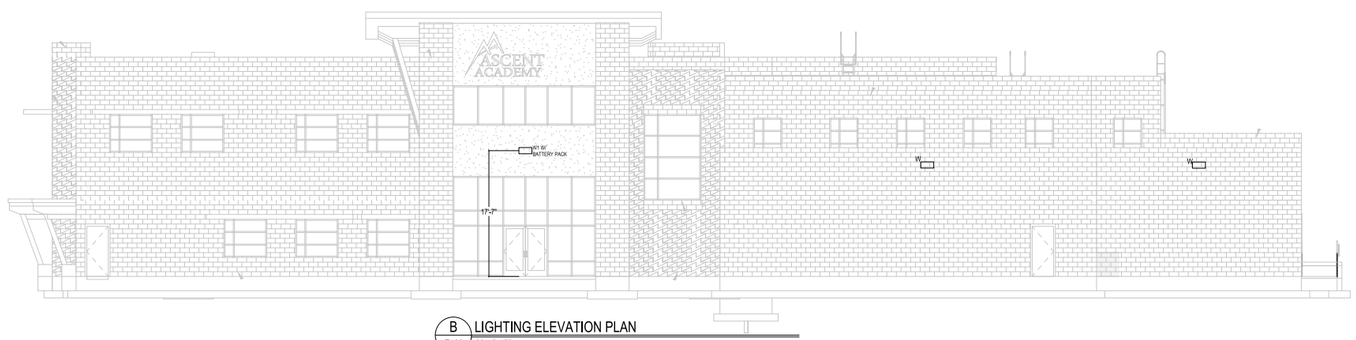
JOB NO.: 20087.01

SHEET TITLE
ELECTRICAL PHOTOMETRIC PLAN

SHEET NO.
E102



A E103 LIGHTING ELEVATION PLAN
SCALE: NTS



B E103 LIGHTING ELEVATION PLAN
SCALE: NTS

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8-10-2020

PVE Inc.
Consulting Mechanical Electrical Engineers
1040 North 2200 West, Suite 100
Salt Lake City, Utah 84116
(801) 359-3158 Fax: (801) 521-4114

ASCENT ACADEMY
APPROX. 9000 N & 900 W
SARATOGA SPRINGS, UTAH

REVISIONS

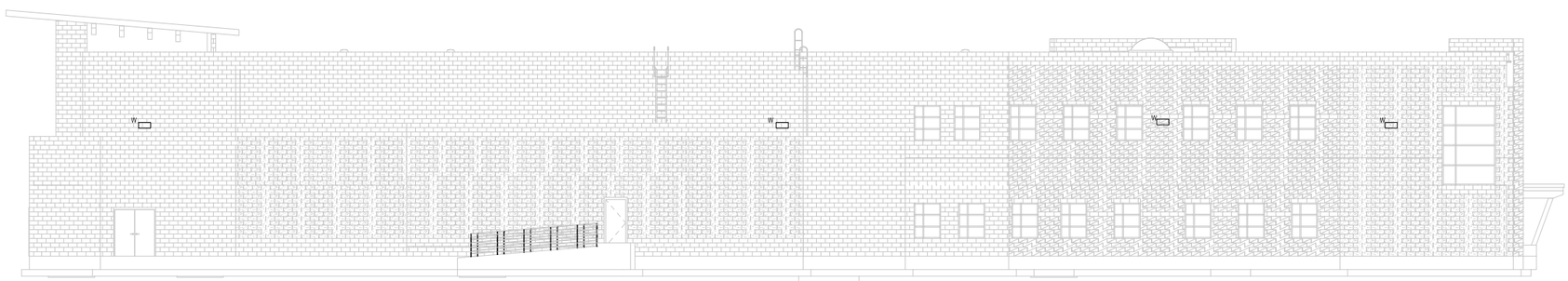
NO.	DATE	DESCRIPTION

DATE 8-7-2020
SCALE SEE DWG.
DRAWN JS
CHECKED TH
JOB NO. 20087.01

SHEET TITLE
LIGHTING ELEVATIONS

SHEET NO.
E103

A LIGHTING ELEVATION PLAN
E104 SCALE: NTS



B LIGHTING ELEVATION PLAN
E104 SCALE: NTS

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Salt Lake City, Utah 84116
(801) 359-3158 Fax: (801) 521-4114

ASCENT ACADEMY
APPROX. 9000 N & 900 W
SARATOGA SPRINGS, UTAH

REVISIONS:

NO.	DATE	DESCRIPTION

DATE: 8-7-2020
SCALE: SEE DWG.
DRAWN: JS
CHECKED: TH
JOB NO.: 20087.01

SHEET TITLE
LIGHTING ELEVATIONS

SHEET NO.
E104

STORM WATER STUDY

ASCENT ACADEMY
SARATOGA SPRINGS
APROX. 1150 West 1600 North
Saratoga Springs, Utah

Prepared By:

SILVERPEAK ENGINEERING
177 East Antelope Drive, #B, Layton Utah 84041
801-499-5054

DRAINAGE REPORT

Ascent Academy – Saratoga Springs
Approx. 1150 West 1600 North
Saratoga Springs, Utah

Introduction:

The proposed Ascent Academy site is a single-phase project which sits on 6.0 acres of undeveloped land in the Proposed Wildflower Development. The project currently consists of a two-story structure with parking to accommodate employees, teachers and guests. This report addresses hydrologic, and hydraulic design aspects of the site using the 100 year 24-hour storm event using the rational method to calculate peak discharge to determine required capacity of storm drain conduits and on-site detention.

References:

- National Oceanic and Atmospheric Administration (NOAA) Atlas 14 precipitation data

Attachments:

- Detention Calculations.
- Precipitation Data from NOAA Atlas 14

Hydrology Parameters:

- Detention Area's were sized using the 100 year 24-hour storm. An above ground detention system sized to adequately detain the 100 year storm is located at the Southeast corner of the site. This pond is also sized to retain the 0.41 inches of the 100 year storm as part of LID requirements as outlined by Saratoga Springs City. In a storm event, the pond will fill to retain LID requirements then discharge a rate of 0.76 cfs/ acre, and in the event a storm surcharges the system, storm water will overflow the southeast corner of the pond into Chianti Street.
- A review of the Saratoga Springs standard Precipitation Frequency Estimates show to be comparable to NOAA with NOAA being slightly more conservative, so NOAA numbers were used.

Summary:

In a storm event, storm water will drain into the outside parking area and be collected in inlet boxes at the Northeast and Southeast areas of the site and be routed into the site's above ground detention pond which is sized to adequately detain the 100 year storm and retain the Required LID stormwater, and will discharge at a metered rate. In the unlikely event, storm water surcharges the system the excess detention will overflow the pond at the Southwesterly end and discharge unrestricted into the public right of way at Chianti Street.

DRAINAGE CALCULATION
FOR
Ascent Saratoga Springs

LOCATION:	Saratoga Springs	PROJECT NO. AW-053
BY:	Josh Jensen	
DATE:	8/11/2020	

AREA CALCULATIONS			AREA COEFFICIENTS	
LANDSCAPE AREA (Al):	6.00	acres	Cl :	0.15
PAVED AND ROOF AREA (Ar):	4.13	acres	Cr :	0.90
GRAVEL AREA (Ag):	0.00	acres	Cg :	0.60
TOTAL AREA (A):	10.13	acres	TOTAL C:	0.455774926
			TOTAL C = (Al x Cl + Ar x Cr + Ag x Cg) / A	

Rainfall data based on NOAA
Precipataion Intensity Estimates
For 100 Year Storm

ALLOWABLE RUNOFF	
0.76	cfs

MINUTES	CA	I	T(sec)	CUMULATIVE RUNOFF	ALLOWABLE RUNOFF	STORAGE (ft^3)
15	4.62	3.86	900	16,039	684	15,355
30	4.62	2.60	1,800	21,608	1,368	20,240
60	4.62	1.61	3,600	26,760	2,736	24,024
180	4.62	0.58	10,800	29,021	8,208	20,813
360	4.62	0.31	21,600	31,015	16,416	14,599
720	4.62	0.17	43,200	34,705	32,832	1,873
1440	4.62	0.09	86,400	36,700	65,664	-28,964

Required Retention Volume per Saratoge Springs LID requirements = 0.41 inches of the 100 year storm

0.41" = 0.03 ft x 441262.8 sq. ft. = **15,076 cubic ft**

STORAGE REQUIRED : 24,024 ft^3
STORAGE PROVIDED : 24,735 ft^3

OUTLET CONTROL

Q (cfs)=	0.8	HWM	4,754.0	TYPE OF PIPE:	RCP
C=	0.6	FL @ GATE	4,744.3	ROUGHNESS (n) =	0.013
g (ft/s^2)=	32.2	h (ft)=	9.7	PIPE DIA. (d) =	15
				%SLOPE (s) =	0.0345
AREA (in^2) =	7.29	= Q / (C x (2 x g x h)^0.5)		Q allow =	12.03
Reqd. Orifice =	3.0 "			Check Q (cfs)	OK

PROVIDE: 15" DIA. RCP PIPE
with 1/4" metal plate with 3.0" round hole as orifice.

