RIVERDALE CITY COUNCIL AGENDA
CIVIC CENTER - 4600 S. WEBER RIVER DR.
TUESDAY – JULY 16, 2024

5:30 p.m. – Work Session
No motions or decisions will be considered during this session, which is open to the public.

6:00 p.m. – Council Meeting *(Council Chambers)*

A. **Welcome & Roll Call**
B. **Pledge of Allegiance** – Anne Hansen
C. **Invocation** – TBA, by invitation

D. **Public Comment**
(This is an opportunity to address the City Council regarding your concerns or ideas. No action will be taken during public comment. Please try to limit your comments to three minutes.)

E. **Presentations and Reports**

1. Mayor's Report
2. City Administration Report
   a. July Anniversaries Employee Recognition
   b. Staffing Authorization Plans
   c. Department Reports June
   d. Community Development Report

F. **Consent Items**

1. Consideration to approve meeting minutes from:
   June 4, 2024 Council Work Session
   June 4, 2024 Council Meeting

G. **Action Items**

1. Consideration of Resolution #2024-24 renewing a contract with Robinson Waste for garbage and recycling services.
   Presented by Shawn Douglas

2. Consideration of Resolution #2024-25 approving an interlocal agreement for building inspection coverage.
   Presented by Brandon Cooper

3. Consideration to approve Final Site Plan request for Panera Bread Restaurant, located at approximately 4122 South Riverdale Road, Riverdale, Utah 84405 as requested by Perigee Consulting and Panera Bread Group.
   Presented by Brandon Cooper

H. **Comments**

1. City Council

2. City Staff
3. Mayor

I. Adjournment

In compliance with the Americans with Disabilities Act, persons in need of special accommodation should contact the City Offices (801) 394-5541 at least 48 hours in advance of the meeting.

Certificate of Posting

The undersigned, duly appointed City Recorder, does hereby certify that the above notice and agenda was posted within the Riverdale City limits on this 12th day of July 2024 at the following locations: 1) Riverdale City Hall Noticing Board 2) the City website at http://www.riverdalecity.com/ 3) the Public Notice Website: http://www.utah.gov/pmn/index.html.

Michelle Marigoni
Riverdale City Recorder

**The City Council meeting on July 16, 2024 is viewable electronically and may be accessed by clicking on the link below. The regular City Council Chambers will be available for in-person participation. The agenda for the meeting is also attached above. **

https://www.youtube.com/channel/UCegcYe-pIXSRZGd5llencvA/videos?view_as=subscriber

Minutes of the **Work Session** of the **Riverdale City Council** held Tuesday June 4, 2024, at 5:30 p.m., at the Civic Center in the Council Chambers, 4600 S Weber River Dr., Riverdale City, Weber County, Utah.

Present:

City Council:
Braden Mitchell, Mayor
Alan Arnold, Councilmember
Bart Stevens, Councilmember
Anne Hansen, Councilmember
Michael Richter, Councilmember
Stacey Haws, Councilmember

City Employees:
Steve Brooks, City Administrator/Attorney
Cody Cardon, Business Administrator
Brandon Cooper, Community Development Director
Shawn Douglas, Public Works Director
Jared Sholly, Fire Chief
Casey Warren, Police Chief
Michelle Marigoni, City Recorder

Excused:

Visitors:

The City Council Work Session meeting began at 5:30 p.m. Mayor Mitchell welcomed all in attendance and noted for the record that all Councilmembers were present. Members of the city staff were also present.

Public Comment:

Presentations and Reports:

1. **Mayor's Report**
2. **City Council Assignment Reports**
3. **Swearing In – Officer Hayden Price / Introduction – Steve May**
4. **YCC Presentation**

Consent Items

1. **Consideration to approve meeting minutes from:**
   May 21, 2024 Council Work Session
   May 21, 2024 Council Meeting

   Mayor Mitchell asked if there were any changes or corrections to the minutes. There were no changes.

2. **Consideration to set a Public Hearing to receive and consider public comments regarding the following:**
   - Amending the Riverdale City budget for fiscal year 2024 (2023-2024).
   - Proposed amendments to the Riverdale City Code: 1-7-2 Salaries of City Council and Mayor, and 1-7F-6 Salary of the Justice Court Judge.
   - Proposed amendments to executive municipal officer compensation schedules.
   - Nonreciprocal interfund activity transfer of resources utilized by the City's General Fund as provided by the City's Water Fund.
   - Adopting the Riverdale City Budget for fiscal year 2025 (2024-2025).

Action Items

1. **Consideration of Resolution 2024-15 awarding a bid for the 2024 4350 S. Sanitary Sewer Improvement Project to Workhorse Excavation in an amount not to exceed $316,279.31.**

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2. **Consideration of Resolution 2024-16 adopting the County-Wide Mutual Aid Fire Protection Agreement.**

   Mayor Mitchell asked if automatic and mutual aid are the same thing or different. Chief Sholly explained they both fall under the same policies, though technically mutual aid would be requested. The agreement is usually renewed every five years, but this was done early to add Mountain Green and Morgan to the agreement.

3. **Consideration of Ordinance 982 amending Riverdale City Code Title 4, Chapter 2, Section 1: Fire Code Adopted.**

   Chief Sholly explained this will make every update to the fire code apply to Riverdale so it will not need to be brought to council for every change. Councilor Hansen asked if they ever deviate from or disagree with the International Fire Code. Chief Sholly said if there was something the city wanted to change, then the ordinance would be brought back to council.

4. **Consideration to adjourn into a closed session pursuant to UCA 52-4-205 (c) and (e), to discuss the sale or purchase of real property and pending or reasonably imminent litigation.**

   Mr. Brooks noted that the closed session will be necessary for updates.

5. **Discussion concerning Ambulance Services.**

   Mr. Brooks noted that Ogden and Roy fire chiefs would be attending as they both submitted proposals and would be available for questions. It was discussed that the item should be moved to the beginning of the meeting immediately after public comment.

Comments

Adjournment

Having no further business to discuss, the Work Session was adjourned at 5:51 p.m.

Date Approved:

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Minutes of the Regular Meeting of the Riverdale City Council held Tuesday, June 4, 2024, at 6:00 p.m., at the Civic Center, 4600 S Weber River Dr., Riverdale City, Weber County, Utah.

Present:

City Council:
Braden Mitchell, Mayor
Alan Arnold, Councilmember
Bart Stevens, Councilmember
Anne Hansen, Councilmember
Mike Richter, Councilmember
Stacey Haws, Councilmember

City Employees:
Steve Brooks, City Administrator/Attorney
Brandon Cooper, Community Development Director
Shawn Douglas, Public Works Director
Jared Sholly, Fire Chief
Casey Warren, Police Chief
Michelle Marigoni, City Recorder

Excused:

Visitors:
Margaret Rose
Theron Williams
Mike Slater
Mike Mathieu
Matt Hennessy
Mike Razey
Dean Gallegos

Welcome & Roll Call

The City Council meeting began at 6:00 p.m. Mayor Mitchell called the meeting to order and welcomed all in attendance, including all Council Members and all members of the public.

Pledge of Allegiance

Mayor Mitchell invited Councilor Stevens to lead the Pledge of Allegiance.

Invocation

Alan Arnold offered the invocation.

Public Comment

Mayor Mitchell invited any member of the public with questions or concerns to address the Council and asked that they keep their comments to approximately three minutes, noting no action will be taken during public comment. There were no public comments made during this portion of the meeting.

Presentations and Reports

Councilmember Arnold made a motion to move the Ambulance discussion, which was number five on the agenda, to the beginning so attending fire chiefs could get to their meetings on time. This was seconded by Councilmember Richter. The council unanimously agreed, and the order was changed.

Discussion concerning Ambulance Services.

Mr. Brooks emphasized the critical state of the fire department, highlighting the need for decisions to be made regarding ambulance services and staffing. The fire department is struggling with overtime and staffing issues, which is affecting their ability to provide services. Mr. Brooks explained that proposals for ambulance service only were requested and submitted by Ogden Fire and Roy Fire. Both chiefs were present to answer questions.

Chief Sholly introduced Ogden Fire Chief Mathieu and Roy Fire Chief Williams and Deputy Chief Slater.

Mr. Brooks discussed the city's budgetary concerns and the potential impact on fire department and ambulance services. The city had requested proposals for ambulance services only, with Ogden and Roy cities responding.

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Chief Mathieu from Ogden Fire, and Deputy Chief Slater along with Chief Williams from Roy, provided insights into their proposals and the logistics of ambulance services. Both emphasized their ability to meet the necessary response times and highlighted the collaborative nature of their services.

It was noted that Riverdale averages approximately 300-400 ambulance transports per year, and both Ogden and Roy reassured their capacity to handle these demands.

Councilor Arnold thanked both departments for attending the meeting and noted that Chief Sholly would have answers to any questions Council may have. Councilor Richter mentioned that both departments would have reduced services to other areas beginning July 1, as Weber Fire would be taking over some ambulance services. Both chiefs spoke highly of the other departments.

Chief Mathieu suggested Riverdale keep their ambulance vehicles through the first agreement to make sure it is still in the best interest of the city and citizens to continue contracting the services.

Mayor's Report

Mayor Mitchell reported that individuals with Weber Human Services visited Riverdale's senior center and were impressed with the facility.

The HAFB Air show was scheduled for June 29-30, which is anticipated to bring in nearly 700,000 people.

City Council Assignment Reports

Swearing In – Officer Hayden Price / Introduction – Steve May

Chief Warren introduced Officer Hayden Price, who was then given the Oath of Office by Michelle Marigoni, City Recorder. Chief Warren also introduced Steve May, Code Enforcement Officer.

YCC Presentation

Margaret Rose, YCC Executive Director, presented slides.

A. <u>Consent Items</u>

1. Consideration to approve meeting minutes from:
May 21, 2024 Council Work Session
May 21, 2024 Council Meeting

Mayor Mitchell asked if there were any changes or corrections to the minutes. There were no changes.

MOTION: Councilmember Haws moved to approve the meeting minutes. Councilmember Arnold seconded the motion. There was not any discussion regarding this motion. The motion passed unanimously in favor.

2. Consideration to set a Public Hearing to receive and consider public comments regarding the following:
- Amending the Riverdale City budget for fiscal year 2024 (2023-2024).
- Proposed amendments to the Riverdale City Code: 1-7-2 Salaries of City Council and Mayor, and 1-7F-6 Salary of the Justice Court Judge.
- Proposed amendments to executive municipal officer compensation schedules.
- Nonreciprocal interfund activity transfer of resources utilized by the City's General Fund as provided by the City's Water Fund.
- Adopting the Riverdale City Budget for fiscal year 2025 (2024-2025).

MOTION: Councilmember Arnold moved to set the public hearings. Councilmember Hansen seconded the motion. There was not any discussion regarding this motion. The motion passed unanimously in favor.

B. <u>Action Items</u>

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1. Consideration of Resolution 2024-15 awarding a bid for the 2024 4350 S. Sanitary Sewer Improvement Project to Workhorse Excavation in an amount not to exceed $316,279.31.

Mr. Douglas explained that this project involves replacing a main sewer line requiring yearly maintenance. The goal is to eliminate this yearly maintenance and provide better service.

MOTION: Councilor Arnold moved to approve Resolution 2024-15 awarding a bid for the 2024 4350 S. Sanitary Sewer Improvement Project to Workhorse Excavation in an amount not to exceed $316,279.31.
SECOND: Councilor Haws

ROLL CALL VOTE:

Councilor Haws:	Yes
Councilor Arnold:	Yes
Councilor Hansen:	Yes
Councilor Richter:	Yes
Councilor Stevens:	Yes

The motion passed unanimously.

2. Consideration of Resolution 2024-16 adopting the County-Wide Mutual Aid Fire Protection Agreement.

Chief Sholly explained the importance of mutual aid agreements to meet NFPA standards, which require 16 firefighters on scene within eight minutes for a single-family dwelling fire. The agreement allows for support from outside agencies to ensure firefighter safety. The only significant change to the agreement was the addition of Morgan County and Mountain Green.

MOTION: Councilor Arnold moved to approve Resolution 2024-16 adopting the County-Wide Mutual Aid Fire Protection Agreement.
SECOND: Councilor Richter

ROLL CALL VOTE:

Councilor Stevens:	Yes
Councilor Hansen:	Yes
Councilor Arnold:	Yes
Councilor Haws:	Yes
Councilor Richter:	Yes

The motion passed unanimously.

3. Consideration of Ordinance 982 amending Riverdale City Code Title 4, Chapter 2, Section 1: Fire Code Adopted.

Chief Sholly noted that while the core fire codes do not change annually, the appendices do, such as adding new safety measures such as carbon dioxide placards in businesses. This amendment ensures that the city adopts these updates to avoid enforcement issues.

MOTION: Councilor Arnold moved to approve Ordinance 982 amending Riverdale City Code Title 4, Chapter 2, Section 1: Fire Code Adopted.
SECOND: Councilor Hansen

ROLL CALL VOTE:

Councilor Arnold:	Yes
Councilor Richter:	Yes
Councilor Haws:	Yes
Councilor Stevens:	Yes
Councilor Hansen:	Yes

The motion passed unanimously.

Chief Sholly took a moment to speak about the fire department staff.

4. Consideration to adjourn into a closed session pursuant to UCA 52-4-205 (c) and (e), to discuss the sale or purchase of real property and pending or reasonably imminent litigation.

MOTION: Councilor Arnold moved to enter the closed session
SECOND: Councilor Richter

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ROLL CALL VOTE:

Councilor Richter:	Yes
Councilor Haws:	Yes
Councilor Stevens:	Yes
Councilor Hansen:	Yes
Councilor Arnold:	Yes

The motion passed unanimously; the closed session began at 7:34 pm.

Present: Braden Mitchell, Mayor
Alan Arnold, Councilmember
Bart Stevens, Councilmember
Anne Hansen, Councilmember
Mike Richter, Councilmember
Stacey Haws, Councilmember
Steve Brooks, City Administrator/Attorney
Brandon Cooper, Community Development Director
Michelle Marigoni, City Recorder

MOTION: Councilor Hansen moved to adjourn the closed session and resume the open session.

SECOND: Councilor Richter

ROLL CALL VOTE:

Councilor Stevens:	Yes
Councilor Hansen:	Yes
Councilor Arnold:	Yes
Councilor Richter:	Yes
Councilor Haws:	Yes

The motion passed unanimously; closed session ended, and open meeting resumed at 8:07 pm.

H. Comments

Councilor Hansen asked about the signs from Motor Vu.

Councilor Haws asked about the trees coming down on the Bach property, and if they were allowed to do that. Mr. Brooks and Mr. Cooper confirmed that they are allowed to, and they have been asked to obtain a land disturbance permit. Bach needs the foliage out of the way to further assess the land with an Alta survey.

Mayor Mitchell asked if the city could get more definitive “start” on developments.

Councilor Haws mentioned that he plans to make a proposal on the fee schedule before the budget adoption.

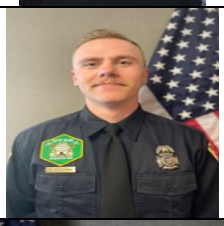
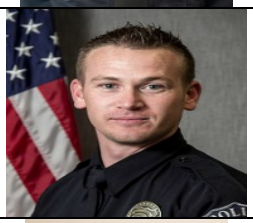
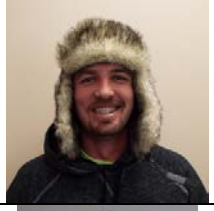
Mr. Brooks noted that he attended the farmer’s market, which seemed to be a small crowd. He encouraged council to promote and attend the market.

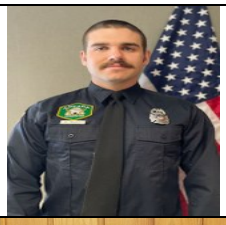
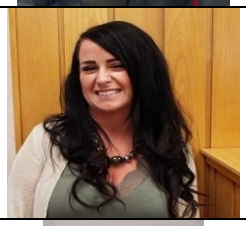
I. Adjournment

MOTION: Having no further business to discuss, Councilmember Arnold moved to adjourn. The motion was seconded by Councilmember Hansen and all voted in favor. The meeting was adjourned at 8:19 p.m.

Date Approved:

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Employee Recognition – July 2024 Anniversaries			
Years	Employee		Department
21		Lynn Wright	Police
10		Steven Whetton	Fire
9		Steve Hodges	Business Administration
1		Cameron Cessna	Fire
7		Ryne Schofield	Police
7		Travis Dahle	Public Works
7		Sherri Taylor-Brown	Community Services
7		Jon VanDyke	Fire

6		Maxmilian Higley	Fire
5		Shalee Nay	Police
1		Eric Lofthouse	Fire

Riverdale City

Staffing Authorization Plan

As of June 30, 2024		
Department	*FTE Authorization*	*FTE Actual*
City Administration	2.00	2.00
Legal Services	4.50	3.50
Community Development	1.00	1.00
Building	1.50	1.50
Business Administration	7.00	7.00
Community Services	13.50	11.50
Public Works	11.00	11.00
Police	26.00	26.00
Fire	22.00	16.50
Total	88.50	80.00

Staffing Reconciliation – Authorized to Actual		
Department	*FTE Variance*	*Explanation*
City Admin	0.00	
Legal Services	(1.00)	City Administrator/City Attorney
Community Development	0.00	
Community Services	(2.00)	Recreation Assistants
Business Administration	0.00	
Public Works	0.00	
Police	0.00	
Fire	(5.50)	FT/PT Firefighters
Totals	(8.50)	Staffing under authorization

Actual Full Time Employees	57.00
Actual Part Time Employees	47.00
Seasonal Employees	0.00

* 2 part time FTE can not be converted to 1 full time FTE

Riverdale City
Staffing Authorization Plan

Department: Elected - Mayor & Council

Job Code	Job Title / Incumbent	Election	Term of Office	Authorized	Actual
	Mayor			1.00	
	Braden Mitchell	2015	2022-2025		1.00
					
	Councilor / Mayor Pro Tem			1.00	
	Alan Arnold	2015	2024-2027		1.00
					
	Councilor			4.00	
	Bart Stevens	2017	2022-2025		1.00
	Anne Hansen	2022	2022-2025		1.00
	Michael Richter	2024	2024-2027		1.00
	Stacey Haws	2024	2024-2025		1.00
	   				
	Total			6.00	6.00

Riverdale City
Staffing Authorization Plan

Department: Planning Commission

Job Code	Job Title / Incumbent	DOA-City	Term Apptm't	Authorized	Actual
	Open				
	Chairman			1.00	
	Kent Anderson	04/2020	12/2027		1.00
					
	Vice Chairman			1.00	
	Amy Spiers	07/2018	01/2025		1.00
					
	Commissioner			5.00	
	Colleen Henstra	03/2024	01/2026		1.00
	Randy Poulsen	01/2024	12/2027		1.00
	Rikard Hermann	12/2018	01/2025		1.00
	Wanda Ney	02/2019	01/2027		1.00
	Celeste Noland	01/2024	01/2027		1.00
	    				
	Total			7.00	7.00

Riverdale City
Staffing Authorization Plan

Department: City Administration

Job Code	Job Title / Incumbent	DOH-City	DOH-Position	FTE Authorized	FTE Actual
130/140	City Recorder			1.00	
	Michelle Marigoni	6/17/2021	6/17/2021		1.00
					
125	City Administrator/City Attorney			1.00	
	Steve Brooks	11/1/2004	2/1/2022		1.00
					
	Total			2.00	2.00

Riverdale City
Staffing Authorization Plan

Department: Legal Services

Job Code	Job Title / Incumbent	DOH-City	DOH-Position	FTE Authorized	FTE Actual
1042	Court Clerk III			1.00	
	Nicole Green	10/31/2021	10/31/2021		1.00
					
1045	Court Outreach Coord.			1.00	
	Joan Dailey	11/28/2005	11/28/2005		1.00
					
1040	Court Clerk II			0.50	
	Sonja McCauley	2/12/2024	2/12/2024		0.50
					
1070	Prosec. Attorney			0.50	
	Teral Tree	1/30/2017	1/30/2017		0.25
	Letitia Toombs	1/30/2017	1/30/2017		0.25
	 				
XXX	Justice Court Judge			0.50	
	Paul Olds	1/22/2020	1/22/2020		0.50
					
	Acting Dept Head			1.00	
	Cody Cardon				0.00
					
	Total			4.50	3.50

Riverdale City
Staffing Authorization Plan

Department: Community Development

Job Code	Job Title / Incumbent	DOH-City	DOH-Position	FTE Authorized	FTE Actual
345/380	Comm Dev Dir/RDA Deputy Director			1.00	
	Brandon Cooper	3/4/2024	3/4/2024		1.00
					