NOAA Atlas 14, Volume 1, Version 5
Location name: Saratoga Springs, Utah, USA*
Latitude: 40.3914°, Longitude: -111.9433°
Elevation: 4774.22 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	1.43 (1.24-1.67)	1.81 (1.58-2.12)	2.50 (2.17-2.93)	3.13 (2.69-3.68)	4.13 (3.46-4.88)	5.06 (4.13-6.02)	6.13 (4.86-7.37)	7.39 (5.64-9.02)	9.38 (6.82-11.7)	11.2 (7.80-14.2)
10-min	1.09 (0.942-1.27)	1.37 (1.20-1.61)	1.90 (1.66-2.23)	2.38 (2.05-2.81)	3.14 (2.63-3.71)	3.85 (3.14-4.58)	4.66 (3.70-5.61)	5.62 (4.29-6.86)	7.15 (5.19-8.91)	8.52 (5.93-10.8)
15-min	0.896 (0.780-1.05)	1.14 (0.996-1.33)	1.57 (1.37-1.84)	1.97 (1.69-2.32)	2.60 (2.18-3.07)	3.18 (2.60-3.79)	3.86 (3.05-4.63)	4.65 (3.55-5.68)	5.91 (4.29-7.36)	7.04 (4.91-8.94)
30-min	0.604 (0.524-0.706)	0.766 (0.670-0.898)	1.06 (0.920-1.24)	1.33 (1.14-1.56)	1.75 (1.46-2.07)	2.14 (1.75-2.55)	2.60 (2.06-3.12)	3.13 (2.39-3.82)	3.98 (2.89-4.96)	4.74 (3.30-6.02)
60-min	0.373 (0.324-0.437)	0.474 (0.414-0.555)	0.656 (0.569-0.768)	0.821 (0.704-0.966)	1.08 (0.906-1.28)	1.33 (1.08-1.58)	1.61 (1.27-1.93)	1.94 (1.48-2.36)	2.46 (1.79-3.07)	2.93 (2.04-3.73)
2-hr	0.232 (0.208-0.265)	0.290 (0.258-0.331)	0.380 (0.338-0.434)	0.465 (0.408-0.532)	0.600 (0.514-0.690)	0.724 (0.605-0.838)	0.868 (0.704-1.02)	1.04 (0.812-1.24)	1.31 (0.974-1.60)	1.56 (1.11-1.94)
3-hr	0.175 (0.159-0.197)	0.216 (0.196-0.243)	0.276 (0.249-0.310)	0.329 (0.295-0.370)	0.415 (0.364-0.468)	0.491 (0.420-0.561)	0.582 (0.486-0.685)	0.699 (0.559-0.833)	0.882 (0.673-1.08)	1.05 (0.766-1.31)
6-hr	0.112 (0.104-0.123)	0.138 (0.127-0.151)	0.169 (0.155-0.186)	0.197 (0.180-0.216)	0.237 (0.213-0.262)	0.271 (0.240-0.301)	0.311 (0.270-0.350)	0.360 (0.305-0.422)	0.446 (0.367-0.545)	0.531 (0.418-0.662)
12-hr	0.069 (0.063-0.075)	0.084 (0.078-0.092)	0.102 (0.094-0.112)	0.117 (0.107-0.128)	0.139 (0.126-0.153)	0.156 (0.139-0.173)	0.174 (0.153-0.195)	0.196 (0.170-0.223)	0.231 (0.195-0.274)	0.266 (0.214-0.332)
24-hr	0.040 (0.037-0.042)	0.048 (0.045-0.052)	0.058 (0.054-0.062)	0.065 (0.061-0.070)	0.076 (0.070-0.081)	0.084 (0.078-0.089)	0.092 (0.085-0.099)	0.099 (0.091-0.113)	0.117 (0.100-0.139)	0.135 (0.108-0.169)
2-day	0.023 (0.021-0.024)	0.028 (0.026-0.030)	0.033 (0.031-0.035)	0.037 (0.035-0.040)	0.043 (0.040-0.046)	0.047 (0.044-0.050)	0.052 (0.048-0.055)	0.056 (0.052-0.060)	0.062 (0.057-0.070)	0.068 (0.061-0.085)
3-day	0.016 (0.015-0.018)	0.020 (0.019-0.022)	0.024 (0.022-0.026)	0.027 (0.025-0.029)	0.031 (0.029-0.033)	0.035 (0.032-0.037)	0.038 (0.035-0.041)	0.041 (0.038-0.044)	0.046 (0.042-0.051)	0.050 (0.045-0.058)
4-day	0.013 (0.012-0.014)	0.016 (0.015-0.017)	0.019 (0.018-0.021)	0.022 (0.020-0.023)	0.025 (0.024-0.027)	0.028 (0.026-0.030)	0.031 (0.029-0.033)	0.034 (0.031-0.037)	0.038 (0.034-0.041)	0.041 (0.037-0.044)
7-day	0.009 (0.008-0.010)	0.011 (0.010-0.012)	0.013 (0.012-0.014)	0.015 (0.014-0.016)	0.017 (0.016-0.018)	0.018 (0.017-0.020)	0.020 (0.019-0.022)	0.022 (0.020-0.024)	0.024 (0.022-0.026)	0.026 (0.023-0.028)
10-day	0.007 (0.006-0.007)	0.008 (0.008-0.009)	0.010 (0.009-0.011)	0.011 (0.010-0.012)	0.013 (0.012-0.014)	0.014 (0.013-0.015)	0.015 (0.014-0.016)	0.016 (0.015-0.017)	0.018 (0.016-0.019)	0.019 (0.017-0.020)
20-day	0.005 (0.004-0.005)	0.006 (0.005-0.006)	0.007 (0.006-0.007)	0.007 (0.007-0.008)	0.008 (0.008-0.009)	0.009 (0.008-0.010)	0.010 (0.009-0.010)	0.010 (0.009-0.011)	0.011 (0.010-0.012)	0.011 (0.011-0.012)
30-day	0.004 (0.003-0.004)	0.004 (0.004-0.005)	0.005 (0.005-0.006)	0.006 (0.005-0.006)	0.007 (0.006-0.007)	0.007 (0.007-0.008)	0.008 (0.007-0.008)	0.008 (0.008-0.009)	0.009 (0.008-0.009)	0.009 (0.008-0.010)
45-day	0.003 (0.003-0.003)	0.004 (0.003-0.004)	0.004 (0.004-0.004)	0.005 (0.004-0.005)	0.005 (0.005-0.006)	0.006 (0.005-0.006)	0.006 (0.006-0.006)	0.006 (0.006-0.007)	0.007 (0.006-0.007)	0.007 (0.007-0.007)
60-day	0.003 (0.002-0.003)	0.003 (0.003-0.003)	0.004 (0.003-0.004)	0.004 (0.004-0.004)	0.005 (0.004-0.005)	0.005 (0.005-0.005)	0.005 (0.005-0.006)	0.006 (0.005-0.006)	0.006 (0.006-0.006)	0.006 (0.006-0.006)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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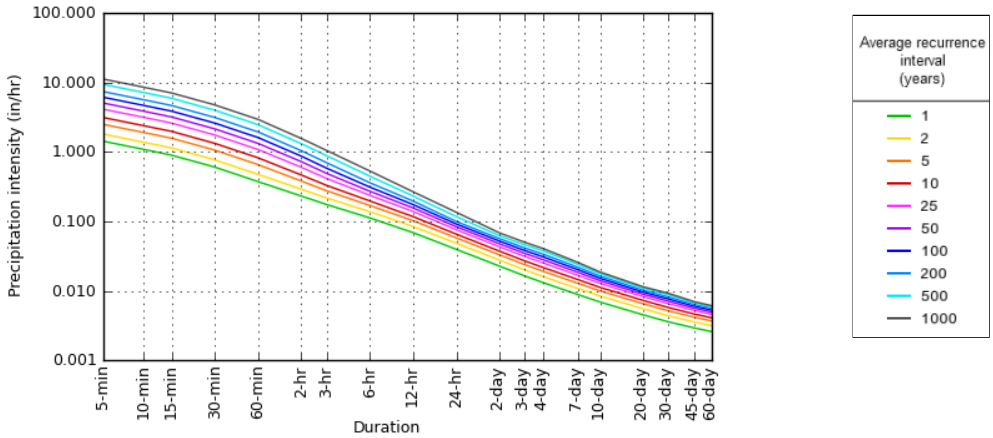
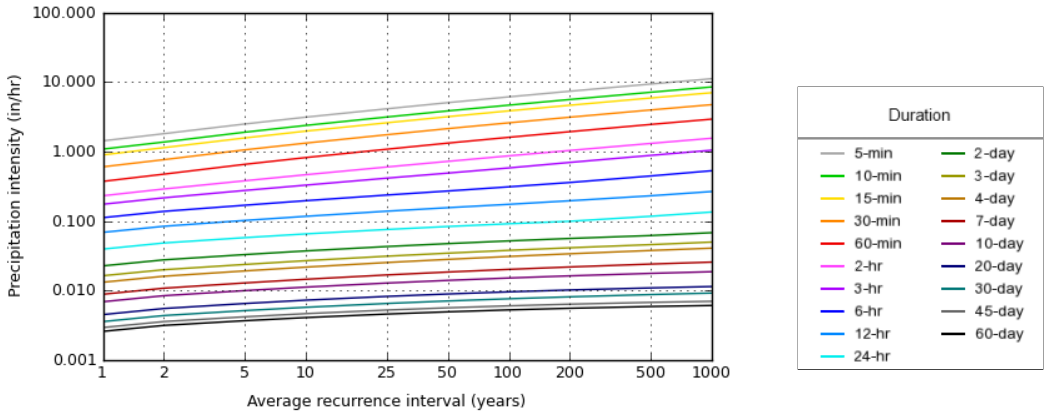
PF graphical

PDS-based intensity-duration-frequency (IDF) curves
Latitude: 40.3914°, Longitude: -111.9433°





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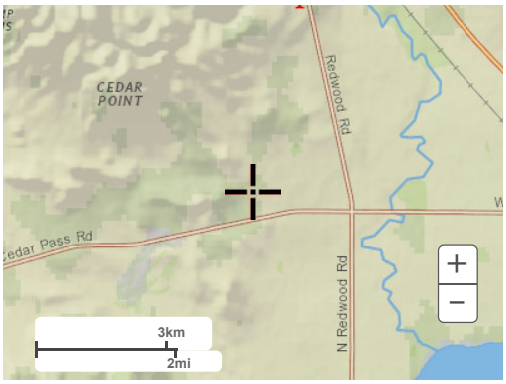
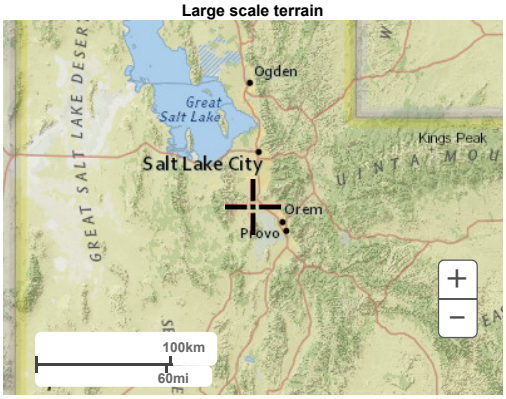
Maps & aerials