	Total			1.00	1.00

Riverdale City
Staffing Authorization Plan

Department: Building

Job Code	Job Title / Incumbent	DOH-City	DOH-Position	FTE Authorized	FTE Actual
325/310	Building Official			1.00	
	Jeff Woody	11/30/2022	11/30/2022		1.00
					
315	Permit Technician/Administrative Assistant			0.50	
	Jocelyn Rivera	6/26/2023	6/26/2023		0.50
					
2025	PW Director			0.00	
	Shawn Douglas	5/20/1991	10/16/2011		0.00
					
	Total			1.50	1.50

Riverdale City
Staffing Authorization Plan

Department: Business Administration

Job Code	Job Title / Incumbent	DOH-City	DOH-Position	FTE Authorized	FTE Actual
600	PT Custodian			1.50	
	Neil Amidan	8/1/2013	8/1/2013		0.50
	Steve Hodges	7/6/2015	7/6/2015		0.50
	Brenda Green	10/5/2018	10/5/2018		0.50





760	Civic Center Service Clerk			1.00	
	Cami Jacobsen	9/5/2017	9/5/2017		0.50
	Amy Cummings	10/21/2021	10/21/2021		0.50




720/200	Acctg. Clerk			0.50	
	Laurie Greenhalgh	5/16/2019	5/16/2019		0.50



730	Utility Billing Clerk			1.00	
	Angie Pierce	4/18/2016	4/18/2016		1.00



610	Fac. Custodial Coordinator/ Pub Comm Spec			1.00	
	Chris Stone	12/1/1992	12/1/1992		1.00



195/145	HR Manager/Treasurer			1.00	
	Stacey Comeau	1/31/2005	1/31/2005		1.00



165/780	Business Adminstrator			1.00	
	Cody Cardon	1/8/2019	1/8/2019		1.00



	Total			7.00	7.00

Riverdale City
Staffing Authorization Plan

Department: Community Services

Job Code	Job Title / Incumbent	DOH-City	DOH-Position	FTE Authorized	FTE Actual
XXX	Rec Assistant			6.00	
	Jayden Hansen	11/21/2022	11/21/2022		0.50
	Cole Lueders	11/21/2022	11/21/2022		0.50
	Shahid Fahim	6/12/2024	6/12/2024		0.50
	Henry Wright	6/12/2024	6/12/2024		0.50
	Mason Smith	6/19/2024	6/19/2024		0.50
	Arzy Vernon	8/10/2022	8/10/2022		0.50
	Open				0.00
	Open				0.00
	Tyson Pututau	3/1/2023	3/1/2023		0.50
	Maclane Loughton	8/19/2022	8/19/2022		0.50
	Abby Miles	2/1/2024	2/1/2024		0.50
	Open				0.00







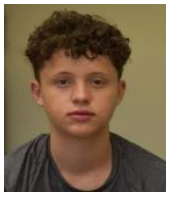











XXX	Group Fitness Instructor			1.00	
	Sherilyn Taylor-Brown	7/27/2017	7/27/2017		0.50
	Open				0.00




1266	Comm Services Cust Service Clerk			2.50	
	Karen Dille	9/13/1999	9/13/1999		0.50
	Shari Casper	5/23/2022	5/23/2022		0.50
	Betty Wilson	9/2/2014	9/2/2014		0.50
	Katie Peterson	11/30/2022	11/30/2022		0.50
	Angela Choate	12/3/2021	12/3/2021		0.50








1270	Rec Specialist			1.00	
	Baylee Cascaddan	8/31/2015	10/16/2021		0.50
	Elisa Anger	6/17/2016	8/1/2017		0.50




1570	Sr. Center Cook			0.50	
	Anissa Sterner	11/17/2022	11/17/2022		0.50



1424	Sr. Center Kitchen Aide			0.50	
	Julie Morse	5/1/2024	5/1/2024		0.50



225	Seniors Program Specialist			1.00	
	Miranda Rizzi	3/20/2014	7/1/2017		1.00



340	Comm Services Director			1.00	
	Rich Taylor	6/30/2014	6/30/2014		1.00



	Rounding				
	Total			13.50	11.50

Riverdale City
Staffing Authorization Plan

Department: Public Works

Job Code	Job Title / Incumbent	DOH-City	DOH-Position	FTE Authorized	FTE Actual
1230	Park Mtnc Specialist I			1.00	
	Zachary Henstra	5/24/2022	5/24/2022		1.00
					
1235	Park Mtnc Specialist II			0.00	
					0.00
1240	Park Mtnc Specialist III			2.00	
	Matthew Guymon	9/1/2017	1/16/2018		1.00
	John Flynn	10/2/2018	10/2/2018		1.00
	 				
2034	Assistant Public Works Director			1.00	
	Norm Farrell	8/17/1998	12/20/2004		1.00
					
1900	Crew Leader			2.00	
	Travis Gibson	5/2/2011	5/2/2011		1.00
	Bart Poll	8/24/1998	7/1/2004		1.00
	 				
2105	Utility Mtnc Operator I			1.00	
	Gage Bennett	3/2/2020	3/2/2020		1.00
					

2110	Utility Mtnc Operator II				0.00	0.00
2115	Utility Mtnc Operator III				1.00	
	Dallas Nalder		3/2/2020	7/1/2022		1.00
						
2115/2030	PW Inspector/Operator III				1.00	
	Travis Dahle	7/18/2017	7/18/2017			1.00
						
2115/2000	Utility Mtnc Operator III/Equipment Mtnc Spec				1.00	
	Abraham Torres		5/9/2006	12/1/2022		1.00
						
2025	PW Director				1.00	
	Shawn Douglas		5/20/1991	10/16/2011		1.00
						
	Total				11.00	11.00

Riverdale City
Staffing Authorization Plan

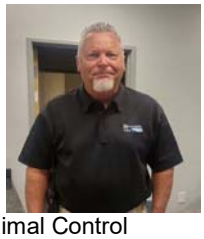
Department: Police

Job Code	Job Title / Incumbent	DOH-City	DOH-Position	FTE Authorized	FTE Actual
XXX	School Crossing Guard			1.50	
	Kathy Doxey	8/10/2015	8/10/2015		0.50
	Lesley Kolczak	11/16/2022	11/16/2022		0.50
	Lindsey Bird	2/6/2023	2/6/2023		0.50






330	Code Enforcement			0.50	
	Stephen May	8/8/2023	8/8/2023		0.50



1510	Animal Control			1.00	
	Kimberlee Winn	5/31/2020	5/31/2020		1.00



2335	Patrol Secretary/Receptionist			1.00	
	Casey Baur	11/30/2022	11/30/2022		1.00



2310	Administrative Executive Assistant			1.00	
	Shalee Nay	7/1/2019	6/1/2021		1.00



1749	Pol Officer			15.00	
	Dustin Farnsworth	12/31/2023	12/31/2023		1.00
	Noah Shears	2/16/2023	2/16/2023		1.00
	Juan Torres	12/1/2022	12/1/2022		1.00
	Matthew Phillips	6/16/2016	6/16/2016		1.00
	Ryne Schofield	7/16/2016	7/16/2016		1.00
	Robert Lovato	6/30/2016	6/30/2016		1.00
	Luigi Panunzio	5/26/2016	5/26/2016		1.00
	Landon Brenkman	10/16/2023	10/16/2023		1.00
	Jacob Stanger	6/30/2018	6/30/2018		1.00
	Jeffrey Edminster	9/30/2021	9/30/2021		1.00
	Eddie List	11/16/2022	11/16/2022		1.00
	Christopher Morreale	12/1/2022	12/1/2022		1.00
	Nathen Zaugg	2/28/2023	2/28/2023		1.00
	Rory Powers	5/16/2023	5/16/2023		1.00
	Hayden Price	5/16/2024	5/16/2024		1.00

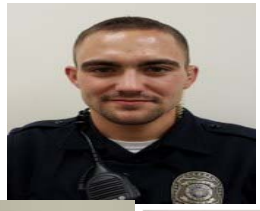




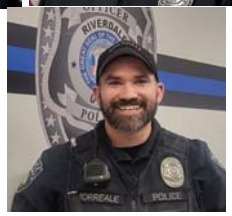














1765	Pol Sgt			4.00	
	Derek Engstrom	11/16/2010	7/1/2015		1.00
	Tyrel Dalton	3/1/2018	5/1/2023		1.00
	Gerardo Vazquez	4/30/2018	12/16/2022		1.00
	Lynn Wright	7/1/2003	9/16/2023		1.00






1745	Asst. Police Chief				1.00	
	Michael McNeely		2/16/2018	9/1/2023		1.00



1740	Police Chief				1.00	
	Casey Warren		4/16/2004	9/1/2023		1.00



	Total				26.00	26.00

Riverdale City
Staffing Authorization Plan

Department: Fire

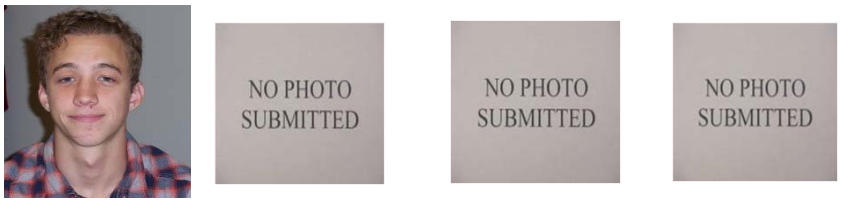
Job Code	Job Title / Incumbent	DOH-City	DOH-Position	FTE Authorized	FTE Actual
XXX	PT Firefighter			8.00	
	Colby Bailey	9/7/2022	9/7/2022		0.50
	Lance Beech	5/10/2017	5/10/2017		0.50
	Casey Jefferies	2/8/2024	2/8/2024		0.50
	Eric Lofthouse	7/6/2023	7/6/2023		0.50



Keaton Smith	10/17/2023	10/17/2023		0.50
Maximilian Higley	7/2/2018	7/2/2018		0.50
Shawn Stanger	8/21/2019	8/21/2019		0.50
Cameron Cessna	6/27/2019	3/29/2024		0.50



Jace Stromberg	8/10/2021	4/16/2024		0.50
Thomas Dalton	5/6/2024	5/6/2024		0.50
Peter Yoon	5/20/2024	5/20/2024		0.50
Open				0.00



Open				0.00
Open				0.00
Open				0.00
Open				0.00

1710	Fire Inspector	4/4/1983	12/1/2023	0.50	
					0.50
2335	Fire Admin Secretary			0.50	
	Krystn Hinojosa	10/18/2004	10/18/2004		0.50
					
1695	FT Firefighter/EMT			9.00	
	Open				0.00
	Dean Gallegos	8/21/1995	8/21/1995		1.00
	Steven Whetton	7/29/2014	8/31/2016		1.00
	JR VanDyke	7/28/2017	7/28/2017		1.00
	Open				0.00
	Open				0.00
	Marcus Garcia	11/20/2019	1/22/2023		1.00
	Michael Razey	12/6/2022	1/22/2023		1.00
	Dirk Playle	10/5/2022	10/5/2022		1.00







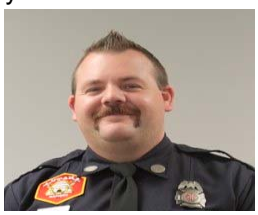








1675	Fire Captain			3.00	
	Matthew Hennessy	12/5/2005	2/1/2012		1.00
	Nathan Tracy	11/6/2012	8/1/2018		1.00
	Garrett Henry	9/21/2018	3/1/2019		1.00


1680	Fire Chief			1.00	
	Jared Sholly	10/21/2015	10/21/2015		1.00



	Rounding			0.00	0.00
	Total			22.00	16.50

RIVERDALE CITY
MONTHLY UTILITY REPORT
FOR MAYOR & CITY COUNCIL
JUNE 2024

Water Fund

	Total Gallons Used (in thousands)	Total Billings	Total Customers Billed	Average Gallons used Per Customer (in thousands)	Average Bill Per Customer
Residential	56,370	$ 111,063	2,184	26	$ 50.85
Commercial	40,767	$ 100,928	261	156	$ 386.70

Sewer Fund

	Total Billings	Total Customers Billed	Average Bill Per Customer
Residential	$ 63,890	2,161	$ 29.56
Commercial	$ 52,316	231	$ 226.48

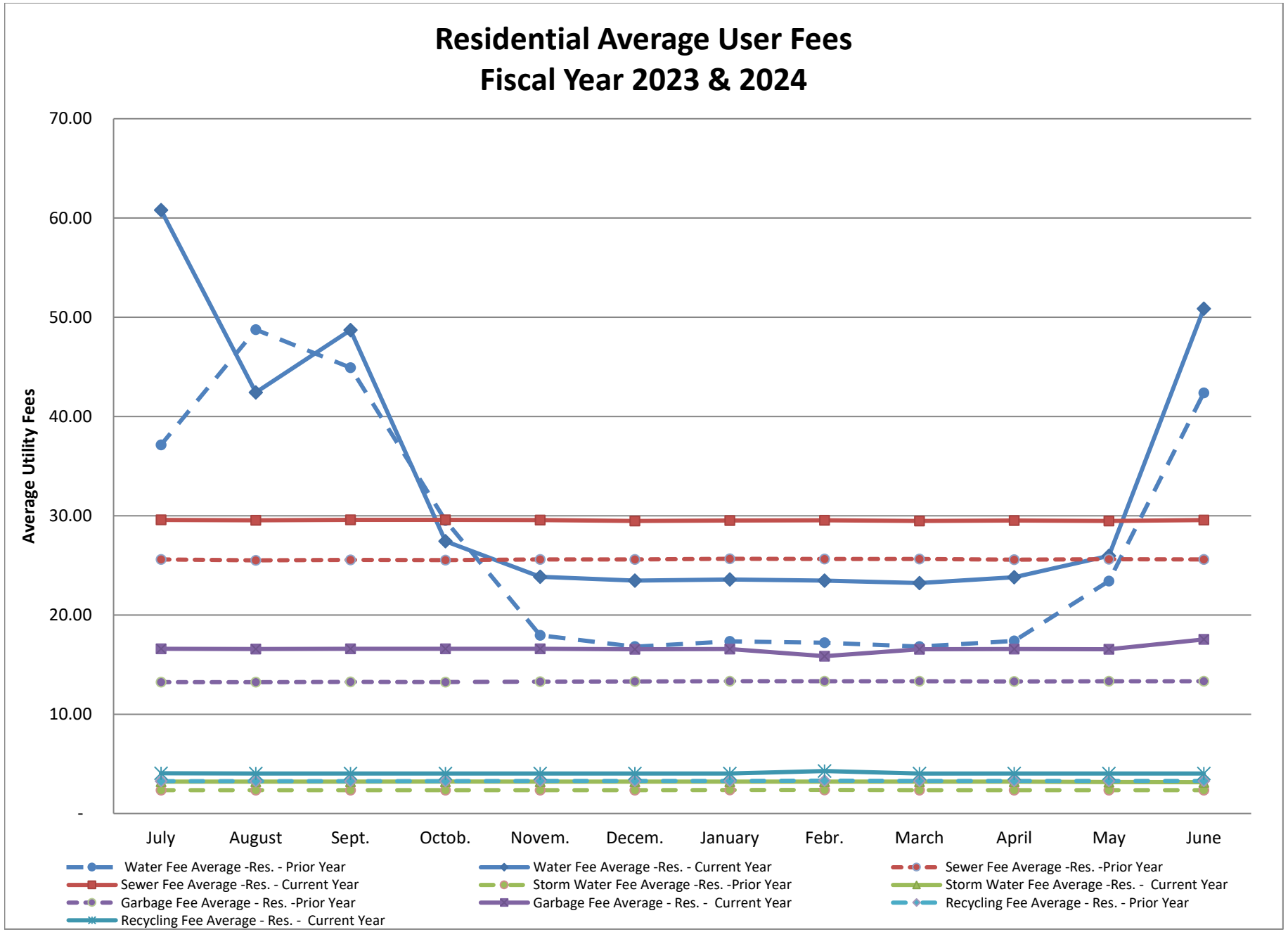
Storm Water Fund

	Total Billings	Total Customers Billed	Average Bill Per Customer
Residential	$ 6,870	2,179	$ 3.15
Commercial	$ 19,530	204	$ 95.74

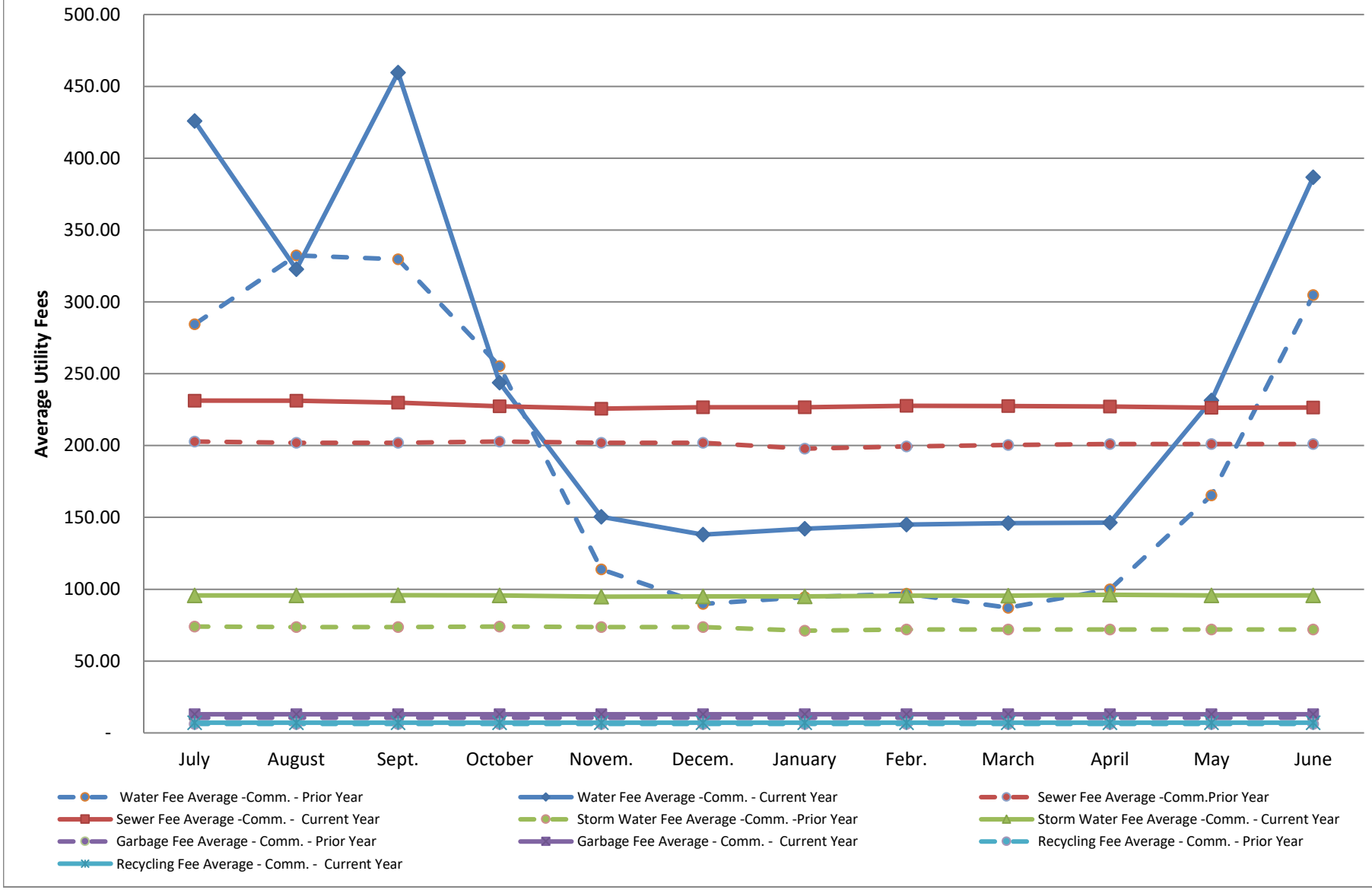
Garbage Fund

	Total Billings	Total Customers Billed	Average Bill Per Customer	
Residential - Garbage	$ 37,704	2,150	$ 17.54	*
Residential - Recycling	$ 7,475	1,850	$ 4.04	
Commercial - Garbage	$ 26	2	$ 12.98	*
Commercial - Recycling	$ 21	3	$ 7.10	

* Some garbage utility customers have more than one garbage can, this is an average of all customers.