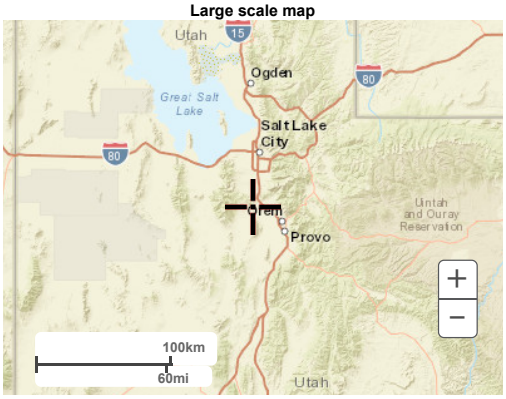
Small scale terrain



Large scale terrain



Large scale map



Large scale aerial

GSH

REPORT
GEOTECHNICAL STUDY
PROPOSED WILDFLOWER SCHOOL
CHIANTI STREET
SARATOGA SPRINGS, UTAH

Submitted To:

Silver Peak Engineering
177 East Antelope Drive #B
Layton, Utah 84041

Submitted By:

GSH Geotechnical, Inc.
473 West 4800 South
Salt Lake City, Utah 84123

April 17, 2020

Job No. 0990-080-20

April 17, 2020
Job No. 0990-080-20

Mr. Logan Hammer and Mr. Joshua Jensen
Silver Peak Engineering
177 East Antelope Drive #B
Layton, Utah 84041

Messrs. Hammer and Jensen:

Re: Report
Geotechnical Study
Proposed Wildflower School
Chianti Street
Saratoga Springs, Utah

1. INTRODUCTION

1.1 GENERAL

This report presents the results of our geotechnical study performed at the site of the proposed Wildflower School to be located on Chianti Street in Saratoga Springs, Utah. The general location of the site with respect to existing roadways, as of 2020, is presented on Figure 1, Vicinity Map. A more detailed layout of the site showing proposed facilities, existing roadways, and the borings drilled in conjunction with this study is presented on Figure 2, Site Plan.

1.2 OBJECTIVES AND SCOPE

The objectives and scope of the study were planned in discussions among Mr. Logan Hammer and Mr. Joshua Jensen of Silver Peak Engineering and Mr. Alan Spilker of GSH Geotechnical, Inc. (GSH).

In general, the objectives of this study were to:

1. Define and evaluate the subsurface soil and groundwater conditions across the site.

2. Provide appropriate foundation, earthwork, pavement, and geoseismic recommendations to be utilized in the design and construction of the proposed facilities.

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In accomplishing these objectives, our scope has included the following:

1. A field program consisting of the exploration, logging, and sampling of 7 borings.

2. A laboratory testing program.

3. An office program consisting of the correlation of available data, engineering analysis, and the preparation of this summary report.

1.3 AUTHORIZATION

Authorization was provided by returning a signed copy of the Professional Services Agreement No. 20-0340 dated March 19, 2020.

1.4 PROFESSIONAL STATEMENTS

Supporting data upon which our recommendations are based are presented in subsequent sections of this report. Recommendations presented herein are governed by the physical properties of the soils encountered in the exploration borings, projected groundwater conditions, and the layout and design data discussed in Section 2, Proposed Construction. If subsurface conditions other than those described in this report are encountered and/or if design and layout changes are implemented, GSH must be informed so that our recommendations can be reviewed and amended, if necessary.

Our professional services have been performed, our findings developed, and our recommendations prepared in accordance with generally accepted engineering principles and practices in this area at this time.

2. PROPOSED CONSTRUCTION

This project is proposed to be developed for a 1- to 2-story structure and associated pavements. The structure is anticipated to be of masonry block construction, placed slab on grade and supported upon conventional spread and continuous wall footings.

Maximum real column and wall loads are anticipated to be on the order of 50 to 150 kips and 4 to 7 kips per lineal foot, respectively. Real loads are defined as the total of all dead plus frequently applied (reduced) live loads.

Paved parking areas and drive lanes are planned around the structure. Projected traffic in the parking areas and drive lanes is anticipated to consist of a light volume of automobiles and light trucks, occasional medium-weight trucks, and no heavyweight trucks.

Site development will require some earthwork in the form of minor cutting and filling. At this time, we anticipate that maximum site grading cuts and fills, excluding utilities, will be on the order of 1 to 3 feet.

3. SITE INVESTIGATIONS

3.1 GENERAL

Subsurface conditions in unexplored locations or at other times may vary from those encountered at specific boring locations. If such variations are noted during construction or if project development plans are changed, GSH must review the changes and amend our recommendations, if necessary.

Boring locations were established by estimating distances and angles from site landmarks. If increased accuracy is desired by the client, we recommend that the boring locations and elevations be surveyed.

3.2 FIELD PROGRAM

To define and evaluate the subsurface soil and groundwater conditions across the site, 7 borings were completed within the accessible areas. These borings were completed to depths ranging from 5 to 31 feet with a truck-mounted drill rig equipped with hollow-stem augers. Auger refusal within very dense granular soils terminated Boring B-1. The approximate locations of the borings are presented on Figure 2.

The field portion of our study was under the direct control and continual supervision of an experienced member of our geotechnical staff. During the course of the drilling operations, a continuous log of the subsurface conditions encountered was maintained. In addition, samples of the typical soils encountered were obtained for subsequent laboratory testing and examination. The soils were classified in the field based upon visual and textural examination. These classifications were supplemented by subsequent inspection and testing in our laboratory. Graphical representation of the subsurface conditions encountered is presented on Figures 3A through 3G, Boring Logs. Soils were classified in accordance with the nomenclature described on Figure 4, Key to Boring Log (USCS).

A 3.25-inch outside diameter, 2.42-inch inside diameter (Dames & Moore), a 2.0-inch outside diameter, 1.38-inch inside diameter drive sampler (SPT) were utilized at select locations and depths. The blow counts recorded on the boring logs were those required to drive the sampler 12 inches with a 140-pound hammer dropping 30 inches.

Following completion of exploration operations, 1.25-inch diameter slotted PVC pipe was installed in Borings B-1 through B-4 to provide a means of monitoring the groundwater fluctuations. The borings were backfilled with auger cuttings.

3.3 LABORATORY TESTING

3.3.1 General

To provide data necessary for our engineering analysis, a laboratory testing program was performed. This program included moisture, density, partial gradation, consolidation, collapse/consolidation and chemical tests. The following paragraphs describe the tests and summarize the test data.

3.3.2 Moisture and Density Tests

To provide index parameters and to correlate other test data, moisture and density tests were performed on selected samples. The results of these tests are presented on the boring logs, Figures 3A through 3G.

3.3.3 Partial Gradation Tests

To aid in classifying the granular soils, partial gradation tests were performed. Results of the tests are tabulated below and presented on the boring logs, Figures 3A through 3G.

Boring No.	Depth (feet)	Percent Passing No. 200 Sieve	Moisture Content Percent	Soil Classification
B-1	30	5.1	13.8	GP/GM

3.3.4 Consolidation Tests

To provide data necessary for our settlement analysis, consolidation testing was performed on 2 representative samples of the natural fine-grained clay and silt soils encountered at the site. The results of these tests indicate that the samples tested are potentially collapsible and will exhibit very low strength and very high compressibility characteristics under the anticipated loading when wetted. Detailed results of the tests are maintained within our files and can be transmitted to you, upon your request.

3.3.5 Collapse/Consolidation Tests

To provide data necessary for our settlement analysis, a collapse/consolidation test is currently being performed upon a representative sample of natural fine-grained soils obtained at a depth of 5 feet.

The collapse portions of the tests were performed as follows:

1. Load sample at in situ moisture content to specific axial pressure.

2. Measure and record axial deflection.

3. Saturate sample.

4. Measure and record resulting collapse.

Boring No.	Depth (feet)	Soil Type	Axial Load When Saturated (psf)	Collapse (percent)
B-4	5.0	CL	800	8.9

Upon completion of the collapse portion of the tests, standard consolidation test loading was applied. The current results of the test indicate that the soils encountered in the upper 7.5 feet containing pinholes with low density and moisture contents exhibit very low pre-consolidation and are highly compressible, indicative of collapsible soil.

Detailed results of these tests are maintained within our files and can be transmitted to you, upon your request.

3.3.6 Chemical Tests

To determine if the site soils will react detrimentally with concrete, chemical tests were performed on a representative sample of the near-surface soil encountered at the site. The results of the chemical tests are tabulated below:

Boring No.	Depth (feet)	Soil Classification	pH	Total Water-Soluble Sulfate (mg/kg-dry)
B-2	2.5	CL	8.65	51.1

4. SITE CONDITIONS

4.1 SURFACE

The site is located at on Chianti Street in Saratoga Springs, Utah. The site is currently undeveloped land used for agricultural purposes. The topography of the site is relatively flat, grading down to the east with a total relief of approximately 8 to 10 feet. Site vegetation consists of sparse agricultural grass field throughout the site.

The site is bounded to the north and east by similar agricultural fields and to the south and west the active development of Chianti Street with similar agricultural grass fields beyond.

4.2 SUBSURFACE SOIL

The following paragraphs provide generalized descriptions of the subsurface profiles and soil conditions encountered within the borings conducted during this study. As previously noted, soil conditions may vary in unexplored locations.

The borings were completed to depths ranging from 5 to 31 feet. The soil conditions encountered in each of the borings, to the depths completed, were generally similar across the boring locations.

- Approximately 6 inches of topsoil/loose plow disturbed soil and topsoil was encountered in each boring. Topsoil thickness is frequently erratic and thicker zones of topsoil/loose plow disturbed soil should be anticipated.

- Non-engineered fill soils were encountered in all borings excluding B-3, to depths ranging from 1.0 to 2.5 feet beneath the existing ground surface. The non-engineered fill soils primarily consisted of clay with varying silt and sand content, silt with varying sand content and sand with varying silt and gravel content.

- Natural soils were encountered below the non-engineered fill or the ground surface in each boring. The natural soils consisted primarily of clay with varying silt, sand, and gravel content, silt with varying clay, sand and gravel content, sand with varying silt and gravel content, and gravel with varying silt and sand content.

- The natural clay soils encountered in Borings B-1, B-2, and B-4 contained trace to numerous pinholes to depths of approximately 7.5 feet below the existing ground surface. Soils with a pinhole structure are indicative of soils that are moisture sensitive and potentially collapsible. These soils are anticipated to exhibit very low strength and very high compressibility characteristics and are anticipated to vary in depth and lateral extent across the site.

- Materials causing auger refusal were encountered within the dense natural soils in Boring B-1 at a depth of 31 feet below the existing ground surface.

The natural clay and silt soils were stiff to very stiff, slightly moist to moist, and brown, light brown and tan in color. Some of the natural clay and silt soils contained trace to numerous pinholes. Soils with a pinhole structure are indicative of soils that are moisture sensitive and potentially collapsible. These soils are anticipated to exhibit very low strength and very high compressibility characteristics.

The natural sand and gravel soils were medium dense to very dense, moist, and light brown, tan and gray in color. The natural sand soils are anticipated to exhibit moderately high strength and moderately low compressibility characteristics under the anticipated load range.

For a more descriptive interpretation of subsurface conditions, please refer to Figures 3A through 3G, Boring Logs. The lines designating the interface between soil types on the boring logs generally represent approximate boundaries. In situ, the transition between soil types may be gradual.

4.3 GROUNDWATER

Groundwater was not encountered to the depths explored in the borings completed at the site.

Groundwater levels vary with changes in season and rainfall, construction activity, irrigation, snow melt, surface water run-off, and other site-specific factors.

5. DISCUSSIONS AND RECOMMENDATIONS

5.1 SUMMARY OF FINDINGS

The proposed structures may be supported upon conventional spread and continuous wall foundations supported upon suitable natural soils and/or structural fill extending to suitable natural soils.

The most significant geotechnical aspects at the site are:

1. The potentially collapsible soils encountered within Borings B-1, B-2, and B-4 that extended to depths of up to 7.5 feet below the existing ground surface. These potentially collapsible soils are likely present in unexplored areas of the site and may be encountered at shallower and greater depths.

2. The existing non-engineered fills across some areas of the site.

3. The loose/plow disturbed soil and topsoil encountered across the site.

Potentially collapsible soils were encountered to depths of up to 7.5 feet below ground surface. Potentially collapsible soils will be sporadic with respect to thickness and lateral extent across the site. Under no circumstances should foundations, floor slabs, and exterior rigid pavements be established over these collapsible soils. Footings must be placed on the suitable natural soils or granular structural fill extending to suitable natural soils.

Due to the depth of collapsible soils encountered at the site, an intermediate-depth foundation system such as helical piers may be used to bypass the unsuitable soils and bear in the competent natural soils below. In flexible pavement areas, the in situ, potentially collapsible soils may remain if free of any deleterious materials and if properly prepared, as discussed later in this report. Even with this partial subgrade preparation underlying flexible pavements, some settlement and differential settlement may occur over deep sequences unless the potentially collapsible soils are

completely removed. Before the placement of flexible pavements, the subgrade must be properly prepared as discussed later in this report.

Another significant aspect for site development is that a mixture of sand and gravel containing at least 20 percent fines (that is, either silt or clay particles) is required to be utilized as granular structural fills. The purpose of the relatively high percentage of fines is to render the compacted material less permeable; thus, reducing the possibility of deep infiltration of surface water into the underlying potentially collapsible soil sequence.

Potentially collapsible soils may be present across the majority of the site to varying depths. Therefore, a geotechnical engineer from GSH must observe every foundation and floor slab excavation to identify that all collapsible/unsuitable soils have been removed.

Prior to proceeding with construction, removal of the surface vegetation, root systems, topsoil, non-engineered fill, potentially collapsible soils, and any deleterious materials from beneath an area extending out at least 5 feet from the perimeter of the proposed structure footprints and 3 feet beyond rigid pavements and exterior flatwork areas will be required. All existing utility locations should be reviewed to assess their impact on the proposed construction and abandoned and/or relocated as appropriate.

Due to the developed nature of this site and the surrounding area, additional non-engineered fills may exist in unexplored areas of the site. Based on our experience, non-engineered fills are frequently erratic in composition and consistency. All surficial loose/disturbed soils and non-engineered fills must be removed below all footings, floor slabs, and rigid pavements. The in situ, non-engineered fills may remain below flexible pavements if free of any deleterious materials, of limited thickness, and if properly prepared, as discussed later in this report.

To reduce disturbance of the natural soils during excavation, it is recommended that low-impact, track-mounted equipment with smooth edge buckets/blades be utilized.

Detailed discussions pertaining to earthwork, foundations, pavements, and the geoseismic setting of the site are presented in the following sections.

5.2 EARTHWORK

5.2.1 Site Preparation

Initial site preparation will consist of the removal of the potentially collapsible soils, non-engineered fills, surface vegetation, root systems, topsoil, and any deleterious materials from beneath an area extending out at least 5 feet from the perimeter of the proposed structure footprint and 3 feet beyond rigid pavements and exterior flatwork areas. All existing utility locations should be reviewed to assess their impact on the proposed construction and abandoned and/or relocated as appropriate.

In situ, non-engineered fills may remain below flexible pavements if free of debris and deleterious materials, less than 3 feet in thickness, and if properly prepared. Proper preparation below pavements will consist of the scarification of the upper 12 inches below asphalt concrete (flexible pavement), followed by moisture preparation and re-compaction to the requirements of structural fill. Even with proper preparation, pavements established overlying non-engineered fills may encounter some long-term movements unless the non-engineered fills are completely removed.

Similarly, below exterior flatwork such as sidewalks and driveways, a minimum of 18 inches of potentially collapsible soils must be removed and either replaced with new structural fill or recompacted to the requirements for structural fill. The replacement structural fill must consist of a sand and gravel mixture containing at least 20 percent fines (that is, either silt or clay particles. The purpose of the relatively high percentage of fines is to render the compacted material less permeable; thus, reducing the possibility of deep infiltration of surface water into the underlying potentially collapsible soil sequence. Even with the recommended minimum removal and replacement, some long-term movement of the slabs and pavements overlying deep sequences of potentially collapsible soils may still occur over time. If this is unacceptable, all potentially collapsible soils must be removed and replaced with compacted structural fill.

It must be noted that from a handling and compaction standpoint, soils containing high amounts of fines (silts and clays) are inherently more difficult to rework and are very sensitive to changes in moisture content, requiring very close moisture control during placement and compaction. This will be very difficult, if not impossible, during wet and cold periods of the year. Additionally, the on-site soils are likely above optimum moisture content for compacting at present and would require some drying prior to re-compacting.

Subsequent to stripping and prior to the placement of floor slabs, foundations, structural site grading fills, exterior flatwork, and pavements, the exposed subgrade must be proof rolled by passing moderate-weight rubber tire-mounted construction equipment over the surface at least twice. If excessively soft or otherwise unsuitable soils are encountered beneath footings, they must be completely removed. If removal depth required is greater than 2 feet below footings, GSH must be notified to provide further recommendations. In pavement, floor slab, and outside flatwork areas, unsuitable natural soils should be removed to a maximum depth of 2 feet and replaced with compacted granular structural fill.

Subgrade preparation as described must be completed prior to placing overlying structural site grading fills.

To reduce disturbance of the natural soils during excavation, it is recommended that low-impact, track-mounted equipment with smooth edge buckets/blades be utilized.

GSH must be notified prior to the placement of structural site grading fills, floor slabs, footings, and pavements to verify that all potentially collapsible soils, loose/disturbed soils and non-engineered fills have been completely removed and/or properly prepared.

5.2.2 Temporary Excavations

Temporary excavations up to 8 feet deep in fine-grained cohesive soils, above or below the water table, may be constructed with sideslopes no steeper than one-half horizontal to one vertical (0.5H:1.0V). Excavations deeper than 8 feet are not anticipated at the site.

For granular (cohesionless) soils, construction excavations above the water table, not exceeding 4 feet, should be no steeper than one-half horizontal to one vertical (0.5H:1.0V). For excavations up to 8 feet, in granular soils and above the water table, the slopes should be no steeper than one horizontal to one vertical (1H:1V). Excavations encountering saturated cohesionless soils will be very difficult and will require very flat sideslopes and/or shoring, bracing, and dewatering.

To reduce disturbance of the natural soils during excavation, it is recommended that low-impact, track-mounted equipment with smooth edge buckets/blades be utilized.

All excavations must be inspected periodically by qualified personnel. If any signs of instability or excessive sloughing are noted, immediate remedial action must be initiated.

5.2.3 Structural Fill

Structural fill is defined as all fill which will ultimately be subjected to structural loadings, such as imposed by footings, floor slabs, pavements, etc. Structural fill will be required as backfill over foundations and utilities, as site grading fill, and as replacement fill below footings. All structural fill must be free of surface vegetation, root systems, rubbish, topsoil, frozen soil, and other deleterious materials.

Structural site grading fill is defined as structural fill placed over relatively large open areas to raise the overall grade. For structural site grading fill, the maximum particle size shall not exceed 4 inches; although, occasional larger particles, not exceeding 8 inches in diameter, may be incorporated if placed randomly in a manner such that "honeycombing" does not occur and the desired degree of compaction can be achieved. The maximum particle size within structural fill placed within confined areas shall be restricted to 2 inches.

On-site soils, including existing non-engineered fills, may be re-utilized as structural site grading fill if they do not contain construction debris or deleterious material and meet the requirements of structural fill. Fine-grained soils will require very close moisture control and may be very difficult, if not impossible, to properly place and compact during wet and cold periods of the year.

Imported structural fill below foundations and floor slabs shall consist of a well graded sand and gravel mixture with less than 30 percent retained on the three-quarter-inch sieve and less than 20 percent passing the No. 200 Sieve (clays and silts).

Additionally, due to the potentially collapsible soils encountered at the site, a mixture of sand and gravel containing at least 20 percent fines (that is, either silt or clay particles) is required to be

utilized as granular structural fills. The purpose of the relatively high percentage of fines is to render the compacted material less permeable; thus, reducing the possibility of deep infiltration of surface water into the underlying potentially collapsible soil sequence.

To stabilize soft subgrade conditions (if encountered) or where structural fill is required to be placed closer than 2.0 feet above the water table at the time of construction, a mixture of coarse angular gravels and cobbles and/or 1.5- to 2.0-inch gravel (stabilizing fill) should be utilized. It may also help to utilize a stabilization fabric, such as Mirafi 600X or equivalent, placed on the natural ground if 1.5- to 2.0-inch gravel is used as stabilizing fill.

5.2.4 Fill Placement and Compaction

All structural fill shall be placed in lifts not exceeding 8 inches in loose thickness. Structural fills shall be compacted in accordance with the percent of the maximum dry density as determined by the AASHTO[1] T180 (ASTM[2] D1557) compaction criteria in accordance with the following table:

Location	Total Fill Thickness (feet)	Minimum Percentage of Maximum Dry Density
Beneath an area extending at least 5 feet beyond the perimeter of the structure	0 to 15	98
Site grading fills outside area defined above	0 to 5	90
Site grading fills outside area defined above	5 to 10	95
Utility trenches within structural areas	--	96
Road base	--	96

Structural fills greater than 15 feet thick are not anticipated at the site.