Residential Average User Fees
Fiscal Year 2023 & 2024
Average Utility Fees
70.00
60.00
50.00
40.00
30.00
20.00
10.00
-
July
August
Sept.
Octob.
Novem.
Decem.
January
Febr.
March
April
May
June
Water Fee Average -Res. - Prior Year
Water Fee Average -Res. - Current Year
Sewer Fee Average -Res. -Prior Year
Sewer Fee Average -Res. - Current Year
Storm Water Fee Average -Res. -Prior Year
Storm Water Fee Average -Res. - Current Year
Garbage Fee Average - Res. -Prior Year
Garbage Fee Average - Res. - Current Year
Recycling Fee Average - Res. - Prior Year
Recycling Fee Average - Res. - Current Year

Commercial Average User Fees
Fiscal Year 2023 & 2024



Business Administration:

Cody Cardon:

- Routine phone & computer problem resolution throughout the city.
- Routine management issues and resolution.
- Various meetings and training courses attended.
- Working on monthly Accounting.
- Various IT projects.
- FY2025 budget adoption.
- TY2025 Property tax rate adoption
- Various meetings and analysis for RDAs.

Stacey Comeau:

New Hires:	Shahid Fahim	Community Services
	Henry Wright	Community Services
	Mason Smith	Community Services
Promotions:		
Terminations:	Lilie Wood	Community Services

- Random drug testing for the month
- Processed semimonthly payroll
- Responded to job inquiries
- Updated Staffing Authorization Plan
- Prepared Employee Recognition
- Completed monthly payroll reconciliation
- Conducted exit interview with terminating/retiring employees
- Prepared ACH files for Rent, RDA, and Early Retiree payments
- Notarized various documents
- Responded to requests for RDA loan payoff and verification of employment, both verbally and in writing
- Prepared RDA loan disbursements
- Responded to inquiries on Purchase Assistance Program and RDA Loan Program
- Worked with various personnel to resolve issues and concerns

Chris Stone:

- Ordered and changed out the two war conflict plaques on the Veterans Memorial. The previous plaques pictures were flacking off the surface.
- Cleaning of the Veterans Memorial.
- Set up council/court room for various meetings and court.
- Order and pick up of custodial supplies.
- Covered for part-time custodial staff off sick or on vacation.
- Various updates to the City website and social media sites.
- Completed the City newsletter for July.
- Completed the employee newsletter for July.

Mayor & City Council Monthly Summary Report

July 2024

Community Development Department:

- Code Review and list of revisions
- Development Review/Processing:
  - AFCU Development Agreement/Office #1 Site Plan
  - Sign Approvals
  - Garf/Wright Homes Site Plan
  - GoldCrest Homes – Construction permitting
  - Zoning Confirmation Requests
- Meeting with property owners and developers to discuss project plans and concepts
  - AFCU Team/Dee Hansen
  - Kent Hill – Peacock Ridge and Parks Riverwalk PRUD
  - Panera Bread/DRH
  - Riverdale Townhomes
  - Penny – 583 w 3950 S
  - Jim Vaughn – 4612 s 1150 w
  - Bach Homes
- 5600 South Project – CCT Meeting
- Zoning Violation Review
- Annexation Review
- Moderate Income Housing Report – Drafting and Meetings
- Utah League of Cities and Towns
  - Legislative Policy Group
  - Economic Development Advisory Committee
- RDA Project Area Audit
  - West Bench
    - Project Plan/Budget Amendment
  - 700 West
- Department heads meetings attendance
- RDA Loan Pre-Application Meeting
- City Council Prep
- Planning Commission Prep
- Placer.ai Training and implementation
- Budget/Sales Tax Revenue Review
- Floodplain Mitigation Training and Review
- Geographical Information Systems training and work
- Business Retention and Expansion (BRE Program)
  - Introduction to local businesses
    - Cash America Pawn
    - Crabtree Auto

Monthly report – June, 2024

Legal Dept., City Attorney, City Admin. – Steve Brooks:

- Resolutions/Ordinances work–
  - Work concerning – Drive in, Personnel, AFCU, Old Glory Days, Rec. programs, CTC, Goldcrest, H&P, C lights, Code enforcement, Special events, RMPC, Seniors, APZ zones, Fire, Hill, Recycling, Legis. Sum, Participations agreements, Fee schedule, Budget, AMA, Parks, ABS, 4400, Fire K, Survey,
- Legal research/review –
- Legal Department meetings/work –
- Planning commission review/ordin/mtgs/minutes
- Walk-ins/Police reviews/Court/Court screenings/Court filings
- Formal training attended-
- RSAC- Drug Court –
- Legal reviews of minutes/resolutions/ordinances
- Records request reviews

COURT MONTHLY REPORT

483 Total traffic cases — YTD 2590 (Jan. 1, 2024 to December 31, 2024)

5 DUI	218 Moving violations	0 FTA
0 Reckless/DUI red.	177 Non-moving violations	0 Other
83 License violations	Parking	

41 Total Misdemeanor cases — YTD 278 (Jan. 1, 2024 to Dec. 31, 2024)

1	Assault	0	Ill. sale Alc.	0	Dom. animal	14	Dom. violence
09	Theft	0	Other liq. viol.	0	Wildlife	07	Other misd./infrac
0	FTA	09	Contr. subst vio	0	Parks/rec.		
0	Public intox	0	Bad checks	2	Planning zon./Fire/Health		

369 Total cases disposed of this month — 5005 Total number of cases disposed of for the year (July 1, 2023 to June 30, 2024)
523 Total offenses this month — 6061 Total offenses for year (July 1, 2023 to June 30, 2024)

Small Claims — Total number of cases for the year (Jan. 1, 2024 to Dec. 31, 2024) -- Filed=7 Settled/Dismissed=5

0 Cases filed	0 Trials
0 Settled/dismissed	0 Default judgment

# CITATIONS BY AGENCY		**YTD** (July 1, 2023 to June 30, 2023)
Riverdale City	225	2466
UHP	170	2037

REVENUE/MISC. **YTD** (July 1, 2023 to June 30, 2024)

Total Revenue collected	$ 73,431.95	$ 1,010,492.90
Revenue Retained	$ 51,391.21	$ 681,400.60
Warrant Revenue	$ 38,098.13	$ 470,628.50
Issued warrants	79	995
Recalled warrants	72	1382

RSAC MONTHY REPORT -

10	participants	0	drug tests given	0	ordered to inpatient
	orientations		in jail/violations	0	other
	new participant		positive UA's/dilutes		
3	graduates	0	incentives/ gifts		
	terminated/quit/walked away	0	spice tests given		

INVESTIGATIONS MAJOR INCIDENTS/ARRESTS FOR 6/2024

Sex Offense – A female reported she was inappropriately touched after a male gave her a ride. The female later requested money from the male. Investigators interviewed the two involved individuals and spoke with other individuals that had knowledge of the incident. The case is being screened with the Weber County Attorney's Office.

Sex Offense – A report was received reporting a male inappropriately touched her daughter. Investigators interviewed parties involved where the victim disclosed being inappropriately touched. The male is not cooperative with law enforcement and would not speak with investigators. The case is being screened with the Weber County Attorney's Office.

Rape – A female reported being sexually assaulted by a male during a gathering at the home. Investigators interviewed all parties involved which the male claimed the incident was consensual. The case was screened with the Weber County Attorney's Office, who were willing to pursue the case. The male was located at his home in Salt Lake and booked into jail at Weber County jail for one count of rape.

Theft – A firearm was stolen out of a residence in Riverdale during a gathering. Multiple names of individuals who attended the gathering were obtained. Investigators contacted most of the names except a male, who would not respond. The male that could not be contacted was found in possession of the firearm after he committed another crime in another jurisdiction. The male suspect would not answer questions. He was booked into jail on the other jurisdiction's charges. Charges of theft of a firearm are being submitted to the Weber County Attorney's Office.

Theft – An individual accidentally left cash in one of the self-checkout registers at a local business. The following customer took the cash left by the victim and concealed it on their person. Investigators were able to identify a female suspect. The female was located, interviewed and admitted to taking the cash. The female is being charged with MB Theft of lost, mislaid or mistakenly delivered property.

Theft x4 – A local business reported a female stole merchandise on 3 separate occasions. In one of the occasions the female was with another female friend who also stole merchandise. The investigator was able to identify the suspects. The female who stole on 3 separate occasions was located and interviewed. She admitted to theft and will be charged with 3 counts of MB theft. The other female was located, but denied theft, although she is seen on video surveillance committing theft. The female is being charged with MB Theft.

Fraud – A victim's credit card was stolen at a restaurant in South Ogden. A male suspect was seen on video surveillance using the stolen credit card at businesses in South Ogden and Riverdale. Investigators were able to identify the suspect. The suspect was located and booked into Weber County Jail for multiple charges of MB Unlawful use of a Financial Card and F3 Unlawful Acquisition of a Financial Card.

Theft – A male and female stole merchandise from a business in Riverdale. Investigators were able to identify the two suspects. The male suspect was contacted and will be summoned for MA Theft due to the amount exceeding $500. Attempts to locate the female were unsuccessful and a warrant for her arrest was submitted for MA Theft.

RIVERDALE POLICE DEPARTMENT
CRIME BULLETIN

June 2024
Report #24-6

June Police Calls

- **1523 Calls for Service:**
  - **26 Animal Complaints**
  - **268 Crime Reports Written**
    - **11 Forgery/Fraud**
    - **20 Retail Thefts**
    - **10 Family Offenses**
    - **6 Burglary/Theft Complaints**
    - **2 DUI**
    - **8 Damaged Property**
    - **33 Arrests**

The remainder of calls involved Welfare Checks, Disorderly Conduct, Suspicious Activities, Citizen Assists, Lost/Found property, Trespassing, Medical Assists,
Warrant Services, etc.

Traffic Patrol and Enforcement

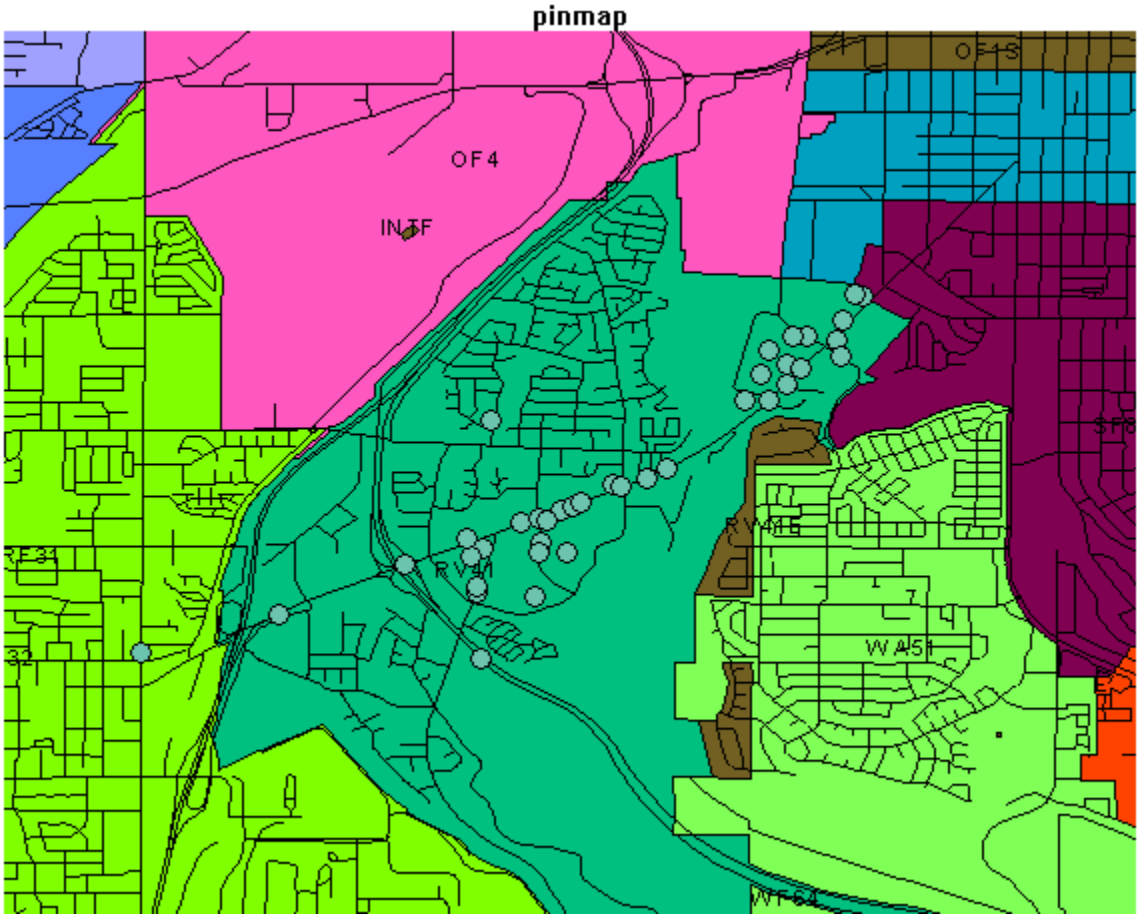
- **690 Traffic Stops resulting in:**
  - **490 Citations**
  - **716 Total Violations**
  - **226 Warnings Issued**

POLICE LINE - DO NOT CROSS POLICE LINE - DO NOT CROSS POLICE LINE - DO NOT CROSS POLICE LINE - DO NOT CROSS POLICE LINE - DO
FOR LAW ENFORCEMENT USE ONLY!

RIVERDALE POLICE DEPARTMENT
CRIME BULLETIN

June 2024
Report #24-6

- **42 Traffic Accidents**



- **27 New Cases sent to Investigations.**
- **30 Investigative Cases Closed**

***Code Enforcement**
2 New Cases
4 Cases Closed
8 Cases still active

POLICE LINE - DO NOT CROSS POLICE LINE - DO NOT CROSS POLICE LINE - DO NOT CROSS POLICE LINE - DO NOT CROSS POLICE LINE - DO

FOR LAW ENFORCEMENT USE ONLY!

Patrol Report June 2024

Ordinance violation: Officers contacted a transient at a closed business. The male was asked to collect his property and leave.

Disturbance: Officers responded to a business after a complaint was received about a female yelling at passing cars. The subject was educated on her behavior and left the area.

Suspicious person/DUI: Officers responded to a business where a female was driving a vehicle around the parking lot and attempting to enter the business which had closed. It was found the female was under the influence. She was taken into custody and charged appropriately.

Agency assist: Officers responded to a residence attempting to locate a vehicle that had been involved in a shooting. The vehicle was not at the address, and it was later found in a different city. The suspects involved in the shooting were located at the home later and taken into custody.

Assault: Officers responded to an assault at a restaurant. Three or four unknown males entered the business and began making fun of the victim before slapping him across the face and punching him in the back a couple times before leaving. The identity of the suspects is unknown. This did appear to be gang related as the suspects had questioned if the victim was in a gang before the assault. Follow up is being conducted to attempt to identify the suspects.

Agency assist: Officers assisted a neighboring agency on a shooting that occurred at a residence.

Suspicious person: Officers responded to a business after employees reported a female in the store that is known to steal from the business. The suspect left and was located at an adjacent business. The female provided false information to officers and was taken into custody.

Ordinance violation: Officers contacted a male at three separate businesses for panhandling. The male was educated on the ordinance and left the area.

Agency assist: Officers assisted a neighboring agency on an abandoned vehicle blocking a travel lane. Upon arrival, it was discovered that the vehicle had been stolen from another city.

Disturbance: Officers responded to an apartment complex and diffused an argument between two residents.

Family fight: Officers responded to a local park on a male and female arguing. It was found during the investigation that the female had assaulted the male, and the male was a wanted fugitive. Arrests were made in this case.

Drug violation: Officers responded to a city building where a female subject was found to be in possession of illegal drugs. She was taken into custody for drug possession and outstanding warrants.

Suspicious person: Officers responded to a business on a report of a male asking for money and threatening other citizens. The area was checked, but the male was not located.

Agency assist: Officers and our K9 assisted in serving a search warrant at a residence for a subject wanted in relation to a shooting. The subject was taken into custody without incident.

DUI: Officers responded to an ATL for a reckless driver. The vehicle was found, and the driver was found to be impaired. The driver was taken into custody and processed for DUI.

Trespass: Officers responded to an apartment complex after the management reported some non-residents had accessed the pool area. The subjects were contacted and left the property.

Damaged property: Officers responded to a business and took a report that a male had damaged property at the business. The suspect was located by another agency. Riverdale Officers completed an interview and issued a citation to the suspect. He was trespassed from the business.

Disturbance: Officers responded to a business after employees reported a male and female were arguing in the parking lot. The two subjects were contacted, and officers were able to defuse the argument.

Child neglect: Officers responded to a business on a report of a child left unattended in a vehicle. The mother of the child was contacted and educated about the dangers of leaving her children unattended.

Found property: Officers collected a wallet that was turned into the PD. The responding officer was able to locate the owner and return the wallet.

Theft: Officers responded to a business on a theft complaint. The subject that was detained was issued a citation for theft and released.

Assault: Officers responded to a residence on an assault complaint. The complainant was assaulted by an acquaintance while he was in his vehicle at a business.

Ordinance violation: Officers responded to a business where employees reported a transient camp on the property. Officers made contact with the subjects and advised them of the ordinance. They collected their property and left the area.

Theft: Officers responded to a business after employees had detained a male for skip scanning merchandise and paying a lower price than the actual cost. The male was released on a citation.

Disturbance: Officers responded to a restaurant where a male and female were having an argument in the parking lot. Officers determined that there was no physical violence, and they were able to calm the situation.

Lewdness: Officers responded to a business on a report of a male that was making sexual gestures towards a female citizen. The suspect and suspect vehicle were gone prior to police arriving. Business cameras were reviewed, and a partial license plate was obtained. The suspect and vehicle have not yet been located or positively identified.

Agency assist: Officers assisted a neighboring agency with shutting down a roadway due to a vehicle fire.

Fraud: Officers took a report from a citizen that reported his credit card information had been fraudulently obtained through a ride share app.

Disturbance: Officers responded to a business where a complaint was received that a female was yelling at passing vehicles. It was found that the female was yelling at a vehicle following her and she was having an argument with her husband who was driving the vehicle.

Suspicious person: Officers responded to a business after a complaint was received that a female was harassing customers. The female was located and given a ride to the rescue mission.

Agency assist: Officers assisted a neighboring agency in attempting to locate a missing suicidal person. A large area search was conducted, and the subject was found deceased in a group of trees. There is no indication of foul play.

Damaged property: Officers responded to a storage unit where the employees reported a tenant caused damage to a rental unit. The business did not want any action taken against the tenant. The damage was documented in a report.

Ordinance violation: Officers contacted a male that was panhandling at a business. The male was educated on the ordinance and left the area.

Agency assist: Officers assisted a neighboring agency on a recovered stolen vehicle. The vehicle was stolen in Riverdale and recovered in another city.

Drug violation: Officers responded to a city park where a backpack was found that appeared to contain illegal drugs. Officers confirmed that the backpack contained illegal drugs. The backpack was seized, and the drugs were placed into evidence to be destroyed.

Theft: Officers responded to a business after employees reported they had some sporting goods stolen from the store. This business has had multiple thefts of this nature, and it is believed that they are the same suspects in each case. Detectives are working to identify the suspects in the surveillance video.

Overdose: Officers responded to a business after employees reported a female was acting strange. Contact was mad with the female, and she requested to be taken to the hospital. She was transported by ambulance.

Suspicious person: Officers responded to a business after employees reported a male wandering around the parking lot and inside the business. The male was contacted and provided with community resources for assistance.

Suspicious person: Offices responded to a wooded area after city employees reported finding a transient camp. The two subjects located advised they were not camping and were just laying on a blanket. They were advised of the camping ordinance and left the area.

Theft: Officers responded to a business after employees discovered two thefts that were committed previously. The suspects in both cases have not yet been identified.