Subsequent to stripping and prior to the placement of structural site grading fill, the subgrade shall be prepared as discussed in Section 5.2.1, Site Preparation, of this report. In confined areas, subgrade preparation should consist of the removal of all loose or disturbed soils.

Coarse angular gravel and cobble mixtures (stabilizing fill), if utilized, shall be end dumped, spread to a maximum loose lift thickness of 15 inches, and compacted by dropping a backhoe bucket onto the surface continuously at least twice. As an alternative, the stabilizing fill may be compacted by passing moderately heavy construction equipment or large self-propelled compaction equipment at least twice. Subsequent fill material placed over the coarse gravels and cobbles shall be

[1] American Association of State Highway and Transportation Officials
[2] American Society for Testing and Materials

adequately compacted so that the "fines" are "worked into" the voids in the underlying coarser gravels and cobbles. Where soil fill materials are to be placed directly over more than about 18 inches of clean gravel, a separation geofabric, such as Mirafi 140N or equivalent, is recommended to be placed between the gravel and subsequent soil fills.

Non-structural fill may be placed in lifts not exceeding 12 inches in loose thickness and compacted by passing construction, spreading, or hauling equipment over the surface at least twice.

5.2.5 Utility Trenches

All utility trench backfill material below structurally loaded facilities (footings, floor slabs, flatwork, pavements, etc.) shall be placed at the same density requirements established for structural fill. If the surface of the backfill becomes disturbed during the course of construction, the backfill shall be proof rolled and/or properly compacted prior to the construction of any exterior flatwork over a backfilled trench. Proof rolling shall be performed by passing moderately loaded rubber tire-mounted construction equipment uniformly over the surface at least twice. If excessively loose or soft areas are encountered during proof rolling, they shall be removed to a maximum depth of 2 feet below design finish grade and replaced with structural fill.

Many utility companies and City-County governments are now requiring that Type A-1a or A-1b (AASHTO Designation – granular soils with limited fines) soils be used as backfill over utilities. These organizations are also requiring that in public roadways, the backfill over major utilities be compacted over the full depth of fill to at least 96 percent of the maximum dry density as determined by the AASHTO T180 (ASTM D1557) method of compaction. GSH recommends that as the major utilities continue onto the site that these compaction specifications are followed.

Fine-grained soils, such as silts and clays, are not recommended for utility trench backfill in structural areas.

To reduce disturbance of the natural soils during excavation, it is recommended that low-impact, track-mounted equipment with smooth edge buckets/blades be utilized.

5.3 GROUNDWATER

Groundwater was not encountered to the depths explored in the borings completed at the site.

The groundwater measurements presented are conditions at the time of the field exploration and may not be representative of other times or locations. Groundwater levels may vary seasonally and with precipitation, as well as other factors including irrigation. Evaluation of these factors is beyond the scope of this study. Groundwater levels may, therefore, be at shallower or deeper depths than those measured during this study, including during construction and over the life of the structure.

The extent and nature of any dewatering required during construction will be dependent on the actual groundwater conditions prevalent at the time of construction and the effectiveness of construction drainage to prevent run-off into open excavations.

5.4 SPREAD AND CONTINUOUS WALL FOUNDATIONS

5.4.1 Design Data

The results of our analysis indicate that the proposed structures may be supported upon conventional spread and continuous wall foundations established upon suitable natural soils and/or structural fill extending to suitable natural soils. Under no circumstances shall foundations be established over non-engineered fills, potentially collapsible soils, loose or disturbed soils, topsoil, surface vegetation, root systems, rubbish, construction debris, other deleterious materials, frozen soils, or within ponded water. For design, the following parameters are provided:

Minimum Recommended Depth of Embedment for Frost Protection	- 30 inches
Minimum Recommended Depth of Embedment for Non-frost Conditions	- 15 inches
Recommended Minimum Width for Continuous Wall Footings	- 18 inches
Minimum Recommended Width for Isolated Spread Footings	- 24 inches
Recommended Net Bearing Capacity for Real Load Conditions on suitable natural soils	- 2,500 pounds per square foot
Recommended Net Bearing Capacity for Real Load Conditions on helical piers extending To suitable natural soils	- to be designed by helical pier installer/ contractor
Bearing Capacity Increase for Seismic Loading	- 50 percent

The term "net bearing capacity" refers to the allowable pressure imposed by the portion of the structure located above lowest adjacent final grade. Therefore, the weight of the footing and backfill to lowest adjacent final grade need not be considered. Real loads are defined as the total

of all dead plus frequently applied live loads. Total load includes all dead and live loads, including seismic and wind.

5.4.2 Installation

Under no circumstances shall the footings be installed upon potentially collapsible soils, non-engineered fills, loose or disturbed soils, topsoil, surface vegetation, root systems, rubbish, construction debris, or other deleterious materials. If unsuitable soils are encountered, they must be removed and replaced with compacted granular fill. If granular soils become loose or disturbed, they must be recompacted prior to pouring the concrete.

The width of structural replacement fill below footings should be equal to the width of the footing plus one foot for each foot of fill thickness.

5.4.3 Helical Pier Foundation Recommendations

Helical pier foundations may be used to bypass the existing collapsible soils encountered at the site and bear in the native soils below. Helical piers consist of small diameter steel or titanium shafts with helical lead augers and are installed by advancing (rotating) the lead helix with a hydraulically driven head. Helical piers utilized for this project should be extended through the existing collapsible material observed at the site to bear in the underlying suitable native clay/silt or sand soils, which are anticipated to be encountered at approximately 10 to 15 feet below existing site grades.

Helical piers are a specialized foundation system and must be designed by an engineer experienced with this type of system. The spacing between helical piers should be at least 3 pile diameters from center to center. If closer spacing is required, further analysis would be necessary to determine allowable loads considering pile group effects.

Helical piers should be properly inspected and tested during installation by an ICC certified special inspector or geotechnical engineer. Inspections during installation should conform to the requirements of Section 1705.8 and Table 1705.8 of the International Building Code. Special inspections during construction should include, but are not limited to, observation and logging during drilling activities, verification of helical pier location, verification of pile plumbness, verification of borehole and reinforcing steel diameters, observations during grout placement, compressive strength testing of grout representative grout samples, mud-balance testing of representative grout samples, and observation of load testing. Load testing for helical piers to verify the installed capacity can be conducted prior to design of the structure or during installation. Helical piers utilized for load testing should be loaded to a minimum of twice the proposed maximum design load of the structure. Load testing can be conducted through either compression or tension testing, or as specified by the project structural engineer.

5.4.4 Settlements

Based on column loadings, soil bearing capacities, and the foundation recommendations as discussed above, we expect primary total settlement beneath individual foundations to be less than one inch.

The amount of differential settlement is difficult to predict because the subsurface and foundation loading conditions can vary considerably across the site. However, we anticipate differential settlement between adjacent foundations could vary from 0.5 to 0.75 inch. The final deflected shape of the structure will be dependent on actual foundation locations and loading.

5.5 LATERAL RESISTANCE

Lateral loads imposed upon foundations due to wind or seismic forces may be resisted by the development of passive earth pressures and friction between the base of the footings and the supporting soils. In determining frictional resistance, a coefficient of friction of 0.30 may be utilized for the footing interface with the in situ natural clay soils and 0.40 for footing interface with granular structural fill. Passive resistance provided by properly placed and compacted granular structural fill above the water table may be considered equivalent to a fluid with a density of 300 pounds per cubic foot. Below the water table, this granular soil should be considered equivalent to a fluid with a density of 150 pounds per cubic foot.

A combination of passive earth resistance and friction may be utilized provided that the friction component of the total is divided by 1.5.

5.6 FLOOR SLABS

Floor slabs may be established upon suitable natural subgrade soils or structural fill extending to suitable natural soils. Under no circumstances shall floor slabs be established directly over non-engineered fills, potentially collapsible soils, loose or disturbed soils, sod, rubbish, construction debris, other deleterious materials, frozen soils, or within ponded water.

To facilitate curing of the concrete and to provide a capillary moisture break, it is recommended that floor slabs be directly underlain by at least 4 inches of "free-draining" fill, such as "pea" gravel or three-quarters to one-inch minus clean gap-graded gravel.

Settlement of lightly loaded floor slabs designed according to previous recommendations (average uniform pressure of 200 pounds per square foot or less) is anticipated to be less than one-quarter of an inch.

5.7 PAVEMENTS

The natural clay and silt soils, non-engineered fills, potentially collapsible soils, will exhibit poor pavement support characteristics when saturated. All pavement areas must be prepared as

previously discussed (see Section 5.2.1, Site Preparation). Under no circumstances shall pavements be established over unprepared non-engineered fills, unprepared potentially collapsible soils, loose or disturbed soils, topsoil, surface vegetation, root systems, rubbish, construction debris, other deleterious materials, frozen soils, or within ponded water. With the subgrade soils and the projected traffic as discussed in Section 2, Proposed Construction, the following pavement sections are recommended:

Parking Areas and Drive Lanes

(Light Volume of Automobiles and Light Trucks,
Occasional Medium-Weight Trucks,
and No Heavyweight Trucks)
[2 equivalent 18-kip axle loads per day]

Flexible Pavements:
(Asphalt Concrete)

3.0 inches	Asphalt concrete
8.0 inches	Aggregate base
Over	Properly prepared collapsible soils, fills, natural subgrade soils, and/or structural site grading fill extending to properly prepared collapsible soils, fills, natural subgrade soils

Rigid Pavements:
(Non-reinforced Concrete)

5.0 inches	Portland cement concrete (non-reinforced)
5.0 inches	Aggregate base
Over	Properly prepared natural subgrade soils and/or structural site grading fill extending to properly prepared natural subgrade soil

For dumpster pads, we recommend a pavement section consisting of 6.5 inches of Portland cement concrete, 5.0 inches of aggregate base, over properly prepared natural subgrade or site grading structural fills. Dumpster pads should not be constructed overlying non-engineered fills under any circumstances.

These above rigid pavement sections are for non-reinforced Portland cement concrete. Concrete should be designed in accordance with the American Concrete Institute (ACI) and joint details should conform to the Portland Cement Association (PCA) guidelines. The concrete should have a minimum 28-day unconfined compressive strength of 4,000 pounds per square inch and contain 6 percent ±1 percent air-entrainment.