Suspicious person: Officers responded to a business after employees reported observing a male that was looking into vehicles early in the morning. The suspect was gone prior to police arrival and could not be identified.

Assault: Officers responded to a residence on an assault complaint. The involved parties were having an argument over money paid for babysitting. Both parties had conflicting stories. The case has been forwarded to the prosecutor to be screened for charges.

Psychiatric: Officers responded to a residence on a threatened suicide complaint reported by a Dr's office. The female subject had made some concerning statements regarding herself and her unborn child. She was taken to the hospital for a psychiatric evaluation.

Assault/Order violation: Officers responded to a residence on an assault complaint. The victim reported his wife's ex-husband assaulted him during a custody exchange. The suspect also violated a protective order during this incident. The case is active, and the suspect has yet to be found.

Ordinance violation: Officers contacted a transient that had a camp behind a business. He was educated on the camping ordinance and left the area.

Traffic/Fleeing: Officers conducted a traffic stop and the driver fled into a neighboring city. Officers from the neighboring city were able to locate the vehicle immediately after it fled. A second traffic stop was conducted, and the driver was taken into custody and charged appropriately.

Community policing: Officers have attended several community events at local parks and engaged in educational activities with kids during the Summer Fun Program.

Officers have been holding summer block parties throughout the city. They will continue throughout the summer.

Code Enforcement continues to work diligently in identifying city code violations and work with property owners to correct the violations.

Fire Department: June 2024

Chief Jared Sholly

152 Calls for Service

Fires

2 Building Fire
1 Cooking Fire
3 Vehicle Fire
11 Brush Fires
Total: 17

Rescue & Emergency Medical Service Incidents

48 EMS Calls, Excluding Vehicle Accidents with Injuries
14 Motor Vehicle Accidents with Injuries
10 Motor Vehicle Accidents without Injuries
1 Auto-Pedestrian Accident
1 Extrication
1 Swift Water Rescue
Total: 75

Hazardous Condition

1 Natural Gas Leak
1 Arcing Electrical
1 Gasoline Spill
1 Carbon Monoxide
Total: 4

Service Calls

7 Public Assist
2 Assist PD
Total: 9

Good Intent Call

36 Cancelled Enroute
1 Good Intent
1 No Incident Found
2 Smoke Scare
Total: 40

Fire Alarm

1 CO Detector Activation Due to Malfunction
1 Detector Activation no Fire
5 Alarm System Activation Due to Malfunction
Total: 5

Department Report:

- **Business Fire Inspections on Second and Third Inspections Continued.**
- **Fire Department Officers Meeting**
- **Fire Budget/Ambulance Discussion Meeting**
- **AFCU Site Plan Meeting**
- **Weber County Pre-Disaster Plan Updated**
- **EMS Committee Meeting**

- **CERT Council (Bonnie Young)**
- **City Staff Meeting**
- **Weber County Fire Chiefs Meeting**
- **Operational Dispatch Committee Meeting**
- **Fire Sub Meeting with County Chiefs and Dispatch**

Public Relations

- **Walmart Safety Fair**
- **Block Party**
- **South Ogden Parade**
- **Washington Terrace Days Parade**
- **Washington Terrace Firework Display**
- **Fun Kids Program**
    - **June 24th**
    - **June 25th**
- **Friendly Summer Fest for Autistic Kids**

Training Report

- **Fire Training**
    - **Engine Operations**
    - **Pump Calculations**
    - **Railroad Chlorine Emergencies**

- **EMS Training**
    - **Toxicology**
    - **Spinal Immobilization**
    - **Cardiac Epinephrine**

Riverdale Fire Department Response Report:

Riverdale Fire Department Response by City (Includes Cancellations)

Basic Incident City Name (FD1.16)	Number of Incidents	Percent of Total Incidents
RIVERDALE	88	57.89%
OGDEN	20	13.16%
WEBER COUNTY	16	10.53%
ROY	11	7.24%
SOUTH OGDEN	5	3.29%
FARR WEST	3	1.97%
Marriott-Slaterville	2	1.32%
WEST HAVEN	2	1.32%
City of Washington Terrace	1	0.66%
CLINTON	1	0.66%
HOOPER	1	0.66%
NORTH OGDEN	1	0.66%
SOUTH WEBER	1	0.66%

Riverdale Fire Department Unit Response by City (Includes Cancellations)

Basic Incident City Name (FD1.16)	Number of Incidents	Percent of Total Incidents
Apparatus Resource ID (FD18.1): A41		
RIVERDALE	57	27.01%
ROY	6	2.84%
WEBER COUNTY	5	2.37%
CLINTON	1	0.47%
OGDEN	1	0.47%
SOUTH OGDEN	1	0.47%
Apparatus Resource ID (FD18.1): B41		
OGDEN	2	0.95%
WEBER COUNTY	1	0.47%
WEST HAVEN	1	0.47%
Apparatus Resource ID (FD18.1): CH41		
RIVERDALE	3	1.42%
Apparatus Resource ID (FD18.1): E41		
RIVERDALE	65	30.81%
OGDEN	16	7.58%
WEBER COUNTY	9	4.27%
ROY	3	1.42%
FARR WEST	2	0.95%
Marriott-Slaterville	2	0.95%
SOUTH OGDEN	2	0.95%
City of Washington Terrace	1	0.47%
CLINTON	1	0.47%
NORTH OGDEN	1	0.47%
SOUTH WEBER	1	0.47%
Apparatus Resource ID (FD18.1): H41		
RIVERDALE	9	4.27%
WEBER COUNTY	8	3.79%
OGDEN	5	2.37%
ROY	3	1.42%
SOUTH OGDEN	2	0.95%
FARR WEST	1	0.47%
HOOPER	1	0.47%
WEST HAVEN	1	0.47%

Outside Agency Response to Riverdale City

Basic Incident City Name	Number of Incidents
Roy	23
Ogden	11
South Ogden	4
South Weber	2
Weber Fire District	2
Washington Terrace	1

Notable Incidents:

6/8/2024

Swift Water Rescue (Fort Buenaventura)

- The entire Weber County Swift Water Rescue Team was dispatched to a report of eight kids in the river needing to be rescued. It was reported there were kids stuck on a log and one on an island. As rescue teams arrived, they were able to rescue the kids from the river, Riverdale Fire Department rescued one of the victims off an island and safely got them to shore. All victims recovered with no significant injuries.

6/10/2024

- **Extrication (Roy)**
  - Roll-over accident with one female patient trapped in the vehicle.

6/12/2024

- **Carbon Monoxide Incident (Riverdale)**
  - The fire chief, building inspector, and gas company representative responded to a four-plex on a reported carbon monoxide issue. Fire department crews responded to the residence the previous weekend finding carbon monoxide in two units. After further investigation, it was determined that the water heaters were not installed to code, releasing carbon monoxide into multiple units. The gas company shut off gas to two units. The owner was informed he would need to make the repairs to the building code standard before the gas would be turned on and work with the building department moving forward.

6/12/2024

- **Structure Fire (Ogden)**
  - Crews responded to a reported explosion in a camping trailer now on fire next to a structure.

6/18/2024

- **Gas Leak (Riverdale)**
  - Gas line struck by contractors working on a residential sprinkling system. Gas leak controlled by fire crews.

6/20/2024

- **Vehicle Fire and Grass Fire (I-84 Riverdale/South Weber)**
  - A fully involved vehicle fire with an associated grass fire started.

6/21/2024

- **Grass Fire (Rail Yard)**
  - Reported one-acre grass fire spreading rapidly. Units from Riverdale and Ogden extinguished the fire.

6/25/2024

- **Structure Fire (Ogden):** After arriving at a house fire, crews were assigned search and rescue operations to clear the house of any people or animals. The fire was extinguished, and no victims or animals were located.

6/29/2024

- **Structure Fire (Farr West):** Riverdale City Fire Department was dispatched to a structure fire with an explosion. Crews arrived on the scene and assisted with entering the structure to support fire suppression.

6/30/2024

- **Brush Fire (West Haven):**
  - Riverdale Fire Department assisted Weber Fire District on a grass-fire-threatening structure.

Fire Marshal Report

Best Buy	5/2/24	Business Inspection.
AFCU Ops Building	5/3/24	Inspection Emergency Lighting Test.
AFCU Ops Building	5/7/24	Inspection Elevator Operation Test.
Shoe Carnival	5/9/24	Business Inspection.
Joann's	5/9/24	Business Inspection.
Mattress Firm	5/9/24	Business Inspection.
IHOP	5/9/24	Business Inspection.
Barn Fire	5/10/24	Business Inspection.
Hamba Juice	5/16/24	Business Inspection.
Radiant Waxing	5/16/24	Business Inspection.
McDonalds (Walmart)	5/16/24	Business Inspection.
McDonalds	5/16/24	Business Inspection.
ABS	5/29/24	Start 24-hour FAP Battery Test Inspection
ABS	5/30/24	Finish FA Inspection.
Olive Garden	6/13/24	Business Inspection.
Mattress Firm	6/13/24	Business Inspection.
Riverdale MHC	6/18/24	Business Inspection.
Chucky Cheese	6/18/24	Sprinkler Rough in Inspection.
AFCU Ops Building	6/17/24	Start 24-hour Battery Test Inspection.
AFCU Ops Building	6/18/24	Finish FA Inspection.
Walmart	6/24/24	Fireworks Inspection.
Habit Burger	6/25/24	Business Inspection.
Tri State Meal Roofing	6/25/24	Business Inspection.
Sam's Club	6/25/24	Fireworks Inspection.
Dragon	6/25/24	Fireworks Inspection.
Phantom	6/25/24	Fireworks Inspection.
Tesla	6/27/24	Hydrostatic Test Inspection.
Lowes	6/28/24	Fireworks Inspection.

COMMUNITY DEVELOPMENT PROJECTS STATUS REPORT

July 2024

OPEN FOR BUSINESS

Ashley Furniture is open for business in the old Shopko building at 4060 South Riverdale Road.

ABS Kids is open for business in their new Riverdale location at 4934 S 900 W

NEW AND ONGOING DEVELOPMENTS

Tesla continues construction on the Tesla Riverdale Automotive Center to be located at 4581 South 1500 West.

Chuck E. Cheese is working on tenant finish construction of a space located at 4101 South Riverdale Road.

America First Credit Union has started construction of their new Corporate Campus at 4624 South 1500 West.

Wasatch Kia of Riverdale has started construction of their new service bay at 770 W Riverdale Road

Ken Garff Honda Riverdale has started construction of their remodel and new service bays at 950 W Riverdale Road

GoldCrest Homes has started construction of 68 new single-family homes at the Coleman Vu Estates at 5368 s 1050 w



RIVERDALE CITY
CITY COUNCIL AGENDA
July 16, 2024

AGENDA ITEM: G1

SUBJECT: **Consideration of Resolution #2024-24 renewing a contract with Robinson Waste for garbage and recycling services.**

PRESENTER: Shawn Douglas

INFORMATION:
a. Executive Summary
b. Resolution 2024-24
c. Robinson Contract 2024

BACK TO AGENDA

City Council Executive Summary

For the Council meeting on:	Petitioner:
July 2, 2024	Shawn Douglas, Public Works Director

Summary of Proposed Action

Consideration of a Contract Renewal with Robison Waste

Summary of Supporting Facts & Options

Robison Waste currently provides Garbage and Recycling services for residential customers in Riverdale City. They also provide Christmas tree pick up, spring, and fall curbside cleanup. The curbside cleanup has been well received by the residents. Robison has also been very willing to provide us with services during emergency operations. The rates are 1st can $12.23, additional cans $3.39 and recycle cans $2.78. The council has already approved the change to the consolidated fee scheduled to cover these costs. Robison has continued to provide us with excellent service and are very responsive to our concerns. I would recommend approval.

Legal Comments – City Attorney

Steve Brooks, Attorney

Fiscal Comments – Business Administrator/Budget Officer

Cody Cardon,
Business Administrator

Administrative Comments – City Administrator

Steve Brooks,
City Administrator

RESOLUTION NO. 2024-24

A RESOLUTION OF RIVERDALE CITY AUTHORIZING A RENEWAL OF AN AGREEMENT WITH ROBINSON WASTE SERVICES FOR GARBAGE AND RECYCLING SERVICES WITHIN RIVERDALE CITY.

WHEREAS, the City Council of Riverdale has previously entered into an agreement with Robinson Waste Services, providing for refuse collection within the City of Riverdale; and

WHEREAS, in the previous agreement Riverdale opted to allow for annual renewals upon the agreement of both parties; and

WHEREAS, the City of Riverdale has received few, if any, complaints concerning the service over the past year and are generally very pleased with the work performed by Robinson Waste Services and Robinson Waste has agreed to continue providing such service; and

WHEREAS, the Council finds that it is in the best interest of the City and will promote the health, safety and general welfare of the community and now desires to renew the Solid Waste Agreement for an additional term with Robinson Waste Services.

NOW, THEREFORE, BE IT HEREBY RESOLVED by the City Council of the City of Riverdale that the Mayor, with the attestation of the City Recorder, is hereby empowered to execute an Agreement between Riverdale City and Robinson Waste in the form and containing the terms as annexed hereto as Exhibit "A", with the term of the contract to expire one year from date of renewal.

RESOLVED AND ADOPTED by the City Council of Riverdale City, Utah, on the 16th day of July, 2024.

_____
Braden Mitchell
Mayor, Riverdale City

Attest:

_____
Michelle Marigoni
City Recorder

VOTE:

Alan Arnold	_____ Yes	_____ No	_____ Absent
Bart Stevens	_____ Yes	_____ No	_____ Absent
Anne Hansen	_____ Yes	_____ No	_____ Absent
Michael Richter	_____ Yes	_____ No	_____ Absent
Stacey Haws	_____ Yes	_____ No	_____ Absent

Exhibit A

RIVERDALE CITY GARBAGE SERVICES CONTRACT

IT IS HEREBY AGREED by and between RIVERDALE CITY CORPORATION, a municipal corporation of the State of Utah, hereinafter referred to as "City," and ROBINSON WASTE SERVICES, HEREINAFTER REFERRED TO AS "The Contractor," as follows:

1. The Contractor hereby agrees to furnish, during the term of this contract, sufficient automated trucks, equipment, and employees to empty automated refuse collection containers and dispose of all normal household garbage and similar refuse, including yard clippings, grass, leaves, tree branches and Christmas trees on residential premises, but not including trailer courts and apartment houses with six or more units, within the City of Riverdale.
2. The Contractor shall collect and dispose of refuse for each residence once each week on a day or days approved by the City. The day of collection may be changed by the Contractor only upon approval by the Mayor or his designee and after written notice to the citizens by the Contractor. All trucks used by the Contractor shall be capable of emptying automated refuse-collection containers, and shall be modern, leak-proof, sanitary, and suitable for the purpose for which used.
3. The Contractor shall pay the wages of all its employees, and shall bear all expenses of maintenance of equipment, and shall maintain $1,000,000 liability insurance, worker's compensation insurance, and any other proper or necessary insurance. The Contractor shall provide proof of such insurance to the City listing the City as a named insured.
4. The City shall not have supervision nor control over the actual operation of Contractor's business other than to require that Contractor faithfully comply with the provisions of this contract and all applicable ordinances of the City.
5. The Contractor shall comply with all laws of the State of Utah and Ordinances of the City and regulations of the Board of Health which pertain to this activity and their obligation here under, including license ordinances of this City.
6. During the term of this Agreement, the City will not contract with any other party to provide the services contracted for herein.
7. a. The City will pay the contractor the sum of $12.23 per month for each of approximately 2150 residential units (excluding trailer courts and apartment houses with six units or more) plus $3.39 per month for each of approximately 925 residential units that have two or more automated refuse collection containers within the corporate limits of the City, which amount shall include the fee for appropriate disposal.

   b. In addition to providing solid waste services, Contractor will also provide for collection of curbside garbage used for recycling purposes. The City will pay to the Contractor the sum of $2.78 per month for each of the residential units that have recycling collection containers within the corporate limits of the City. The City shall pay the actual tipping fee for the tonnage delivered to the agreed upon disposal site.

8. The Contractor agrees to perform the duties set forth in this contract in a neat and quiet manner so as not to unduly annoy or disturb the residents of the City. Additionally, the Contractor agrees to reimburse the City the current rate for replacement per container

if, through the Contractor's collection activity, damage is caused to the container's wheels or lid which renders it unusable.

9. Contractor will pick up refuse at the front of each residential unit between 6:00 a.m. and 5:00 p.m. on the day agreed upon between the Contractor and the City for refuse collection.
10. The city will request that all residents place their automated refuse collection container(s) at a point off the traveled portion of the road in the gutter or, if there is no gutter, within two feet (2') of the blacktop. The container shall be placed so that the container handle faces the resident's house and shall be place on the street at least four feet (4') from other automated containers and obstructions such as trees, mailboxes, or parked vehicles.
11. For residents certified by the City Administrator as being too ill or infirm to move the 90-gallon, automated refuse collection container from its storage place to the street and back to its storage space, the Contractor agrees to perform such service for the resident at no extra charge to the City.
12. The Contractor shall advertise and have a listed telephone number and shall have a responsible person at the number from 7:00 a.m. to 5:00 p.m. during every collection day with the authority to make decision relevant to operations under this contract. In addition, an employee of the firm shall answer the telephone to receive complaints and inquiries from the public related to this contract. All Complaints shall be resolved in an expeditious manner within the twenty-four (24) hour period following receipt of the complaint.
13. The City agrees to make its best efforts to enforce its refuse collection ordinance, to-wit: that residents shall place all refuse in a city-owned, automated refuse-collection container; that residents shall be responsible for keeping the refuse in said containers until it is picked up; and that residents shall not put out for collection such items as hot ashes, cart parts, mattresses, floor covering, animal carcasses, chunks of cement, dirt, sand, rocks, sod, flammable liquid, hazardous waste, or anything that will not fit in an automated refuse collection container. Contractor shall have the right to refuse to collect refuse in violation of the above regulations.
14. Contractor shall empty all containers located on City property and shall provide and empty dumpsters of an adequate size to service the City buildings at locations designated by the City Administrator. Contractor shall collect refuse deposited in these containers and dumpsters at least once per week or more often if needed at no additional cost to the City.
15. Contactor shall provide and empty one 12 cubic yard dumpster at the Public Works Building for parks trash, including extra garbage generated for the Fourth of July celebration-at no additional cost to the City.
16. The Contractor shall dispose of all refuse collected by transporting the same to the Weber County waste disposal facility, aka Weber County Transfer facility. The Contractor will unload the same in accordance with the regulations of said facility. The Contractor will pay all disposal fees at the facility and the Contractor will make all necessary arrangements therefore.
17. The Contractor agrees to perform a spring clean-up collection, a fall clean-up collection and perform a Christmas tree pick-up collection. The dates, collection methods, and cost

for these services shall be mutually agreed upon annually between the Contractor and the City. Said agreement shall be by addendum hereto.

18. The Contractor shall indemnify and hold harmless the City of Riverdale, its officers agents and employees hereinafter referred to as the City, from all suits, actions, loss, damage, expense, cost of claims of any character or any nature including reasonable attorneys' fees and costs of litigation arising out of the work done in fulfillment of the contract or on account of any act, claim or amount arising or recovered under worker's compensation law, or arising out of the failure of the Contractor or those acting under Contractor to conforms to any statutes, ordinances, regulations, law or court decree. It is the intent of the parties to this contract that the City shall, in all instances, except for loss or damage resulting from the sole negligence of the City, be indemnified against all liability, loss or damage of any nature whatever for, or on account of, any injuries or death of person or damages to or destruction of property belonging to any person arising out of, or in any way connected with, the performance of this contract, regardless of whether or not the liability, loss or damage is caused by, or alleged to be caused in part by the negligence, gross negligence or fault of the City.
19. Fuel Cost Adjustment. The rates set forth by other sections of this Agreement are calculated to pay certain expenses and costs that are of a set and certain nature. Because of the volatility of the current oil market, other costs are constantly changes and are uncertain. Therefore, beginning on July 1, 2024, the rates paid for service shall be further adjusted for changes in fuel costs associated with performance of the services hereunder in the manner provided below:

    The fuel surcharge will be calculated on the following criteria:

    a. The Department of Energy, Rocky Mountain Region Diesel Prices will be used as the price index for the agreement.
    b. The following are the yearly base prices per gallon for diesel fuel that will be used to calculate the surcharge:

2024	$3.00/gal
2025	$3.00/gal

    c. The surcharge will be calculated on the difference between the average monthly price per gallon of diesel fuel (as reported on the Dept. of Energy Diesel Prices) and the base price per gallon for the year (as detailed in point 2)
    d. The calculated difference in price will be multiplied by 33% per household (1st can) to calculate the actual surcharge amount per month.
    e. The surcharge will be calculated by Robinson Waste on a monthly basis and invoiced to Riverdale City.
    f. Should the monthly average price of diesel fuel fall below the yearly base price, the surcharge will no longer apply.
    g. The fuel surcharge will be invoice separately from the current invoicing for waste collection.
    h. Example: Fuel =$4.10, $4.10 - $3.00 =$1.10, x .33 =.363 x 2150 =$780.45 additional surcharge per month.