The crushed stone should conform to applicable sections of the current Utah Department of Transportation (UDOT) Standard Specifications. All asphalt material and paving operations should meet applicable specifications of the Asphalt Institute and UDOT. A GSH technician shall observe placement and perform density testing of the base course material and asphalt.

Please note that the recommended pavement section is based on estimated post-construction traffic loading. If the pavement is to be constructed and utilized by construction traffic, the above pavement section may prove insufficient for heavy truck traffic, such as concrete trucks or tractor-trailers used for construction delivery. Unexpected distress, reduced pavement life, and/or premature failure of the pavement section could result if subjected to heavy construction traffic and the owner should be made aware of this risk. If the estimated traffic loading stated herein is not correct, GSH must review actual pavement loading conditions to determine if revisions to these recommendations are warranted.

5.8 CEMENT TYPES

The laboratory tests indicate that the natural soils tested contain a negligible amount of water-soluble sulfates. Based on our test results, concrete in contact with the on-site soil will have a low potential for sulfate reaction (ACI 318, Table 4.3.1). Therefore, all concrete which will be in contact with the site soils may be prepared using Type I or IA cement.

5.9 GEOSEISMIC SETTING

5.9.1 General

Utah municipalities have adopted the International Building Code (IBC) 2018. The IBC 2018 code refers to ASCE 7-16 Minimum Design Loads and Associated Criteria for Buildings and Other Structures (ASCE 7-16) determines the seismic hazard for a site based upon mapping of bedrock accelerations prepared by the United States Geologic Survey (USGS) and the soil site class. The USGS values are presented on maps incorporated into the IBC code and are also available based on latitude and longitude coordinates (grid points).

5.9.2 Faulting

Based on our review of available literature, no active faults pass through or immediately adjacent to the site. The nearest active mapped fault consists of the Utah Lake Faults, located about 3.7 miles to the southeast of the site.

5.9.3 Soil Class

GSH completed a refraction microtremor test (ReMi) on April 10, 2020. The results determined for dynamic structural analysis, the Site Class C – Very Dense Soil and Soft Rock Soil Profile as defined in Chapter 20 of ASCE 7-16 (per Section 1613.3.2, Site Class Definitions, of IBC 2018) can be utilized. Graphical representation of the results is presented in Figure 5, Sheer Wave Velocity.

5.9.4 Ground Motions

The IBC 2018 code is based on USGS mapping, which provides values of short and long period accelerations for average bedrock values for the Western United States and must be corrected for local soil conditions. The following table summarizes the peak ground and short and long period accelerations for the MCE event and incorporates the appropriate soil amplification factor for a Site Class C soil profile. Based on the site latitude and longitude (40.3921 degrees north and 111.9430 degrees west, respectively), the values for this site are tabulated below:

Spectral Acceleration Value, T	Bedrock Boundary [mapped values] (% g)	Site Coefficient	Site Class C [adjusted for site class effects] (% g)	Design Values* (% g)
0.2 Seconds (Short Period Acceleration)	S_S = 97.1	F_a = 1.200	S_{MS} = 116.5	S_{DS} = 77.7
1.0 Second (Long Period Acceleration)	S_1 = 35.2	F_v = 1.500	S_{M1} = 52.8	S_{D1} = 35.2

* IBC 2018/ASCE 7-16 may require a site-specific study based on the project structural engineer's evaluation and recommendations. If needed, GSH can provide additional information and analysis including a complete site-specific study.

5.9.5 Liquefaction

The site is located in an area that has been identified by the Utah Geological Survey (UGS) as being a "very low" liquefaction potential zone. Liquefaction is defined as the condition when saturated, loose, granular soils lose their support capabilities because of excessive pore water pressure, which develops during a seismic event. Clayey soils, even if saturated, will generally not liquefy during a major seismic event.

Due to the density of the granular soils and the lack of groundwater, liquefaction is not anticipated to occur within the soils encountered at this site.

5.10 SITE VISITS

GSH must verify that all topsoil/disturbed soils and any other unsuitable soils have been removed, that non-engineered fills and potentially collapsible soils have been removed and/or properly prepared, and that suitable soils have been encountered prior to placing site grading fills, footings, slabs, and pavements. Additionally, GSH must observe fill placement and verify in-place moisture content and density of fill materials placed at the site.

5.11 CLOSURE

If you have any questions or would like to discuss these items further, please feel free to contact us at (801) 685-9190.

Respectfully submitted,

GSH Geotechnical, Inc.

Dion A Obermeyer
Staff Geologist

Reviewed by:

Alan D. Spilker, P.E.
State of Utah No. 334228
President/Senior Geotechnical Engineer

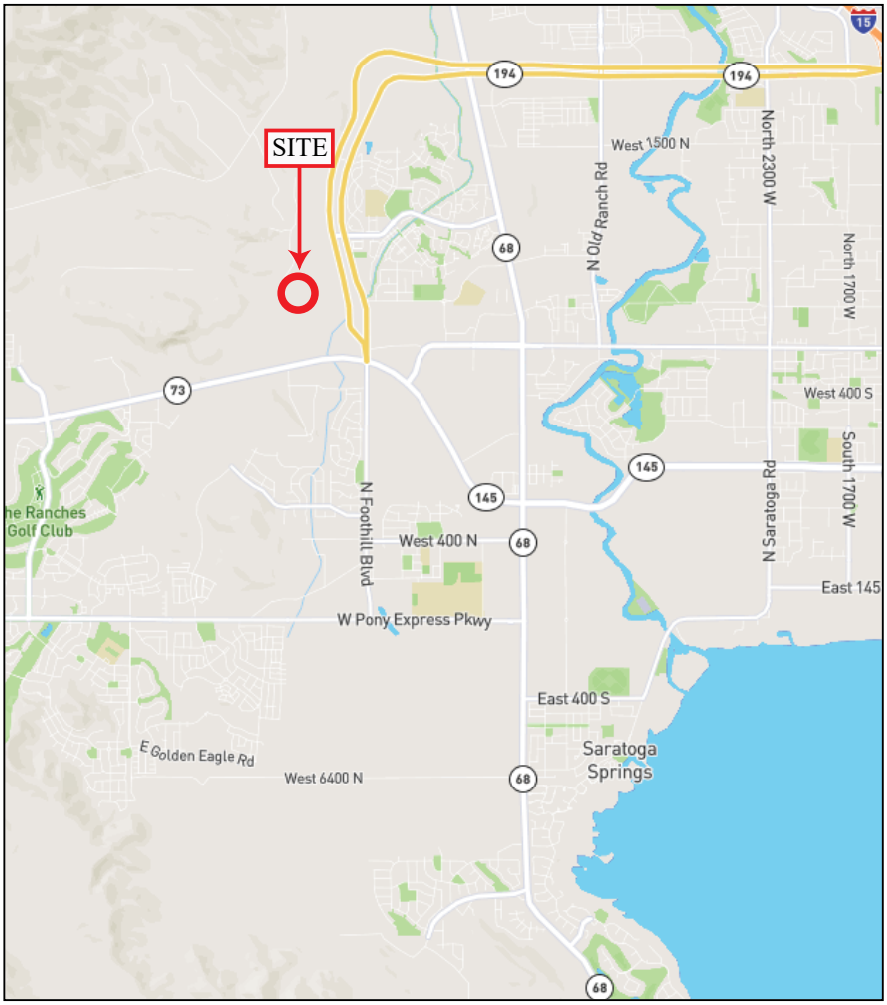
REGISTERED PROFESSIONAL ENGINEER
No. 334228
ALAN D. SPILKER
STATE OF UTAH

DAO/ADS:jlh

Encl. Figure 1, Vicinity Map
Figure 2, Site Plan
Figures 3A through 3G, Log of Borings
Figure 4, Key to Boring Log (USCS)
Figure 5, Sheer Wave Velocity

Addressee (email)

SILVER PEAK ENGINEERING
JOB NO. 0990-080-20



1 0 1 2 KM 3

0.5 0 0.5 1 1.5 2 MI 2.5

FIGURE 1
VICINITY MAP

GSH

REFERENCE:
ALL TRAILS - NATIONAL GEOGRAPHIC TERRAIN
DATED 2020

SILVER PEAK ENGINEERING
JOB NO. 0990-080-20

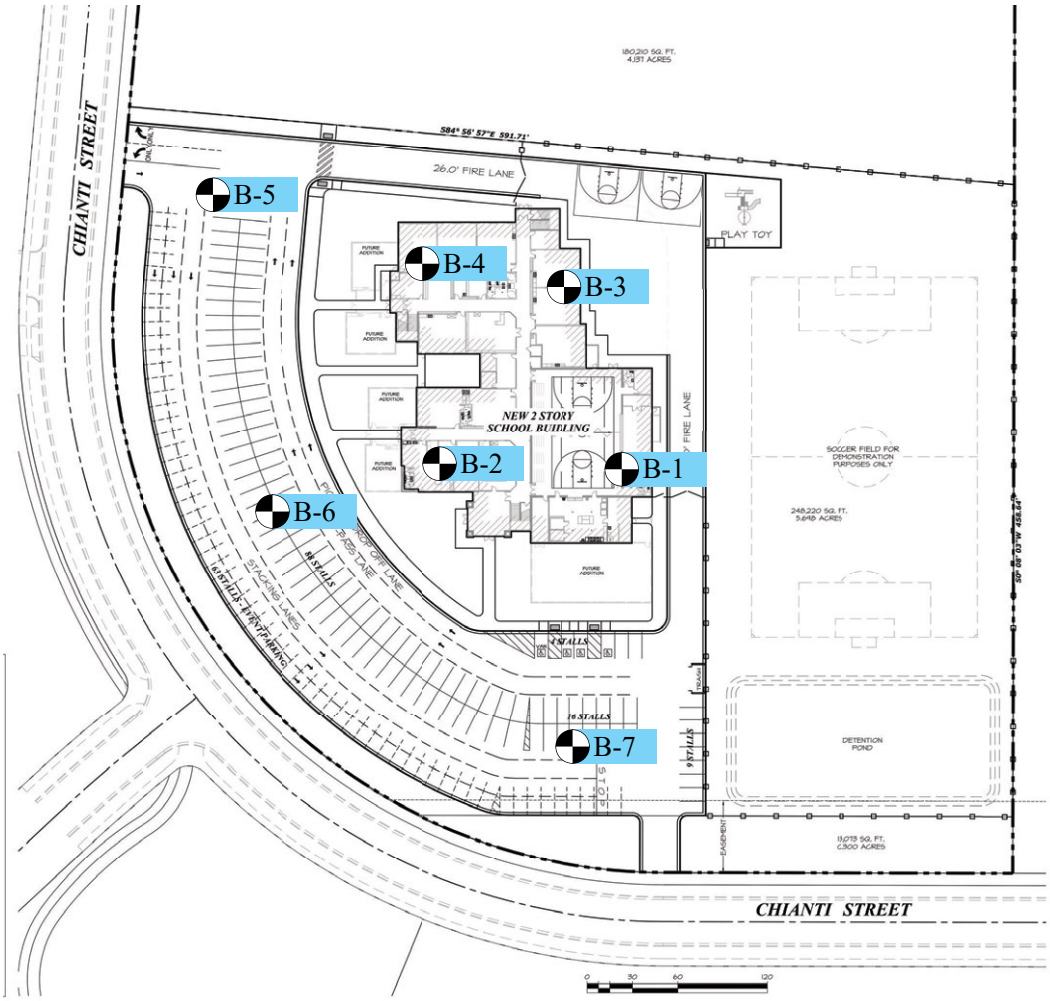


FIGURE 2
SITE PLAN

GSH

REFERENCE:
ADAPTED FROM DRAWING ENTITLED
"SITE PLAN" BY CGR, DATED 03/04/2020

GSH	BORING LOG Page: 1 of 2	BORING: B-1

CLIENT: Silver Peak Engineering — PROJECT NUMBER: 0990-080-20

PROJECT: Proposed Wildfloer School — DATE STARTED: 4/2/20 — DATE FINISHED: 4/2/20

LOCATION: Chianti Street, Saratoga Springs, Utah — GSH FIELD REP.: JC

DRILLING METHOD/EQUIPMENT: 5" ID Hollow-Stem Auger — HAMMER: Automatic — WEIGHT: 140 lbs — DROP: 30"

GROUNDWATER DEPTH: Not Encountered (4/2/20) — ELEVATION: ---

WATER LEVEL	USCS	DESCRIPTION	DEPTH (FT.)	BLOW COUNT	SAMPLE SYMBOL	MOISTURE (%)	DRY DENSITY (PCF)	% PASSSING 200	LIQUID LIMIT (%)	PLASTICITY INDEX	REMARKS
		Ground Surface	0								
	CL FILL	FINE SANDY CLAY, FILL with major roots (topsoil) to 6"; brown		24							moist loose/disturbed very stiff
	ML	FINE SANDY SILT with clay; light brown									moist stiff
		grades with pinholes	5	19							
		grades with clay silt	10	22							very stiff
		grades with layers of silty fine gravel up to 6" thick; tan	15	89		12.1	89				hard
	CL	SILTY CLAY with fine sand; light brown	20	37							moist very stiff
		grades with layers of silty fine gravel up to 3" thick	25								

See Subsurface Conditions section in the report for additional information.

FIGURE 3A

BORING LOG

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BORING: B-1

CLIENT: Silver Peak Engineering | PROJECT NUMBER: 0990-080-20

PROJECT: Proposed Wildfloer School | DATE STARTED: 4/2/20 | DATE FINISHED: 4/2/20

WATER LEVEL	USCS	DESCRIPTION	DEPTH (FT.)	BLOW COUNT	SAMPLE SYMBOL	MOISTURE (%)	DRY DENSITY (PCF)	% PASSSING 200	LIQUID LIMIT (%)	PLASTICITY INDEX	REMARKS
		grades with layers of silty fine gravel up to 3" thick	25	75							hard
	GP/ GM	FINE GRAVEL with some silt and fine sand; light brown	30	50/5"		5.1		13.8			moist very dense
		Refusal at 31.0' on very dense gravel. No groundwater encountered at time of drilling. Installed 1.25" diameter slotted PVC pipe to 31.0'.	35								
			40								
			45								
			50								

See Subsurface Conditions section in the report for additional information.

FIGURE 3A
(continued)

GSH	BORING LOG Page: 1 of 1	BORING: B-2

CLIENT: Silver Peak Engineering — PROJECT NUMBER: 0990-080-20

PROJECT: Proposed Wildfloer School — DATE STARTED: 4/2/20 — DATE FINISHED: 4/2/20

LOCATION: Chianti Street, Saratoga Springs, Utah — GSH FIELD REP.: JC

DRILLING METHOD/EQUIPMENT: 5" ID Hollow-Stem Auger — HAMMER: Automatic — WEIGHT: 140 lbs — DROP: 30"

GROUNDWATER DEPTH: Not Encountered (4/2/20) — ELEVATION: ---

WATER LEVEL	USCS	DESCRIPTION	DEPTH (FT.)	BLOW COUNT	SAMPLE SYMBOL	MOISTURE (%)	DRY DENSITY (PCF)	% PASSSING 200	LIQUID LIMIT (%)	PLASTICITY INDEX	REMARKS
		Ground Surface									
	SP FILL	FINE SILTY SAND, FILL with major roots (topsoil) to 6"; tan	0								moist loose/disturbed
	CL	SILTY CLAY with fine sand; tan									moist stiff
				22	X						
	ML	FINE SANDY SILT tan grades with pinholes	5								slightly moist stiff
				20	X	9.5	75				
	CL	SILTY CLAY with some fine sand; tan	10								slightly moist very stiff
				43	X	15.8	69				
		End of Exploration at 14.0'. No groundwater encountered at time of drilling. Installed 1.25" diameter slotted PVC pipe to 14.0'.	15 20 25								

See Subsurface Conditions section in the report for additional information.

FIGURE 3B

BORING LOG

Page: 1 of 1

BORING: B-3

CLIENT: Silver Peak Engineering | PROJECT NUMBER: 0990-080-20

PROJECT: Proposed Wildfloer School | DATE STARTED: 4/2/20 | DATE FINISHED: 4/2/20

LOCATION: Chianti Street, Saratoga Springs, Utah | GSH FIELD REP.: JC

DRILLING METHOD/EQUIPMENT: 5" ID Hollow-Stem Auger | HAMMER: Automatic | WEIGHT: 140 lbs | DROP: 30"

GROUNDWATER DEPTH: Not Encountered (4/2/20) | ELEVATION: ---

WATER LEVEL	USCS	DESCRIPTION	DEPTH (FT.)	BLOW COUNT	SAMPLE SYMBOL	MOISTURE (%)	DRY DENSITY (PCF)	% PASSSING 200	LIQUID LIMIT (%)	PLASTICITY INDEX	REMARKS
		Ground Surface									
	CL	SILTY CLAY with some fine sand, major roots (topsoil) to 6"; brown	0								moist loose/disturbed stiff
				13							
			5								
				50/5"		20.6	99				hard
			10								
	SM	SILTY FINE TO COARSE SAND with fine gravel; light brown									moist medium dense
				34							
		End of Exploration at 14.0'. No groundwater encountered at time of drilling. Installed 1.25" diameter slotted PVC pipe to 14.0'.	15								
			20								
			25								

See Subsurface Conditions section in the report for additional information.

FIGURE 3C

BORING LOG

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BORING: B-4

CLIENT: Silver Peak Engineering | PROJECT NUMBER: 0990-080-20

PROJECT: Proposed Wildfloer School | DATE STARTED: 4/2/20 | DATE FINISHED: 4/2/20

LOCATION: Chianti Street, Saratoga Springs, Utah | GSH FIELD REP.: JC

DRILLING METHOD/EQUIPMENT: 5" ID Hollow-Stem Auger | HAMMER: Automatic | WEIGHT: 140 lbs | DROP: 30"

GROUNDWATER DEPTH: Not Encountered (4/2/20) | ELEVATION: ---

WATER LEVEL	USCS	DESCRIPTION	DEPTH (FT.)	BLOW COUNT	SAMPLE SYMBOL	MOISTURE (%)	DRY DENSITY (PCF)	% PASSSING 200	LIQUID LIMIT (%)	PLASTICITY INDEX	REMARKS
		Ground Surface	0								
	ML FILL	FINE SANDY SILT, FILL with major roots (topsoil) to 6"; light brown		33							moist loose/disturbed
	CL	SILTY CLAY with some fine sand; light brown									moist very stiff
		grades with pinholes	5	20							stiff
			10	36		9.9	83				very stiff
	ML	FINE SANDY SILT with clay and fine gravel; light brown									moist very stiff
			15	44							
		End of Exploration at 16.5'. No groundwater encountered at time of drilling. Installed 1.25" diameter slotted PVC pipe to 16.5'.	20								
			25								

See Subsurface Conditions section in the report for additional information.

FIGURE 3D

BORING LOG

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BORING: B-5

CLIENT: Silver Peak Engineering | PROJECT NUMBER: 0990-080-20

PROJECT: Proposed Wildfloer School | DATE STARTED: 4/2/20 | DATE FINISHED: 4/2/20

LOCATION: Chianti Street, Saratoga Springs, Utah | GSH FIELD REP.: JC

DRILLING METHOD/EQUIPMENT: 5" ID Hollow-Stem Auger | HAMMER: Automatic | WEIGHT: 140 lbs | DROP: 30"

GROUNDWATER DEPTH: Not Encountered (4/2/20) | ELEVATION: ---

WATER LEVEL	USCS	DESCRIPTION	DEPTH (FT.)	BLOW COUNT	SAMPLE SYMBOL	MOISTURE (%)	DRY DENSITY (PCF)	% PASSSING 200	LIQUID LIMIT (%)	PLASTICITY INDEX	REMARKS
		Ground Surface	0								
	ML FILL	FINE SANDY SILT, FILL with major roots (topsoil) to 6"; tan									moist loose/disturbed
	ML	FINE SANDY SILT tan									moist medium stiff
			5								
		End of Exploration at 5.0'. No groundwater encountered at time of drilling.									
			10								
			15								
			20								
			25								

See Subsurface Conditions section in the report for additional information.