20. This contract shall be effective July 1, 2024 and the monthly fee shall be paid by the City to the Contractor for services rendered from the effective date of this agreement through June 30th of each successive year.
21. The Agreement is renewable annually, for additional successive one-year terms, at the rate of payment established or amended in paragraph 7 above, upon the mutual consent of both parties.
22. The City and the Contractor agree that this Agreement shall be deemed to contain all of the terms and conditions agreed upon, it being understood that there are no outside conditions, representations, warranties or other agreements, written, oral or implied.
23. This contract may, at the option of either party, be terminated by the other party for non-performance or for improper performance, after such party has given the defaulting party 30 (thirty) days written notice to properly perform the same, or to make payments, as the case may be.

Dated this 1st day of July, 2024

RIVERDALE CITY ATTEST

_____ _____

ROBINSON WASTE SERVICES

By: _____
Steve Robinson

Date: _____

RIVERDALE CITY
CITY COUNCIL AGENDA
July 16, 2024

AGENDA ITEM: G2

SUBJECT: **Consideration of Resolution #2024-25 approving an interlocal agreement for building inspection coverage.**

PRESENTER: Brandon Cooper

INFORMATION:
a. Executive Summary
b. Resolution 2024-25
c. Interlocal Agreement

BACK TO AGENDA

City Council Executive Summary

For the Council meeting on: July 16, 2024	Petitioner: Steve Brooks, City Administrator/Attorney

Summary of Proposed Action

Consideration of Resolution 2024-25, to enter into a joint interlocal agreement to provide building inspector services in times of need.

Summary of Supporting Facts & Options

This year's legislature, frustrated with the supposed delays in city building inspections, mandated that cities enter into agreements with neighboring jurisdictions in order to avoid potential delays in performing the inspection services. Riverdale has not traditionally had problems with this but in an effort to prepare for the future and obtain back-up options, staff feels that this is a good move for Riverdale City and recommends its passage.

Legal Comments – City Attorney

_____
Steve Brooks, Attorney

Fiscal Comments – Business Administrator/Budget Officer

_____
Cody Cardon,
Business Administrator

Administrative Comments – City Administrator

_____
Steve Brooks,
City Administrator

RESOLUTION NO. 2024-25

A RESOLUTION OF THE RIVERDALE CITY COUNCIL ADOPTING THE INTERLOCAL AGREEMENT CONCERNING MULTI-JURISDICTIONAL BUILDING INSPECTION SERVICES

WHEREAS, Riverdale City Council acknowledges the mandate from Utah Code Section 15A-1-105, introduced in the 2024 legislative session, which requires the City to compile and maintain a list of third-party inspection firms. This list is to be used for building inspections when the City's own inspector(s) are unavailable; and

WHEREAS, an Interlocal Agreement has been developed and provisionally approved by Weber County. This agreement outlines the collaborative framework for these jurisdictions (including Riverdale City) to utilize each other's services as third-party inspectors when needed.

NOW, THEREFORE, BE IT RESOLVED BY THE RIVERDALE CITY COUNCIL:

1. **Adoption of Agreement.** The Interlocal Agreement titled "Multi-Jurisdictional Building Inspection Services Agreement," between Riverdale City and Weber County have provisionally approved the document in its current form, is hereby adopted as drafted.

2. **Authorization to Execute.** The Mayor and City Recorder are authorized to execute the Agreement on behalf of Riverdale City.

3. **Commitment to Compliance:** All provisions and commitments outlined in the Agreement shall be duly honored and implemented.

This resolution shall take effect immediately upon its adoption.

RESOLVED this _____ day of July, 2024.

_____
Mayor Braden Mitchell
Riverdale City

Attest:

_____
Michelle Marigoni, City Recorder

VOTE:

Alan Arnold	___Yea	___ Nay	___Absent
Bart Stevens	___ Yea	___ Nay	___ Absent
Michael Richter	___ Yea	___ Nay	___ Absent
Anne Hansen	___ Yea	___ Nay	___ Absent
Stacey Haws	___ Yea	___ Nay	___ Absent

ATTACHMENT A

MULTI-JURISDICTIONAL BUILDING INSPECTION SERVICES AGREEMENT

THIS AGREEMENT (the "Agreement") is entered into effective as of the __ day of _____, 20__, by and among Weber County and Riverdale City (collectively referred to as the "Parties" or individually as a "Party").

RECITALS

A. Each Party has building inspectors with equipment and personnel trained to provide the inspections typically required to ensure compliance with building permits and building regulations.
B. Each Party desires to cooperate with and assist the others at times to facilitate the timely completion of building inspections.
C. The Parties wish to benefit all Parties and their residents by entering into an Agreement that sets forth procedures by which a Party may perform a building inspection within another Party's jurisdiction at the request of the Party having jurisdiction.
D. The Parties also intend to be on one another's "Third-party inspection firm list" as required by Utah Code Ann. Section 15A-1-105.
E. The Parties intend by this Agreement to assist one another whenever possible, while allowing each Party the sole discretion to determine when its personnel and/or equipment cannot be spared, or is available, for assisting other Parties.
F. This Agreement will not supersede nor preclude any other agreements which are made or which will be made by any Party with any other Party.

NOW, THEREFORE, based upon the mutual promises and conditions contained herein, the Parties agree as follows:

1. PURPOSE. The purpose of this Agreement is to promote the health, safety, and welfare of the citizens of the Parties by providing for mutual assistance and authorizing all participating Parties to combine and share their collective capabilities and resources at the election of each jurisdiction. This Agreement is intended to be complementary and work in conjunction with any other interlocal or aid agreements between or among Parties to this Agreement. Services provided pursuant to this Agreement shall not be used to substitute for or supplant day-to-day full and continuing building inspections within a Party's own geographic area of jurisdiction. If providing assistance becomes burdensome, the Building Officials will investigate ways to overcome the burden.

2. CONSIDERATION. The consideration for this Agreement consists of the mutual benefits and exchange of promises provided herein, the sufficiency of which is acknowledged by the Parties by execution of this Agreement.

3. SERVICE AREA. The area to be served by this Agreement includes the collective municipal area of Riverdale City and the Weber County service area specifically identified herein. By signing the Agreement, the governing body of each Party is hereby deemed to have approved the provision of assistance beyond its boundaries, and any assistance provided pursuant to this Agreement shall not require any further approval by the governing body of any Party.

4. RESPONSE. The Parties will each provide their available personnel and equipment to assist any other Party upon request by any other Party, provided that the responding Party shall have personnel and equipment reasonably available for use in its own jurisdiction, in the sole discretion of the responding Party. No Party shall be considered an agent of another Party under this Agreement except pursuant to a separate explicit signed agreement to that effect.

a. Mutual Assistance: Requests for assistance will typically be made from one Party's Building Official to another Party's Building Official when the requesting Party foresees that the requesting Party will be unable to perform one or more building inspections within three business days of a building permit applicant's request.

b. Third-Party Inspection Firm List: The Parties agree to be listed on one another's "third-party inspection firm list" as defined in Utah Code Ann. Section 15A-1-105. If a Party is unable to perform a building inspection within three business days of a building permit applicant's request, and the building permit applicant is therefore entitled to select a third-party inspection firm pursuant to Utah Code Ann. Section 10-6-160(2)(b) or Utah Code Ann. Section 17-36-55(2)(b), and the building permit applicant selects and contacts another Party, the Party contacted by the building permit applicant shall notify the building permit applicant of the contacted Party's availability. At the building permit applicant's request, the contacted party shall schedule the building inspection according to availability.

5. FEES. A Party with jurisdiction over the building permit application will be considered the requesting Party for a building permit applicant's request. Fees will be billed at the rate of $85.00 per hour, plus mileage at the established IRS standard mileage rate in effect at the time the service is rendered. At the discretion of the responding Party, the responding Party may bill the requesting Party within 60 days of the end of the calendar month. Building inspections shall only be provided within the boundaries of the requesting Party and shall not be provided to cover areas outside the boundaries of the requesting Party even if the requesting Party has an agreement to provide service to another party who is not signatory to this Agreement.

6. RIGHT TO DECLINE REQUEST. Responses by a responding Party under this Agreement will be made only when, in the sole discretion of the responding Party,

performance will not jeopardize the building inspection services in the jurisdiction of the responding Party.

7. INSURANCE. Each Party is solely responsible for providing workers' compensation and benefits for its own officials, employees, and volunteers who provide services under this Agreement to the extent required by law. Each Party will obtain insurance, become a member of a risk pool, or be self-insured to cover any liability and all costs of defense, including attorney's fees, arising out of services rendered under this Agreement, including negligent acts or omissions to act and the civil rights violations of any person.

8. GOVERNMENTAL IMMUNITY. The Parties are governmental entities as set forth in the Governmental Immunity Act of Utah, Title 63G, Chapter 7, Utah Code Annotated (the "Immunity Act"). The Parties do not waive any defenses otherwise available under the Immunity Act, nor does any Party waive any limits of liability provided by the Immunity Act which immunity and damage caps are expressly preserved and retained. The Parties retain the same privileges and immunities from liability when responding to a request for assistance outside its jurisdictional area as it possesses in the performance of its duties within its own territorial jurisdiction. All obligations imposed upon the Parties or their employees and volunteers by virtue of the execution of this Agreement are considered within their current scope of employment with each Party.

9. INDEMNIFICATION. Subject to the terms of the Immunity Act, and as provided herein, it is mutually agreed that the Parties are each responsible for their own negligent, reckless, or intentional acts or omissions which are committed by them or their agents, officials or employees. Furthermore, each Party agrees to indemnify, defend, and hold each other harmless from any and all damages or claims for damages occurring to persons or property as a result of the negligent, reckless, or intentional acts or omissions of its own officers, employees, and agents involved in providing services and equipment, or the use of such equipment, under the terms of this Agreement. This duty to indemnify, defend, and hold each other harmless includes costs or expenses in law or equity, including attorney's fees. The terms of this paragraph will survive the termination of this Agreement.

10. EFFECT OF DEATH OR INJURY WHILE WORKING OUTSIDE OF PARTY'S AREA. The death or injury of any Party's employees or volunteers working outside the territorial limits of the governmental entity will be treated in the same manner as if he/she were killed or injured while that department was functioning within its own territorial limits, including for purposes of receiving benefits under the Utah Workers' Compensation Act.

11. NO WAIVER OF LEGAL DUTIES; CREDIT FOR SERVICE PROVIDED. This Agreement does not relieve any Party to this Agreement of an obligation or responsibility imposed upon a Party to this Agreement by law, except that performance of a responding party may be offered in satisfaction of any such obligation or responsibility belonging to the aided Party, to the extent of actual and timely performance thereof by the responding Party.

12. TERM; EXECUTION; AGREEMENT TERMINATION. This Agreement will continue for a period of five (5) consecutive years from the effective date, and the effective date will be considered the date when two or more of the Parties each execute this Agreement and that date shall be entered above in the preamble. Upon its execution by a Party, that Party will become a participant in and subject to the Agreement with all other Parties who have executed the Agreement and circulated their signature pages. The failure of any one Party to execute the Agreement will not invalidate the Agreement as to those Parties who have executed it. Furthermore, each Party reserves the right to terminate its participation under this Agreement for any reason, in its sole discretion, prior to the expiration date by giving thirty (30) days prior written notice of such termination to each of the other Parties. At the end of the initial five (5) year term, the Parties agree to review this Agreement to determine if it continues to meet their needs and its purpose. If no changes are needed and the Parties do not take any action to rescind or amend this Agreement, it will automatically renew for an additional five (5) year term.

13. ADDITIONAL PARTIES. Approval of the governing bodies of the current Parties to the Agreement is not required for acceptance of any requesting entity to be an additional party to this Agreement. Any county or municipality, which has its own building inspectors may make a formal request, in writing, to become a Party by sending such request to the Building Official of each Party. All Parties' Building Officials must consent, in writing, for additional parties to enter this Agreement. If all Parties' Building Officials consent, the requesting entity may execute a counterpart of this Agreement and send it to the other Parties. Upon such execution, the new Party will be bound by the terms and conditions of this Agreement.

14. LAWS OF UTAH. It is understood and agreed by the Parties that this Agreement will be governed by the laws of the State of Utah, both as to interpretation and performance. The forum for the resolution of any legal disputes that arise under this Agreement will be located in the Third Judicial District, State of Utah

15. SEVERABILITY OF PROVISIONS. If any provision of this Agreement is held invalid or unconstitutional, the remainder shall not be affected thereby.

16. THIRD-PARTIES. This Agreement is not intended and should not be construed to benefit persons or other entities either not named as a Party herein or subsequently added as a Party pursuant to its provisions.

17. TITLES AND CAPTIONS. The titles and captions of this Agreement are for convenience only and in no way define, limit, augment, extend, or describe the scope, content, or intent of any part or parts of this Agreement.

18. NON ASSIGNABILITY. No Party shall transfer or delegate any of their rights, duties, powers or obligations under this Agreement, without written consent of each of the other Parties.

19. NOTICES. All notices and other communications provided for in this Agreement shall be in writing and will be sufficient for all purposes if: (a) sent by email to the address the Party may designate, or by fax to the fax number the Party may designate, and (concurrently) sent by first class mail to the Party and to the Party's legal office; (b) personally delivered; or (c) sent by certified or registered United States Mail addressed to the Party at the address the party may designate, return receipt requested. Each Party has set forth in their respective execution page, which page shall utilize a form substantially similar to Exhibit "A", their respective contact information, and such contact information will be applicable until modified in writing.

20. EXECUTION. Each Party agrees that each Party must execute this Agreement by signing, acknowledging, and have their respective Attorney approve this Agreement as to legality and form, through an execution page that utilizes a format substantially similar to the attached Exhibit "A". Upon such execution of the Agreement, each Party will provide all other Parties with an original execution page.

21. ENTIRE AGREEMENT; NO WAIVER. This Agreement represents the entire Agreement among the Parties relating to its subject matter. This Agreement alone fully and completely expresses the agreement of the Parties relating to its subject matter. There are no other courses of dealing, understanding, agreements, representations or warranties, written or oral, except as specifically provided for in this Agreement. This Agreement may not be amended or modified, except by a written agreement signed by all Parties. No failure by any Party at any time to give notice of any breach by another Party of, or to require compliance with, any condition or provision of this Agreement will be deemed a waiver of similar or dissimilar provisions or conditions at the same or at any prior or subsequent time.

22. The Parties hereto have executed this Agreement as of the date indicated on each Party's execution page.

RIVERDALE CITY

Agreed this _____ day of _____, 2024 for RIVERDALE CITY

_____
Mayor Braden Mitchell

ATTEST:

_____
City Recorder

APPROVED AS TO FORM:

_____
Riverdale City Attorney

WEBER COUNTY

Agreed this _____ day of _____, 2024 for WEBER COUNTY

_____
Commission Chair

ATTEST:

_____
County Recorder

APPROVED AS TO FORM:

_____
County Attorney

RIVERDALE CITY
CITY COUNCIL AGENDA
July 16, 2024

AGENDA ITEM: G3

SUBJECT: **Consideration to approve Final Site Plan request for Panera Bread Restaurant, located at approximately 4122 South Riverdale Road, Riverdale, Utah 84405 as requested by Perigee Consulting and Panera Bread Group.**

PRESENTER: Brandon Cooper

INFORMATION:

a. 01 CC Transmittal - Panera Bread - Site Plan Approv. – 07162024
b. 02 Panera Bread Site Plan Update App – 20230829
c. 03 2024-04-11 Panera Riverdale - FINAL SITE PLAN
d. 2023-08-29 Panera - Exterior Elevations
e. 2023-08-29 Panera - Interior concept
f. Dept Staff Reports - Panera Final Site Plan PC [20231106]
g. Panera Final Site Plan Review – 20231108
h. 2023-10-31 Panera Response Sheet
i. Review letter - 27 April 2024 – approval
j. 2024-04-05 Panera Riverdale UDOT Median
k. UDOT PRE-APP SUMMARY
l. 2023-10-31 Panera Riverdale Storm Drain Letter
m. 2023-10-31 Storm Water Maintenance plan
n. Injection Well permit
o. 748-003-24 Retaining wall letter report
p. ALTA Survey
q. County Plat
r. Riverdale Panera TIS
s. 2023-11-14 Panera Bread Yearly Water Usage Table
t. UDOT Cross Access Easement (002)

BACK TO AGENDA

TRANSMITTAL

Body:	City Council
Topic:	Site Plan Application – Panera Bread
Department:	Community Development
Director:	Brandon Cooper
Staff/Presenter:	Brandon Cooper
Contact:	bcooper@riverdalecity.com

Executive Summary

Panera Bread, represented by Russell Haight with Perigee Consulting, is seeking final site plan approval from the City Council for a restaurant site with drive-through services on real estate located at approximately 4122 South Riverdale Road (on the John Paras Furniture building lot site). The parcel is zoned in the Community Commercial (C-2) zone, which requires a conditional use permit approval for this type of use. The proposed project consists of an approximately 3,800 square foot building on 1.2 acres, with an associated drive-through and parking lot.

On November 14, 2023, the applicant received conditional use approval by the Planning Commission. During the same meeting, the Planning Commission voted unanimously to make a favorable recommendation for approval of the final plan to the City Council. The property is currently owned by Williamsen Riverdale 2 LLC. A public hearing is not required to consider this site plan proposal.

This Site Plan review is regulated under Riverdale City Code **10-21** "*Subdivisions*", **10-25** "*Development in All Zones*" and is affected by City Codes **10-10A** "*Commercial Zones*", **10-14** "*Regulations Applicable to All Zones*", **10-15** "*Parking, Loading Space, Vehicle Traffic and Access*", **10-16** "*Sign Regulations*", and other regulations found in **Title 8** "*Water and Sewer*".

Attached to this transmittal is the formal Staff Report and other documents associated with this review.

Timeline:

Planning Commission Meeting – November 14, 2023
Design Review Committee Meeting – November 15, 2023
City Council Meeting – July 16, 2024

Potential Actions:

Following the presentation and discussion of the proposal, the City Council may make:

1) a motion to approve
2) a motion to approve with modifications
3) a motion to table the matter to a later date
4) a motion to deny

Staff Recommendation

Based on the findings described in the attached Staff Report, it is recommended that the City Council approve the Panera Bread Site Plan.

Planning Commission Recommendation

On November 14, 2023, the Planning Commission voted unanimously to recommend to the City Council approval of the Panera Bread Site Plan.

Attachments

Staff Report
Minutes from Planning Commission Meeting

TRANSMITTAL

ATTACHMENTS TO FOLLOW THIS PAGE

Minutes of the **Regular Session** of the Riverdale City **Planning Commission** held Tuesday, November 14, 2023, at 6:30 p.m., at the Civic Center, 4600 S Weber River Drive., Riverdale City, Weber County, Utah.

Present:	Commissioners:	Kathy Eskelsen, Chair Kent Anderson, Vice Chair Amy Ann Spiers, Commissioner Rikard Hermann, Commissioner Wanda Ney, Commissioner Celeste Noland, Commissioner Randy Poulsen, Commissioner
	City Employees:	Mike Eggett, Community Development Michelle Marigoni, City Recorder
	Excused:	
	Visitors:	Russell Haight

A. Welcome & Roll Call

The Planning Commission Meeting began at 6:30 p.m. Chair Eskelsen welcomed everyone to the meeting and stated for the record that all members of the Planning Commission were present, as well as members of city staff.

B. Public Comment

Commissioner Eskelsen asked if any members of the public were present with comments. There were none.

C. Presentations and Reports

Mr. Eggett thanked commissioners for attending the American Freight grand opening, and gave updates on the following:

- Many changes have been made to the West Bench area by America First and Tesla.
- Freeway Park Drive will be messy due to a gas line move for about a week.
- Uptown Cheapskate is open.
- Shake Shack hopes to open on December 13.
- Thrive Appliance has yet to obtain a business license but is getting close to completing their building improvements.
- The 5600 South Project will have work beginning on the bridges soon. They will also make changes to try and help traffic get through the offramp intersection better.

D. Consent Items

Commissioner Anderson moved to approve the consent items. Commissioner Noland seconded the motion, and all were in favor.

E. Action Items

1. a. Consideration of Conditional Use Permit request for Panera Bread, located at approximately 4122 South Riverdale Road, Riverdale, Utah 84405, as requested by Perigee Consulting and Panera Bread Group.

Mr. Eggett explained the executive summary covered both items. There were no concerns from staff and the impact should be minimal. Conditional use is required due to the C2 zoning. Russell Haight was present to represent Panera Bread Group and Perigee Consulting.

Russell Haight offered to address questions from commissioners. There were no questions, but everyone was excited for Panera.

Motion: Commissioner Anderson moved to approve the Conditional Use Permit request for Panera Bread as requested by Perigee Consulting and Panera Bread Group.
Second: Commissioner Noland

Vote:
Commissioner Eskelsen: Yes
Commissioner Anderson: Yes

Commissioner Noland:	Yes
Commissioner: Poulsen	Yes
Commissioner Hermann:	Yes
Commissioner Spiers:	Yes
Commissioner Ney:	Yes

Motion passes unanimously.

b. Consideration of recommendation to City Council regarding Final Site Plan proposal for Panera Bread Restaurant, located at approximately 4122 South Riverdale Road, Riverdale, Utah 84405 as requested by Perigee Consulting and Panera Bread Group.

Mr. Eggett noted the address was originally 4130 when John Paras Furniture was operating, but it should be 4122 and will be changed. He went over the site plan review and corrections that needed to be made, as well as staff and engineer comments, as included in the packet. A design review was scheduled for November 15.

Commissioner Eskelsen requested Commissioner Anderson conduct the remainder of the meeting.

Commissioner Hermann asked about the east side of the building, and if another building was anticipated to be built there. Mr. Haight responded that Panera is leasing the entire area, and that there are no plans to build any more.

Commissioner Noland asked if any of the engineering comments have been addressed. Mr. Haight said the 100-year and orifice plate design have been addressed in the design. There was discussion about UDOT and the Riverdale Road and 300 West access points. UDOT's preferred access is 300 West, but they have asked for a variance for the Riverdale Road access to remain. There will be walking access between Starbucks and Panera without a retaining wall.

Motion: Commissioner Spiers moved to forward a positive recommendation City Council regarding Final Site Plan proposal for Panera Bread Restaurant, located at approximately 4122 South Riverdale Road, Riverdale, Utah 84405 as requested by Perigee Consulting and Panera Bread Group, provided all staff and engineer concerns are resolved prior. **Second**: Commissioner Poulsen

Commissioners Polled:	
Commissioner Ney:	Yes
Commissioner Anderson:	Yes
Commissioner Noland:	Yes
Commissioner Poulsen:	Yes
Commissioner Spiers:	Yes
Commissioner Hermann:	Yes
Commissioner Eskelsen:	Yes

Motion passes unanimously.

F. Comments

Mr. Eggett reminded the Planning Commission about the code changes regarding single-family and townhome subdivision approvals and said the first read of the new code will be on the next Planning Commission agenda, along with setting a public hearing. Changes concerning road width will be included as well. These updates are required to be completed by February 1st, 2024.

G. Adjournment

As there was no further business to discuss, Commissioner Noland moved to adjourn. This was seconded by Commissioner Hermann. All were in favor and the Planning Commission meeting adjourned at 7:05 p.m.

Date Approved: 12/12/2023

Staff Report

Body:	City Council
Date:	16 July 2024
Requested Action:	Panera Bread 4122 S Riverdale Rd, Ogden, UT 84405 **Site Plan Review and Approval**
Petitioner/Applicant:	Perigee Consulting (on behalf of Panera Bread) 9089 S 1300 W Suite 160 West Jordan, Utah 84088 801.910.3395 russell@pcivil.us
Department:	Community Development
Director:	Brandon Cooper
Staff/Presenter:	Brandon Cooper
Contact:	bcooper@riverdalecity.com

Description of Request

Panera Bread, represented by Russell Haight with Perigee Consulting, is seeking final site plan approval from the City Council for a restaurant site with drive-through services on real estate located at approximately 4122 South Riverdale Road (on the John Paras Furniture building lot site). The parcel is zoned in the Community Commercial (C-2) zone, which requires a conditional use permit approval for this type of use. The proposed project consists of an approximately 3,800 square foot building on 1.2 acres, with an associated drive-through and parking lot.

PROJECT INFORMATION

Background

The applicant seeks approval of a Commercial Site Plan to construct a 3,800 sq. ft. restaurant with drive-through building. The existing John Paras furniture building would be demolished, and all site improvements would be removed to make way for the proposed building.

Staff Report

The City performed 3 separate reviews of the project. The Riverdale City Planning Commission considered this final application on November 14, 2023, and made a recommendation of approval to the City Council. Below is a summary:

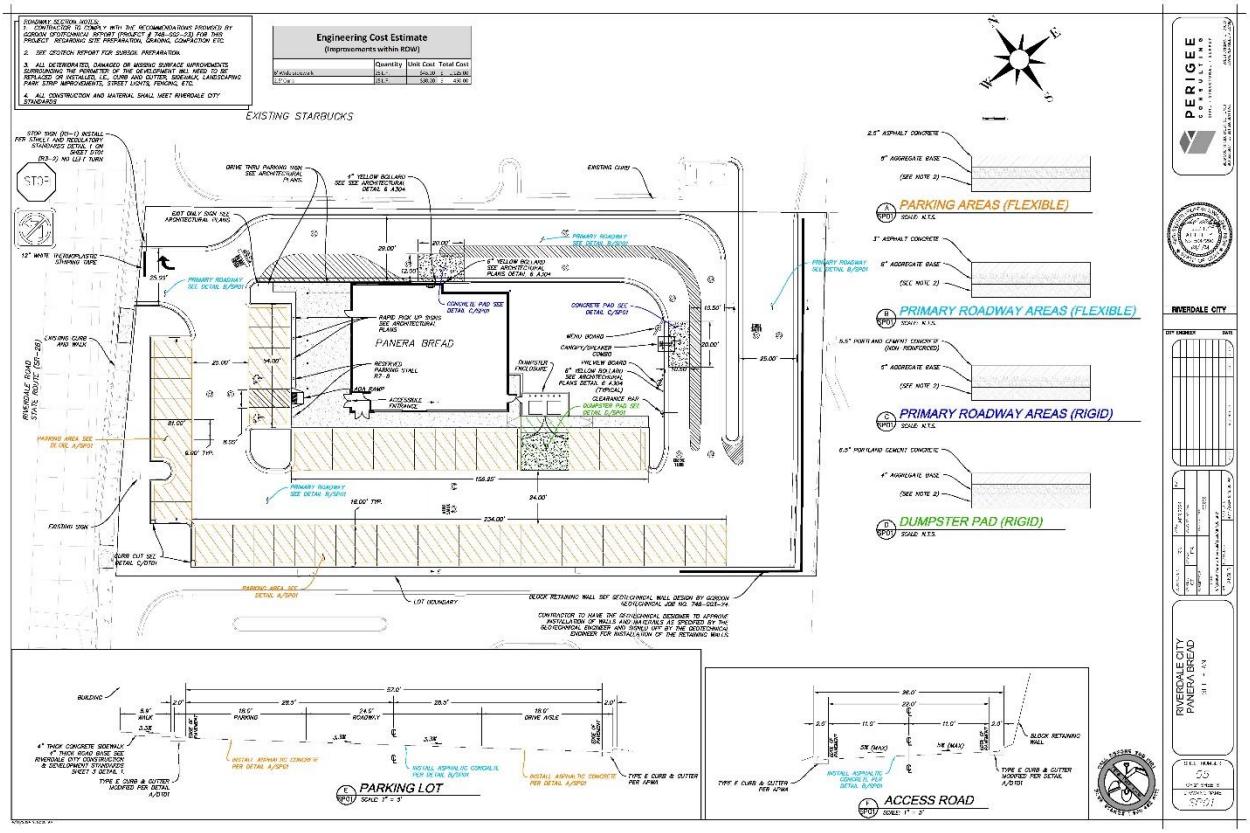
Original Submission: Site Plan – August 2023

Planning Commission: November 14, 2023
Result: Recommended Approval to City Council

City Council: July 16, 2024
Result: To be determined

Plan Review:
Review #1 – August 2023
Review #2 – November 2023
Review #3 – April 2024

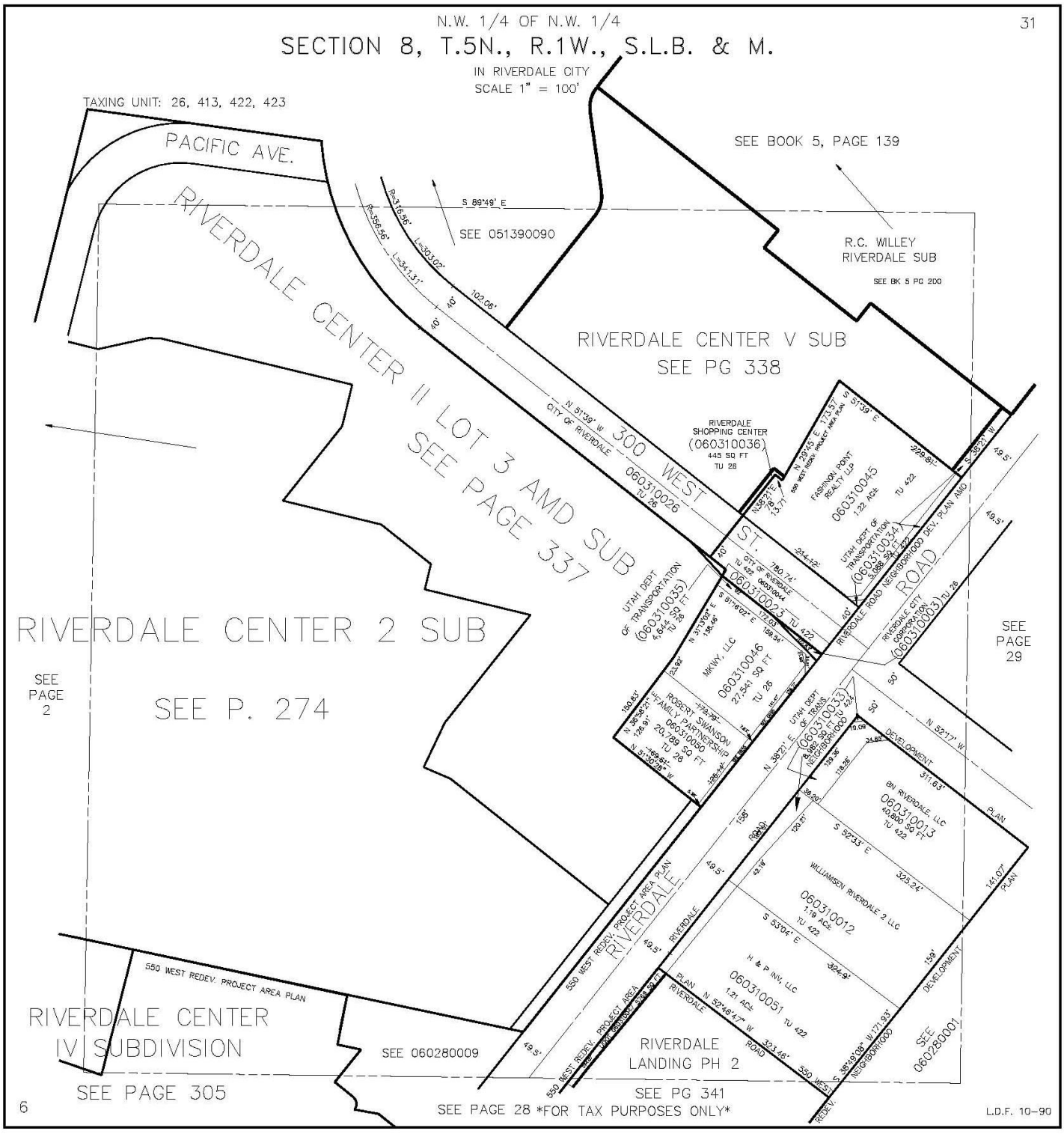
Proposed Site Plan



Existing Conditions



Existing Conditions cont'd



Existing Conditions cont'd

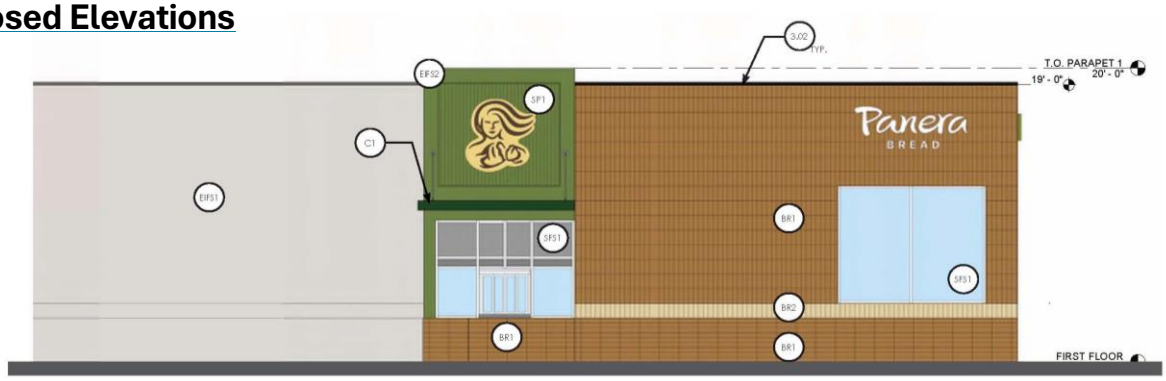




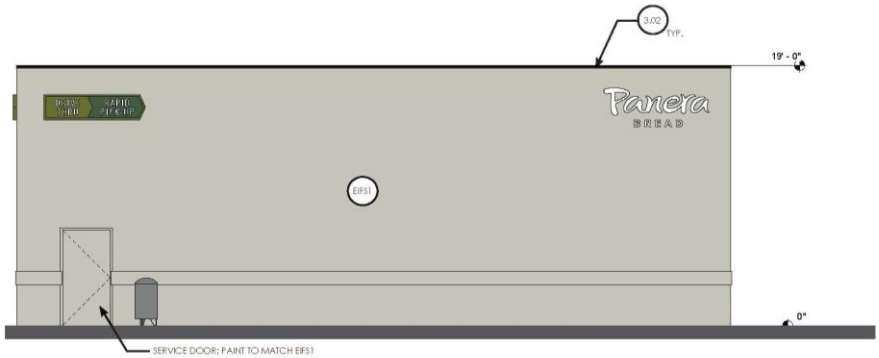
Existing Conditions cont'd



Proposed Elevations

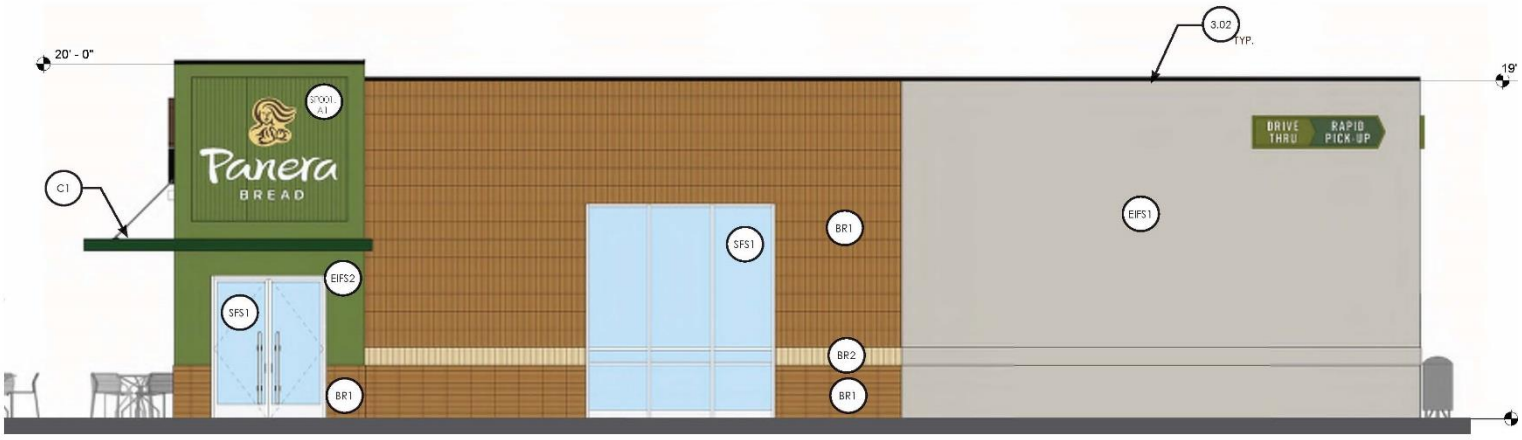


North Elevation

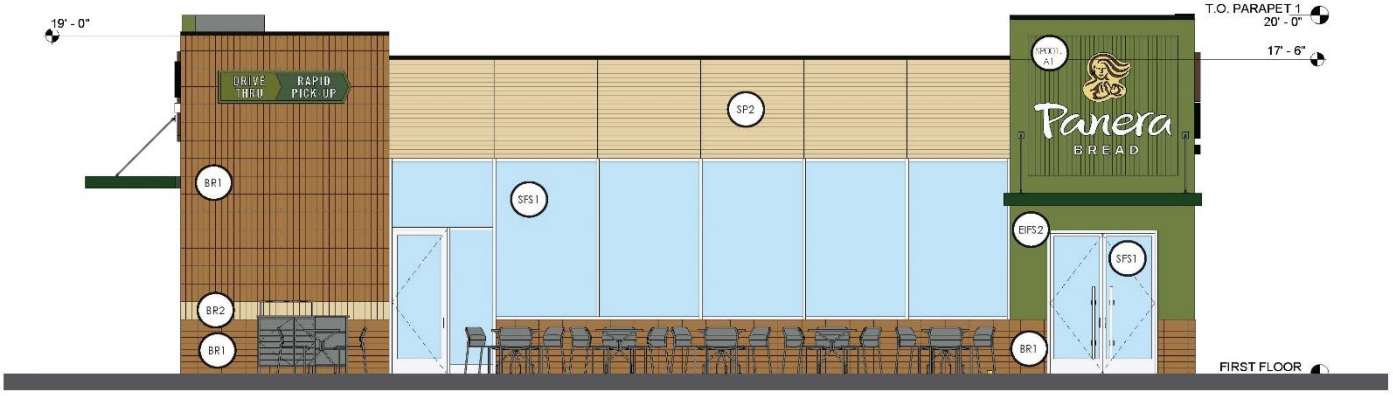


East Elevation

Proposed Elevations cont'd



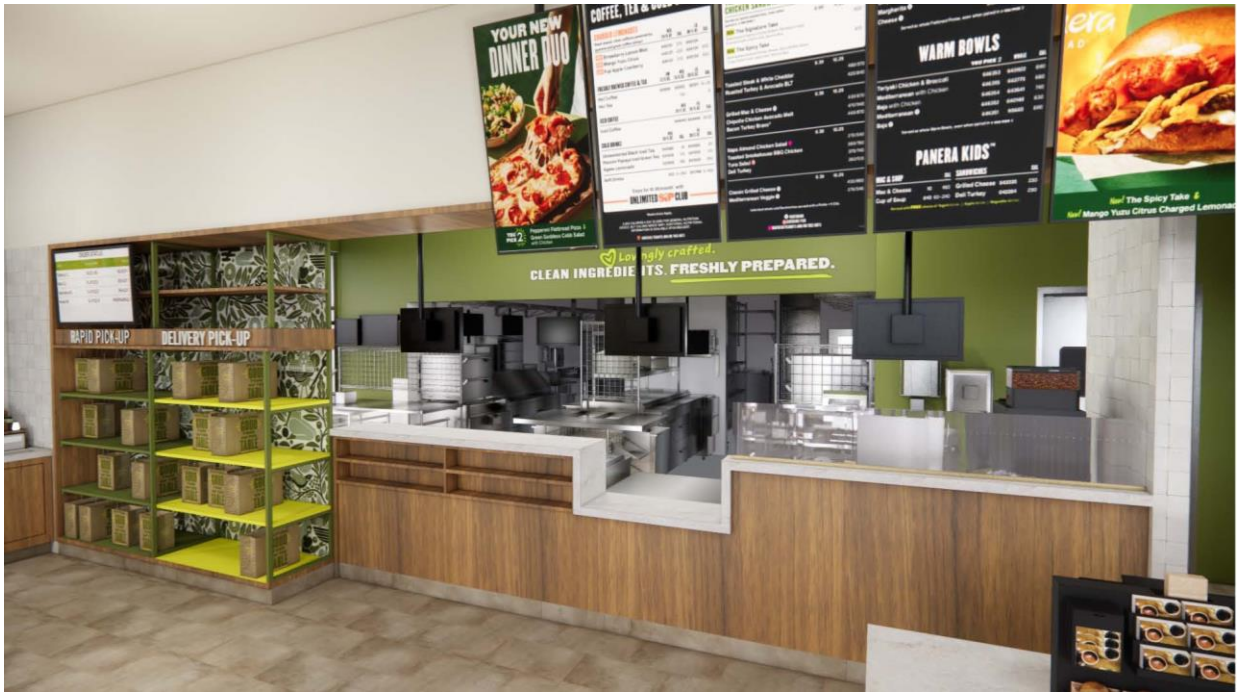
South Elevation



West Elevation

Proposed Interior





Proposed Interior cont'd





Analysis and Findings

Basis of Review for Site Plans *(RCC 10-25-1)*

The underlying purpose and intent of a site plan review and approval is to promote the health, safety, convenience, and general welfare of the inhabitants of the City in the matter of all proposed land developments, to encourage the healthful growth of the city and related matters affected by such developments. Any proposed development and its use shall be in the best interests of the public and shall be in harmony with the surrounding area and the developer shall present evidence to this effect.