FIGURE 3E

GSH	BORING LOG Page: 1 of 1	BORING: B-6

CLIENT: Silver Peak Engineering — PROJECT NUMBER: 0990-080-20

PROJECT: Proposed Wildfloer School — DATE STARTED: 4/2/20 — DATE FINISHED: 4/2/20

LOCATION: Chianti Street, Saratoga Springs, Utah — GSH FIELD REP.: JC

DRILLING METHOD/EQUIPMENT: 5" ID Hollow-Stem Auger — HAMMER: Automatic — WEIGHT: 140 lbs — DROP: 30"

GROUNDWATER DEPTH: Not Encountered (4/2/20) — ELEVATION: ---

WATER LEVEL	USCS	DESCRIPTION	DEPTH (FT.)	BLOW COUNT	SAMPLE SYMBOL	MOISTURE (%)	DRY DENSITY (PCF)	% PASSSING 200	LIQUID LIMIT (%)	PLASTICITY INDEX	REMARKS
		Ground Surface									
	CL FILL	SILTY CLAY, FILL with major roots (topsoil) to 6'; brown	0								moist loose/disturbed
	CL	SILTY CLAY brown									moist medium stiff
		End of Exploration at 5.0'. No groundwater encountered at time of drilling.	5								
			10								
			15								
			20								
			25								

See Subsurface Conditions section in the report for additional information.

FIGURE 3F

GSH	BORING LOG Page: 1 of 1	BORING: B-7

CLIENT: Silver Peak Engineering — PROJECT NUMBER: 0990-080-20

PROJECT: Proposed Wildfloer School — DATE STARTED: 4/2/20 — DATE FINISHED: 4/2/20

LOCATION: Chianti Street, Saratoga Springs, Utah — GSH FIELD REP.: JC

DRILLING METHOD/EQUIPMENT: 5" ID Hollow-Stem Auger — HAMMER: Automatic — WEIGHT: 140 lbs — DROP: 30"

GROUNDWATER DEPTH: Not Encountered (4/2/20) — ELEVATION: ---

WATER LEVEL	USCS	DESCRIPTION	DEPTH (FT.)	BLOW COUNT	SAMPLE SYMBOL	MOISTURE (%)	DRY DENSITY (PCF)	% PASSING 200	LIQUID LIMIT (%)	PLASTICITY INDEX	REMARKS
		Ground Surface									
	SP FILL	FINE GRAVELLY FINE TO COARSE SAND, FILL with major roots (topsoil) to 6"; gray	0								moist loose/disturbed
	CL	SILTY CLAY brown									moist medium stiff
		End of Exploration at 5.0'. No groundwater encountered at time of drilling.	5								
			10								
			15								
			20								
			25								

See Subsurface Conditions section in the report for additional information.

FIGURE 3G

CLIENT: Silver Peak Engineering
PROJECT: Proposed Wildfloer School
PROJECT NUMBER: 0990-080-20

KEY TO BORING LOG

WATER LEVEL	USCS	DESCRIPTION	DEPTH (FT.)	BLOW COUNT	SAMPLE SYMBOL	MOISTURE (%)	DRY DENSITY (PCF)	% PASSING 200	LIQUID LIMIT (%)	PLASTICITY INDEX	REMARKS
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫

COLUMN DESCRIPTIONS

① **Water Level:** Depth to measured groundwater table. See symbol below.

② **USCS:** (Unified Soil Classification System) Description of soils encountered; typical symbols are explained below.

③ **Description:** Description of material encountered; may include color, moisture, grain size, density/consistency,

④ **Depth (ft.):** Depth in feet below the ground surface.

⑤ **Blow Count:** Number of blows to advance sampler 12" beyond first 6", using a 140-lb hammer with 30" drop.

⑥ **Sample Symbol:** Type of soil sample collected at depth interval shown; sampler symbols are explained below.

⑦ **Moisture (%):** Water content of soil sample measured in laboratory; expressed as percentage of dryweight of

⑧ **Dry Density (pcf):** The density of a soil measured in laboratory; expressed in pounds per cubic foot.

⑨ **% Passing 200:** Fines content of soils sample passing a No. 200 sieve; expressed as a percentage.

⑩ **Liquid Limit (%):** Water content at which a soil changes from plastic to liquid behavior.

⑪ **Plasticity Index (%):** Range of water content at which a soil exhibits plastic properties.

⑫ **Remarks:** Comments and observations regarding drilling or sampling made by driller or field personnel. May include other field and laboratory test results using the following abbreviations:

CEMENTATION:

Weakly: Crumbles or breaks with handling or slight finger pressure.

Moderately: Crumbles or breaks with considerable finger pressure.

Strongly: Will not crumble or break with finger pressure.

MODIFIERS:

Trace <5%

Some 5-12%

With > 12%

MOISTURE CONTENT (FIELD TEST):

Dry: Absence of moisture, dusty, dry to the touch.

Moist: Damp but no visible water.

Saturated: Visible water, usually soil below water table.

Descriptions and stratum lines are interpretive; field descriptions may have been modified to reflect lab test results. Descriptions on the logs apply only at the specific boring locations and at the time the borings were advanced; they are not warranted to be representative of subsurface conditions at other locations or times.

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)

MAJOR DIVISIONS			USCS SYMBOLS	TYPICAL DESCRIPTIONS
COARSE-GRAINED SOILS More than 50% of material is larger than No. 200 sieve size.	GRAVELS More than 50% of coarse fraction retained on No. 4 sieve.	CLEAN GRAVELS (little or no fines)	GW	Well-Graded Gravels, Gravel-Sand Mixtures, Little or No Fines
			GP	Poorly-Graded Gravels, Gravel-Sand Mixtures, Little or No Fines
		GRAVELS WITH FINES (appreciable amount of fines)	GM	Silty Gravels, Gravel-Sand-Silt Mixtures
			GC	Clayey Gravels, Gravel-Sand-Clay Mixtures
	SANDS More than 50% of coarse fraction passing through No. 4 sieve.	CLEAN SANDS (little or no fines)	SW	Well-Graded Sands, Gravelly Sands, Little or No Fines
			SP	Poorly-Graded Sands, Gravelly Sands, Little or No Fines
		SANDS WITH FINES (appreciable amount of fines)	SM	Silty Sands, Sand-Silt Mixtures
			SC	Clayey Sands, Sand-Clay Mixtures
FINE-GRAINED SOILS More than 50% of material is smaller than No. 200 sieve size.	SILTS AND CLAYS Liquid Limit less than 50%		ML	Inorganic Silts and Very Fine Sands, Rock Flour, Silty or Clayey Fine Sands or Clayey Silts with Slight Plasticity
			CL	Inorganic Clays of Low to Medium Plasticity, Gravelly Clays, Sandy Clays, Silty Clays, Lean Clays
			OL	Organic Silts and Organic Silty Clays o f Low Plasticity
	SILTS AND CLAYS Liquid Limit greater than 50%		MH	Inorganic Silts, Micacious or Diatomacious Fine Sand or Silty Soils
			CH	Inorganic Clays of High Plasticity, Fat Clays
			OH	Organic Silts and Organic Clays of Medium to High Plasticity
HIGHLY ORGANIC SOILS			PT	Peat, Humus, Swamp Soils with High Organic Contents

Note: Dual Symbols are used to indicate borderline soil classifications.

STRATIFICATION:

DESCRIPTION	THICKNESS
Seam	up to 1/8"
Layer	1/8" to 12"

Occasional: One or less per 6" of thickness

Numerous; More than one per 6" of thickness

TYPICAL SAMPLER GRAPHIC SYMBOLS

- Bulk/Bag Sample
- Standard Penetration Split Spoon Sampler
- Rock Core
- No Recovery
- 3.25" OD, 2.42" ID D&M Sampler
- 3.0" OD, 2.42" ID D&M Sampler
- California Sampler
- Thin Wall

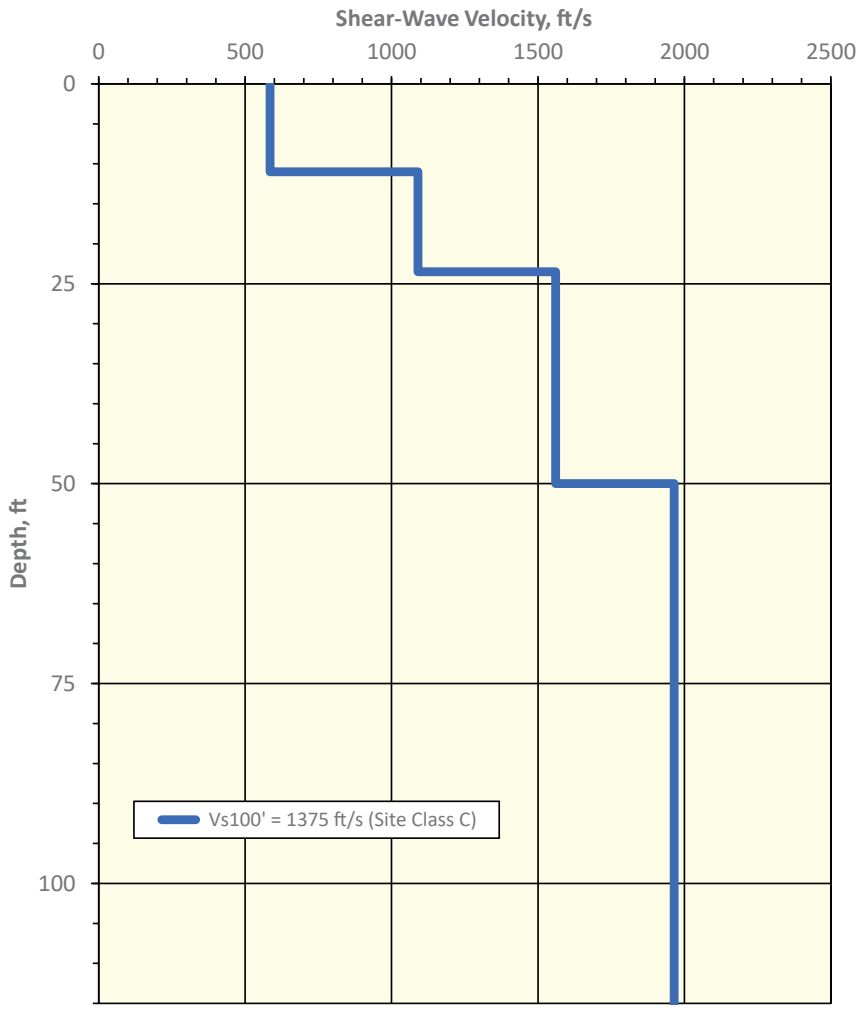
WATER SYMBOL

- Water Level

FIGURE 4

GSH

SHEAR -WAVE VELOCITY PROFILE



PROJECT NO.: 0990-080-20	GSH	**FIGURE NO.:** 5