Commercial Zones – C-2 *(RCC 10-10(A))*

1. *The purpose of the C-2 community commercial zone is to provide suitable areas for the location of the various types of commercial activity needed to serve the people and commerce of the city. It is also to separate into three (3) zones, uses based upon type of activity which are compatible and complementary, as well as intensity of land utilization and accessory use needs. (Ord. 860, 9-2-2014).*

   Analysis: Review of Site Development Standards, Special Regulations, Permitted Uses, traffic movement, harmonious and beneficial relations among buildings, height and bulk of buildings, and the harmonious relations between adjacent neighborhoods.

   Finding: Panera Bread has been approved to operate as a Conditional Use within the C-2 zone. The site plan proposal is comprised of a new building on a site once occupied by a furniture store. In recent years, this area has redeveloped into similar type buildings (i.e restaurants with drive-through). The site plan proposes to connect traffic flow to these similar uses on adjacent lots. The building size, shape, nature of the drive-through, and size/orientation of the parking lot is compatible and complementary to the surrounding area. The proposal satisfies this zoning standard, Staff determination: **Complies**

Development in All Zones *(RCC 10-25)*

1. *The underlying purpose and intent of this chapter is to promote the health, safety, convenience and general welfare of the inhabitants of the city in the matter of all proposed land developments, to encourage the healthful growth of the city and related matters affected by such developments.*

Analysis: Review of Preliminary Plan, proper submission and compliance to site plan standards checklist, review and action by Planning Commission, and review of Design Standards.

Finding: This application was received in August 2023. General review was conducted by the Riverdale City Community Development Director, Public Works Director, and the City's consulting engineer Civil Engineering Consultants (CEC). Comments were provided to the applicant's design team and revisions were made to the site plan. All City comments have been satisfied by the applicant and are reflected in the attached site plan presented for consideration.
Staff determination: **Complies**

Regulations Applicable to All Zones *(RCC 10-14)*

1. *The requirements of this title as to minimum site development standards shall not be construed to prevent a use as permitted in a respective zone of any parcel of land in the event such parcel was held in separate ownership prior to the effective date hereof. Each such parcel to be developed must have not less than sixteen feet (16') of frontage on a street, or as approved by the board of adjustment, and the density of development may not exceed that permitted by area requirements in the respective zone. (1985 Code § 19-3-2). The regulations hereinafter set forth in this chapter qualify or supplement, as the case may be, the zone regulations contained elsewhere in this title. (1985 Code § 19-3-1)*

Analysis: Review of Main Building Regulations, Yard Regulations, Height Regulations, and Non-Residential Landscape Requirements.

Finding: General review was conducted by the Riverdale City Community Development Director and the City's consulting engineer Civil Engineering Consultants (CEC). Comments were provided to the applicant's design team and revisions were made to the site plan. All City comments have been satisfied by the

applicant and are reflected in the attached site plan presented for consideration.
Staff determination: **Complies**

Parking, Loading Space, Vehicle Traffic, and Access (*RCC 10-15)*

1. *The purpose of this chapter is to regulate parking and loading spaces, vehicle traffic and access in order to provide orderly and adequate development of these needed amenities, and in so doing, promote the safety and well-being of the citizens of the city. Consequently, there shall be provided at the time of the erection of any main building or at the time any main building is enlarged or increased, minimum off street parking space with adequate provisions for ingress and egress by standard sized automobiles. (1985 Code § 19-4-1)*

Analysis: Review of Parking Spaces for Non-dwelling buildings, Parking Lot Design and Maintenance

Finding: General review was conducted by the Riverdale City Community Development Director. REQUIREMENT: *1 space per 100 square feet of floor space (38), but not less than 10 spaces, plus stacking capacity of 5 cars per delivery window on the property.* Comments were provided to the applicant's design team and revisions were made to the site plan. All City comments have been satisfied by the applicant and are reflected in the attached site plan presented for consideration.
Staff determination: **Complies**

Sign Regulations (*RCC 10-16)*

1. *The purpose of this chapter is to regulate size, type, location, height, maintenance, and interaction of all types of signage within the city.*

Analysis: Review of Parking Spaces for Non-dwelling buildings, Parking Lot Design and Maintenance

Finding: Future final pole sign height has not been determined. Maximum height is 40'. Signage shown to be located on the building is consistent with RCC 10-16-9.b.3. Requirements discussed in Development Review Committee.
Staff determination: **Complies**

Water and Sewer *(RCC Title 8)*

1. *The purpose of this title is to regulate all things associated with the delivery and use of water and sewer services within the city.*

Analysis: Review of various chapters within the title, including, but not limited to, Stormwater Management and Regulation Plan, Sewer Use and Service, Private Fire Protection, Transfer of Water Right

Finding: Based on a water use calculation provided by the applicant, it has been determined that the proposed site will use 3.31 acre feet of water per year. The fee for the applicant to purchase water through the City under its current contract with Weber Basin Water Conservancy is $22,405 per acre foot. This payment is required prior to the commencement of construction. General review was conducted by the Riverdale City Community Development Director, Riverdale City Public Works Director, and the City's consulting engineer Civil Engineering Consultants (CEC). Comments were provided to the applicant's design team and revisions were made to the site plan. All City comments have been satisfied by the applicant and are reflected in the attached site plan presented for consideration.
Staff determination: **Complies**

CONCLUSION

The applicant's site plan proposal of a 3,800 sq. ft restaurant building with a drive-through, including all associated site improvements, retaining walls, median, and cross access has been determined to promote the health, safety, convenience, and general welfare of the inhabitants of the City in a manner that encourages the healthful growth of the city. The proposed development

and its use has complied with all identified City comments, is determined to be in the best interests of the public, is in harmony with the surrounding area, and complies with associated local code requirements.

Staff recommends **APPROVAL** of the Panera Bread Site Plan

On November 14, 2023, the Planning Commission voted unanimously to recommend to the City Council **APPROVAL** of the Panera Bread Site Plan

Attachments

Application
Proposed Site Plan
Staff Comments
Engineer Letter
Drainage Conformance Letter
Stormwater Maintenance Plan
Site Plan Application
Retaining Wall Letter
ALTA Survey
UDOT Median
Water Calculations

Riverdale City

Community Development
4600 So. Weber River Drive
Riverdale, Utah 84405
Acct #10-34-1500

RIVERDALE CITY PLANNING COMMISSION
APPLICATION FOR COMMERCIAL OR MANUFACTURING
SITE PLAN APPROVAL

CASE NO: 2023-07 DATE SUBMITTED: 8/29/2023

APPLICANT'S NAME: Jed Atherley- Perigee Consulting

BUSINESS ADDRESS: 9089 S 1300 W Suite 160 West Jordan, UT 84088

BUSINESS PHONE: 801-910-3395

ADDRESS OF SITE: 4130 Riverdale Rd, Riverdale, UT 84405

APPLICANT'S INTEREST: Panera- Restaurant

Application is hereby made to the Riverdale City Planning Commission requesting that the following permitted use, be approved on 1.1 Acre (sq. ft./acreage) of property in the C-2 zone in accordance with the attached site plan.

Signature of Applicant

Signature of Property Owner

I authorize Jed Atherley to act as my representative in all matters relating to this application.

Signature of Property Owner

NOTE: A fee will be charged at the time the site plan is submitted for review - $400 per acre or portion of

Fee: $ 800.00 Date paid: 8/29/2023

Planning Commission set public hearing: Yes ☐ No ☑ Date of Public Hearing: N/A

Planning Commission scheduled to hear this application for site plan approval on:

Date: 9/12/2023 (Prelim.); 11/14/2023 (Final) Decision of Commission: Prelim approved;

City Council set public hearing: Yes ☐ No ☑ Date of Public Hearing: N/A

City Council scheduled to hear this application for site plan approval on:

Date: _____ Decision of Council: _____

RIVERDALE CITY CORPORATION
4600 SOUTH WEBER RIVER DRIVE
RIVERDALE UT 84405 394-5541

Receipt No: 15.557572 Aug 29, 2023

PERIGEE

Previous Balance:	.00
BUILDING PERMITS - BUILDING PERMIT 10-32-2100 BUILDING PERMITS	800.00
Total:	800.00
CHECK Check No: 2384	800.00
Total Applied:	800.00
Change Tendered:	.00

Duplicate Copy

08/29/2023 4:24 PM

PANERA BREAD
Commercial Development

4122 Riverdale Road
Riverdale, Utah 84408

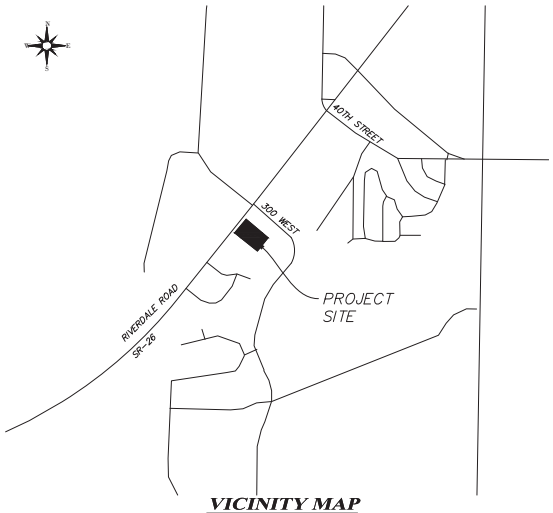
APRIL 11, 2024

CONTACT INFO

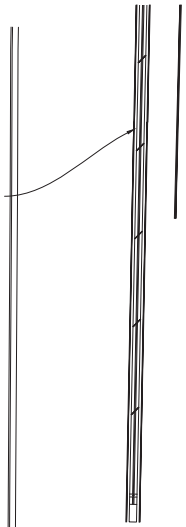
ENGINEER	LAND OWNER	FIRE DEPARTMNET
PERIGEE CONSULTING JED ATHERLEY 801.590.6611 JED@PERIGEECIVIL.COM	WILLIAMSEN RIVERDALE LLC THOM WILLIAMSON 801.364.2602 THOM@CHASEBROOKCO.COM 154 E. MYRTLE AVE. MURRAY, UTAH 84107	RIVERDALE CITY FIRE DEPARMTNET JARED SHOLLY 801.436.1241 RKOGER@RIVERDALECITY.COM
DEVLOPER	**APPROVING AGENCY**	**PUBLIC WORKS**
AMERICAN BREAD COMPANY, LLC PETER STRANG 216.401.0030 PETERS@STRANDCORP.COM 8905 LAKE AVENUE. CLEVELAND, OH 44102	RIVERDALE CITY. 4600 So. WEBER RIVER DRIVE. RIVERDALE, UTAH 84405	RIVERDALE CITY PUBLIC WORKS SHAWN DOUGLAS 801.394.5541 et 1217 SDOUGLAS@RIVERDALECITY.COM

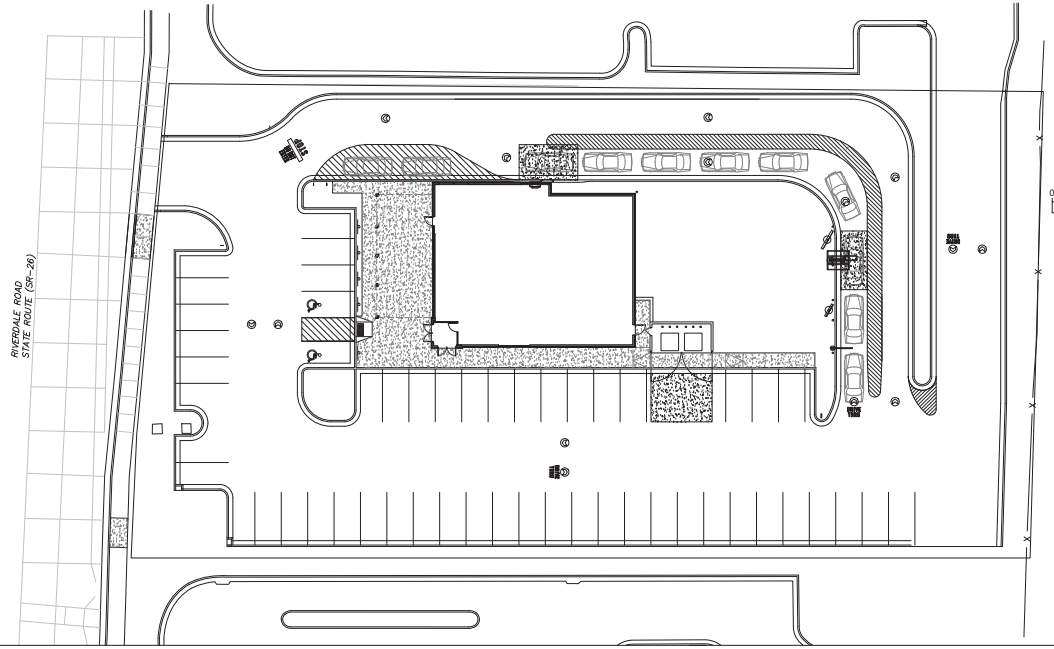
SHEET LIST TABLE

Sheet Number	Sheet Title	Sheet Description
01	TC01	COVER SHEET
02	ALTA	ALTA
03	TOPO	TOPO
04	DM01	DEMO SHEET
05	SP01	SITE PLAN
06	UT01	UTILITY PLAN
07	GR01	GRADING PLAN
08	DR01	DRAINAGE PLAN
09	PP01	PLAN & PROFILE – STORM DRAIN
10	PP02	PLAN & PROFILE – STORM DRAIN
11	EC01	EROSION CONTROL
12	DT01	DETAILS
13	DT02	DETAILS
14	DT03	DETAILS
15	DT04	DETAIL SHEET
16	LP–101	PLANTING PLAN
17	LP–501	PLANTING DETAILS
18	LI–101	IRRIGATION PLAN
19	LI–501	IRRIGATION DETAILS
20	LI–502	IRRIGATION DETAILS
21	E1.1	PHOTOMETRIC PLAN



VICINITY MAP
N.T.S.





UDOT GENERAL NOTES:

1. All construction within the UDOT right–of–way shall conform to the most current UDOT standard (including supplemental) drawings and specifications.
2. The contractor is to obtain an encroachment permit from the applicable UDOT Region Permit office prior to commencing work within UDOT right–of–way. Working hour limitations will be listed in the limitations section of the encroachment permit.
3. UDOT reserves the right, at its option, to install a raised median island or restrict the access to a right–in or right–out at any time.
4. Owner, developer, and contractor are responsible for any damages directly or indirectly within the UDOT right–of–way as a result of development activities.
5. Owner, developer, and/or contractor is required to hire an independent company for all testing within the UDOT right–of–way.
6. All signs installed on the UDOT right–of–way must be high intensity grade (Type XI sheeting) with a B3 slip base. Install all signs per UDOT SN series Standard Drawings.
7. Comply with the requirements of Utah Code 17–23–14 (Disturbed Corners – County surveyor to be notified – Coordination with certain state agencies).

4/11/2024 8:16:48 AM

PERIGEE CONSULTING
CIVIL & STRUCTURAL ENGINEERING
8989 SOUTH 1300 WEST, SUITE 100
SOUTH JORDAN, UT 84095
TEL: 801.590.6611
WEST JORDAN, UT 84088
WWW.PERIGEECIVIL.COM

REGISTERED PROFESSIONAL ENGINEER
JED T. ATHERLEY
No. 5047290
04/11/24
STATE OF UTAH

RIVERDALE CITY

CITY ENGINEER DATE

NO.	DESCRIPTION	DATE

DESIGNED BY: RN
DRAWN BY: CTL
CHECKED BY: JTA
APPROVED BY:
DATE: APR 2024
SUBMITTED BY:
FILE NAME: N:\20000 Panera Riverdale\Civil\PLOT TC01
SIZE: ANSI D
PLOTTED BY:
CONTRACT NO. 00000
PLOT DATE: 4/11/2024 8:16:48 AM
REV:

RIVERDALE CITY
PANERA BREAD
COVER SHEET

SHEET NUMBER
01
OF 21 SHEETS
DRAWING NAME
TC01

CALL BEFORE YOU DIG!
BLUE STAKES 1 800 662 4111

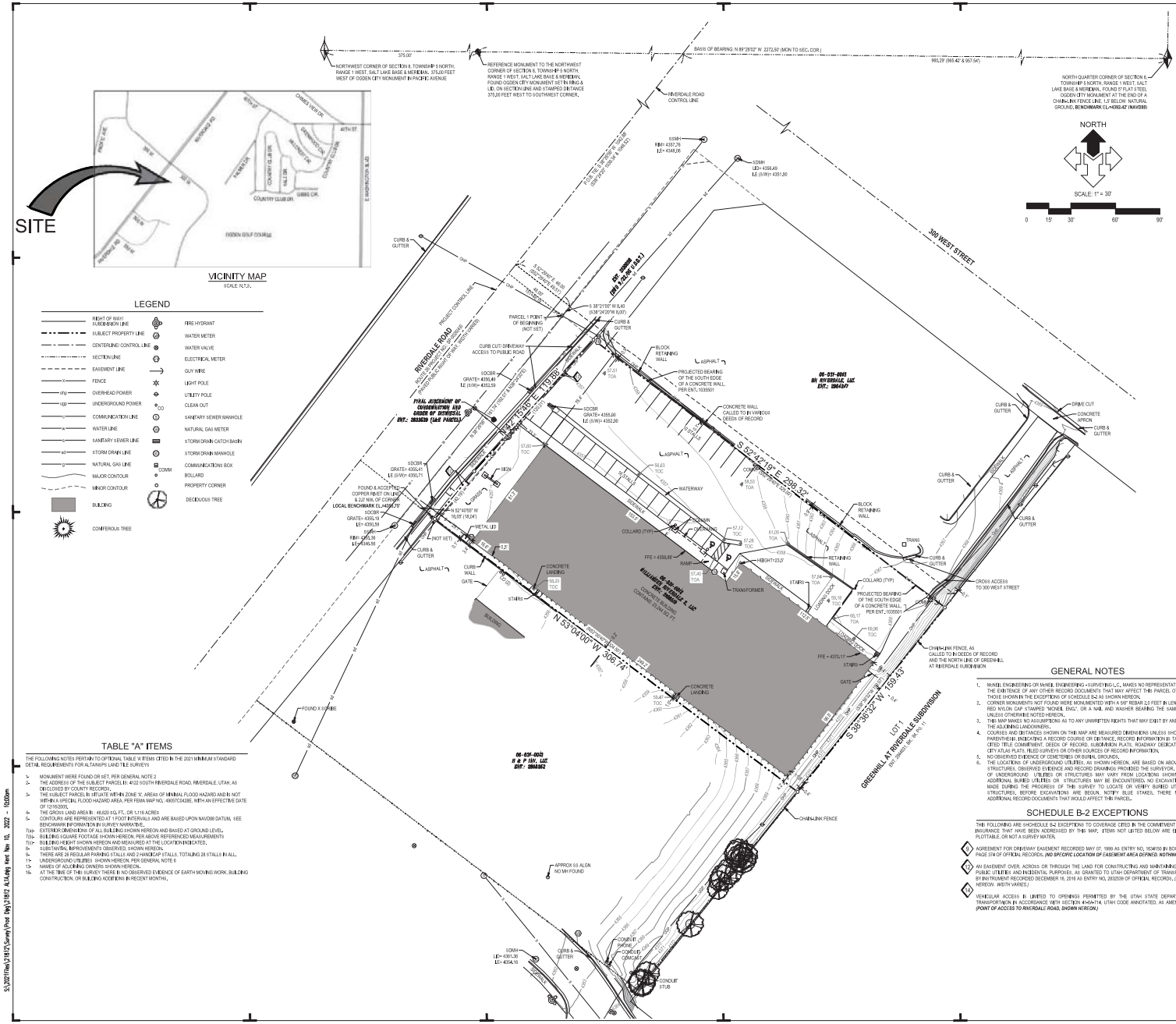


TABLE "A" ITEMS

THE FOLLOWING NOTES PERTAIN TO OPTIONAL TABLE A ITEMS CITED IN THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TILE SURVEYS

1. MONUMENT WERE FOUND OR SET, PER GENERAL NOTE 2
2. THE ADDRESS OF THE SUBJECT PARCEL IS: 4122 SOUTH RIVERDALE ROAD, RIVERDALE, UTAH, AS DISCLOSED BY COUNTY RECORDS.
3. THE SUBJECT PARCEL IS: LIE LATE WITHIN ZONE 'X', AREAS OF MINIMAL FLOOD HAZARD AND IS NOT WITHIN A SPECIAL FLOOD HAZARD AREA, PER FEMA MAP NO. 49057C0428E, WITH AN EFFECTIVE DATE OF 12/16/2005.
4. THE GROSS LAND AREA IS: 48,600 SQ. FT., OR 1.116 ACRES
5. CONTOURS ARE REPRESENTED AT 1 FOOT INTERVALS AND ARE BASED UPON NAVD88 DATUM. SEE BENCHMARK INFORMATION IN SURVEY NARRATIVE.
7(a) EXTERIOR DIMENSIONS OF ALL BUILDING SHOWN HEREON AND BASED AT GROUND LEVEL.
7(b) BUILDING SQUARE FOOTAGE SHOWN HEREON, PER ABOVE REFERENCED MEASUREMENTS
7(c) BUILDING HEIGHT SHOWN HEREON AND MEASURED AT THE LOCATION INDICATED.
8. SUBSTANTIAL IMPROVEMENTS OBSERVED, SHOWN HEREON.
9. THERE ARE 26 REGULAR PARKING STALLS AND 2 HANDICAP STALLS, TOTALING 28 STALLS IN ALL.
11. UNDERGROUND UTILITIES SHOWN HEREON, PER GENERAL NOTE 6
13. NAMES OF ADJOINING OWNERS SHOWN HEREON.
16. AT THE TIME OF THIS SURVEY THERE IS NO OBSERVED EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS IN RECENT MONTHS.

GENERAL NOTES

1. MCNEIL ENGINEERING OR MCNEIL ENGINEERING - SURVEYING L.C., MAKES NO REPRESENTATIONS AS TO THE EXISTENCE OF ANY OTHER RECORD DOCUMENTS THAT MAY AFFECT THIS PARCEL OTHER THAN THOSE SHOWN IN THE EXCEPTIONS OF SCHEDULE B-2 AS SHOWN HEREON.
2. CORNER MONUMENTS NOT FOUND WERE MONUMENTED WITH A 5/8" REBAR 2.0 FEET IN LENGTH AND A RED NYLON CAP STAMPED "MCNEIL ENGR. OR A NAIL AND WASHER BEARING THE SAME INSIGNIA, UNLESS OTHERWISE NOTED HEREON.
3. THIS MAP MAKES NO ASSUMPTIONS AS TO ANY UNWRITTEN RIGHTS THAT MAY EXIST BY AND BETWEEN THE ADJOINING LANDOWNERS.
4. COURSES AND DISTANCES SHOWN ON THIS MAP ARE MEASURED DIMENSIONS UNLESS SHOWN WITHIN PARENTHESIS, INDICATING A RECORD COURSE OR DISTANCE. RECORD INFORMATION IS TAKEN FROM CITED TITLE COMMITMENT, DEEDS OF RECORD, SUBDIVISION PLATS, ROADWAY DEDICATION PLATS, CITY ATLAS PLATS, FILED SURVEYS OR OTHER SOURCES OF RECORD INFORMATION.
5. NO OBSERVED EVIDENCE OF CEMETERIES OR BURIAL GROUNDS.
6. THE LOCATIONS OF UNDERGROUND UTILITIES, AS SHOWN HEREON, ARE BASED ON ABOVE-GROUND STRUCTURES, OBSERVED EVIDENCE AND RECORD DRAWINGS PROVIDED THE SURVEYOR. LOCATIONS OF UNDERGROUND UTILITIES OR STRUCTURES MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES OR STRUCTURES MAY BE ENCOUNTERED, NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE OR VERIFY BURIED UTILITIES OR STRUCTURES. BEFORE EXCAVATIONS ARE BEGUN, NOTIFY BLUE STAKES, THERE MAY EXIST ADDITIONAL RECORD DOCUMENTS THAT WOULD AFFECT THIS PARCEL.

SCHEDULE B-2 EXCEPTIONS

THE FOLLOWING ARE SCHEDULE B-2 EXCEPTIONS TO COVERAGE CITED IN THE COMMITMENT FOR TITLE INSURANCE THAT HAVE BEEN ADDRESSED BY THIS MAP. ITEMS NOT LISTED BELOW ARE EITHER NOT PLOTTABLE, OR NOT A SURVEY MATER

(1) AGREEMENT FOR DRIVEWAY EASEMENT RECORDED MAY 07, 1999 AS ENTRY NO. 1634150 IN BOOK 2010 AT PAGE 374 OF OFFICIAL RECORDS. *(NO SPECIFIC LOCATION OF EASEMENT AREA DEFINED. NOTHING SHOWN.)*

(2) AN EASEMENT OVER, ACROSS OR THROUGH THE LAND FOR CONSTRUCTING AND MAINTAINING THEREON PUBLIC UTILITIES AND INCIDENTAL PURPOSES, AS GRANTED TO UTAH DEPARTMENT OF TRANSPORTATION BY INSTRUMENT RECORDED DECEMBER 16, 2016 AS ENTRY NO. 2932539 OF OFFICIAL RECORDS, (AS SHOWN HEREON. WIDTH VARIES.)

(3) VEHICULAR ACCESS IS LIMITED TO OPENINGS PERMITTED BY THE UTAH STATE DEPARTMENT OF TRANSPORTATION IN ACCORDANCE WITH SECTION 41-6A-714, UTAH CODE ANNOTATED, AS AMENDED 2005. *(POINT OF ACCESS TO RIVERDALE ROAD, SHOWN HEREON.)*

SURVEYOR'S CERTIFICATE

TO WILLIAMBEB RIVERDALE 2,LLC, FIRST AMERICAN TITLE INSURANCE COMPANY, AMERICAN BREAD COMPANY LLC :

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS. JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS: 1, 2, 3, 4, 5, 7(a), 7(b), 8, 9, 11, 13, & 16. OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON DECEMBER 30, 2021

16TH day of 2022

DENNIS K. WITHERS
LICENSE NO.: 8136190

DESCRIPTION PER ENT,: 3188519

A PART OF THE NORTHWEST QUARTER OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN, U.S. SURVEY:

BEGINNING 665.40 FEET (657.54 ORIGINAL DEED) NORTH 89°28'02" WEST (STATE PLANE) ALONG THE SECTION LINE: 1018.24 FEET (1006.53 ORIGINAL DEED) SOUTH 38°24'20" WEST ALONG THE CENTERLINE OF RIVERDALE ROAD, 49.51 FEET (49.02 ORIGINAL DEED) SOUTH 52°29'40" EAST AND 8.00 FEET SOUTH 38°24'20" WEST FROM THE NORTHEAST CORNER OF SAID QUARTER SECTION AND RUNNING THENCE SOUTH 52°29'40" EAST 325.00 FEET TO A FENCE; THENCE SOUTH 38°36'32" WEST 159.07 FEET ALONG SAID FENCE TO THE LOCATION OF A FENCE IN 1977; THENCE NORTH 53°09'00" WEST 324.90 FEET ALONG SAID FENCE AS LOCATED IN 1977 TO THE EASTERLY LINE OF RIVERDALE ROAD; THENCE NORTH 38°24'20" EAST 162.00 FEET ALONG SAID EASTERLY LINE TO THE POINT OF BEGINNING.

LESS AND EXCEPTING THAT PORTION OF LAND AS SET FROTH IN FINAL ORDER OF CONDEMNATION RECORDED DECEMBER 16, 2016 AS ENTRY NO. 2932539 OF OFFICIAL RECORDS.

A PARCEL OF LAND IN FEE, BEING A PART OF AN ENTIRE TRACT OF PROPERTY, SITUATE IN THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN, THE BOUNDARIES OF SAID PARCEL OF LAND ARE DESCRIBED AS FOLLOWS:

BEGINNING AT THE INTERSECTION OF THE NORTHERLY BOUNDARY LINE OF SAID ENTIRE TRACT AND THE SOUTHEASTERLY RIGHT OF WAY LINE OF THE EXISTING HIGHWAY STATE ROUTE 26; SAID INTERSECTION IS 994.45 FEET (995.42 FEET BY RECORD) NORTH 89°28'02" WEST ALONG THE SECTION LINE AND 1042.28 FEET SOUTH 38°28'56" WEST (1039.24 FEET SOUTH 38°24'20" WEST BY RECORD) AND 49.21 FEET SOUTH 52°29'40" EAST AND 8.00 FEET SOUTH 38°28'56" WEST (SOUTH 38°24'20" WEST BY RECORD) FROM THE NORTHEAST CORNER OF SAID QUARTER SECTION, SAID INTERSECTION ALSO 49.00 FEET PERPENDICULARLY DISTANT SOUTHEASTERLY FROM THE CONTROL LINE OF SAID PROJECT (F-0020(4)) OPPOSITE APPROXIMATE ENGINEER'S STATION 151+46.19 AND RUNNING THENCE SOUTH 52°33'58" EAST (SOUTH 52°29'40" EAST BY RECORD) 26.88 FEET ALONG SAID NORTHERLY BOUNDARY LINE TO A POINT 72.87 FEET PERPENDICULARLY DISTANT SOUTHEASTERLY FROM SAID CONTROL LINE; THENCE SOUTH 16°42'19" WEST 120.21 FEET TO A POINT 66.88 FEET PERPENDICULARLY DISTATN SOUTHEASTERLY FROM SAID CONTROL LINE OPPOSITE ENGINEER'S STATION 153+00.72; THENCE SOUTH 38°36'32" WEST 42.69 FEET TO THE SOUTHERLY BOUNDARY LINE OF SAID ENTIRE TRACT AT A POINT 64.23 FEET PERPENDICULARLY DISTANT SOUTHEASTERLY FROM SAID CONTROL LINE; THENCE NORTH 52°40'55" WEST (NORTH 53°00'40" WEST BY RECORD) 19.24 FEET ALONG SAID SOUTHERLY BOUNDARY LINE TO SAID SOUTHEASTERLY RIGHT OF WAY LINE; THENCE NORTH 38°28'56" EAST (NORTH 38°24'20" EAST BY RECORD) 162.01 FEET ALONG SAID RIGHT OF WAY LINE TO THE POINT OF BEGINNING. (NOTE ROTATE ALL BEARING IN THE ABOVE DESCRIBED 0°20'04" COUNTERCLOCKWISE TO OBTAIN HIGHWAY BEARINGS)

A PERPETUAL, NON-EXCLUSIVE EASEMENT FOR VEHICULAR INGRESS, EGRESS OVER AND ACROSS AS DISCLOSED IN AGREEMENT FOR DRIVEWAY EASEMENT RECORDED MAY 07, 1999 AS ENTRY NO. 1634150 IN BOOK 2010 AT PAGE 374 OF OFFICIAL RECORDED IN THE OFFICE OF THE WEBER COUNTY RECORDER, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEASTERLY LINE OF A 99 FOOT ROAD (RIVERDALE ROAD), SAID POINT BEING ALSO SOUTH 728.40 FEET AND WEST 1875.72 FEET AND SOUTH 38°21' WEST 30.63 FEET FROM THE NORTHEAST CORNER OF THE NORTHWEST QUARTER OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN, U.S. SURVEY, RUNNING THENCE SOUTH 38°21' WEST 121.26 FEET ALONG THE SOUTHEASTERLY LINE OF SAID 99 FEET ROAD; THENCE SOUTH 52°04' EAST 325.30 FEET ALONG AN EXISTING FENCE LINE; THENCE NORTH 38°21' EAST 130.1 4FEET ALONG AN EXISTING FENCE LINE TO THE SOUTHWESTERLY LINE OF SAID 160 FOOT ROAD; THENCE SOUTH 83°02' WEST 19.26 FEET TO THE POINT OF BEGINNING.

ALSO PART OF THE NORTHWEST QUARTER OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN, U.S. SURVEY

BEGINNING AT A POINT ON THE EASTERLY LINE OF RIVERDALE ROAD, SAID POINT BEING 907.54 FEET NORTH 89°54' WEST ALONG THE SECTION LINE, 1046.52 FEET SOUTH 38°21' WEST ALONG THE CENTERLINE OF RIVERDALE ROAD AND 49.52 FEET SOUTH 52°04' EAST FROM THE NORTHEAST CORNER OF SAID NORTHWEST QUARTER, RUNNING THENCE SOUTH 52°04' EAST 325.30 FEET TO AN EXISTING 6 FOOT CHAIN LINK FENCE; THENCE SOUTH 38°21' WEST ALONG SAID FENCE TO A POINT IN LINE WITH THE SOUTH EDGE OF AN EXISTING CONCRETE WALL; THENCE NORTH 52°33' WEST 325.24 FEET ALONG THE SOUTHERLY EDGE OF SAID WALL AND WALL EXTENDED TO THE EASTERLY LINE OF RIVERDALE ROAD; THENCE NORTH 38°21' EAST 6.3 FEET ALONG SAID EASTERLY LINE TO THE POINT OF BEGINNING.

SURVEY NARRATIVE

THIS ALTA NSPS LAND TITLE SURVEY WAS PREPARED AT THE REQUEST OF THE CHASEBROOK COMPANY, FOR THE PURPOSES OF RETRACING THE HEREON DESCRIBED PARCEL OF LAND AN EVALUATING SCHEDULE B-2 EXCEPTIONS TO COVERAGE CITED IN THE COMMITMENT FORT TITLE INSURANCE.

THE BASIS OF BEARING FOR THIS SURVEY IS NORTH 89°28'02" WEST, ALONG THE NORTH LINE OF OF THE NORTHWEST QUARTER OF SECTION 08, BETWEEN WEBER COUNTY MONUMENT FOUND MARKING THE NORTH QUARTER CORNER AND THE WITNESS CORNER TO THE NORTHWEST CORNER OF SECTION 08, TOWNSHIP 5 NORTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN, AS SHOWN HEREON.

DEEDS OF RECORD CONTAIN MANY AMBIGUOUS TIES FROM THE NORTH QUARTER CORNER, HOWEVER, THE INTENT SEEMS TO BE ALONG THE SECTION LINE, TO A POINT OF INTERSECTION WITH THE CENTER OF RIVERDALE ROAD, THE SURVEY USES THE RIVERDALE ROAD CONTROL LINE, DPICTED IN UDOT RIGHT OF WAY PLANS UNDER PROJECT NO.: 8FA-0026(4)0, MEASURED TIES TO THE POINT OF BEGINNING ARE SHOWN HEREON.

THE NORTHERLY LINE WAS ESTABLISHED ALONG THE MEASURED BEARING OF THE SOUTH EDGE OF A CONCRETE WALL, PER OPERATIVE LANGUAGE WITHIN DEEDS OF RECORD, WHICH LANGUAGE WAS OMITTED FROM MORE RECENT VESTING DEEDS OF THE NORTHERLY ADJOINING PARCEL, SEE QUIT-CLAIM DEED RECORDED ON JANUARY 11, 1988, BETWEEN EARL F. HILL (PREDECESSOR IN TITLE TO THE SUBJECT PARCEL) AND KAR KWIK, INC., RECORDED AS ENTRY NO.: 1005501. THE SUBJECT PARCEL IS JUNIOR TO THE PARCEL ADJOINING TO THE NORTHEAST, WITH THE CONCRETE WALL AND PROJECTED BEARING BEING THE LINE OF ORIGINAL CONVEYANCE.

THE EASTERLY LINE OF THE SUBJECT PARCEL WAS HELD ALONG THE WESTERLY LINE OF THE GREENHILL AT RIVERDALE SUBDIVISION, RECORDED AS ENTRY NO.: 2444631, IN BOOK 94, AT PAGE 11, WHICH RECORD LINE MATCHES AN EXISTING CHAIN-LINK FENCE LINE. AS REFERENCED VARIOUS DEEDS OF RECORD IN THE AREA.

A COPPER RIVET SET IN THE CONCRETE SIDEWAY WAS FOUND AND ACCEPTED AS MARKING THE SOUTHERLY LINE OF THE SUBJECT PARCEL, FROM THIS POINT A RECORD BEARING OF SOUTH 53°04'00" EAST, WAS PROJECTED TO THE NORTHWESTERLY LINE OF THE GREENHILL AT RIVERDALE SUBDIVISION AND SHORTENED TO MATCH THE SOUTHEASTERLY LINE AS DESCRIBED IN THAT CERTAIN FINAL JUDGEMENT OF CONDEMNATION AND ORDER OF DISMISSAL, RECORD AS ENTRY NO.: 2883/20.

THE WESTERLY LINE OF THE SUBJECT PARCEL WAS HELD COINCIDENT WITH THE EASTERLY LINE OF RIVERDALE ROAD, PER UDOT, RIGHT-OF-WAY PLAN AND THE ABOVE REFERENCED JUDGEMENT OF CONDEMNATION AND ORDER OF DISMISSAL, RECORD AS ENTRY NO.: 2883/20.

TITLE INFORMATION

THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY THE SURVEYOR. ALL INFORMATION REGARDING RECORD EASEMENTS, ADJOINERS AND OTHER DOCUMENTS THAT MIGHT AFFECT THE QUANLITY OF TITLE TO TRACT SHOWN HEREON WAS GAINED FROM TITLE COMMITMENT NO: 0654127196 PREPARED BY FIRST AMERICAN TITLE INSURANCE COMPANY, EFFECTIVE DATE: OCTOBER 5TH 2021, AT 2:50 PM.

SIGNIFICANT OBSERVATIONS

NONE OBSERVED

McNEIL ENGINEERING
Professional Land Surveying • Civil Engineering • Landscape Architecture
Structural Engineering • Land Surveying & HDS
8770 South Sandy Parkway, Suite 200 Sandy, Utah 84070 (801)255-0529 www.mcneilengineering.com

RIVERDALE SUBDIVISION

4130 RIVERDALE RD.
OGDEN, UTAH
LOCATED IN THE NORTHWEST 1/4 OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 1 WEST, S.L.B.& M.

REVISIONS			
REV	DATE	DESCRIPTION	
1	2/01/22	RELEASE DRAFT COPY	
2	11/30/22	RELEASE TO CLIENT FORMINAL DRAFT	

PROJECT NO:	21812
CAD FILE:	21812 ALTA
DRAWN BY:	HMW
CALC BY:	DKW
FIELD CREW:	FIELD CREW
CHECKED BY:	CHECKED
DATE:	10/04/2022

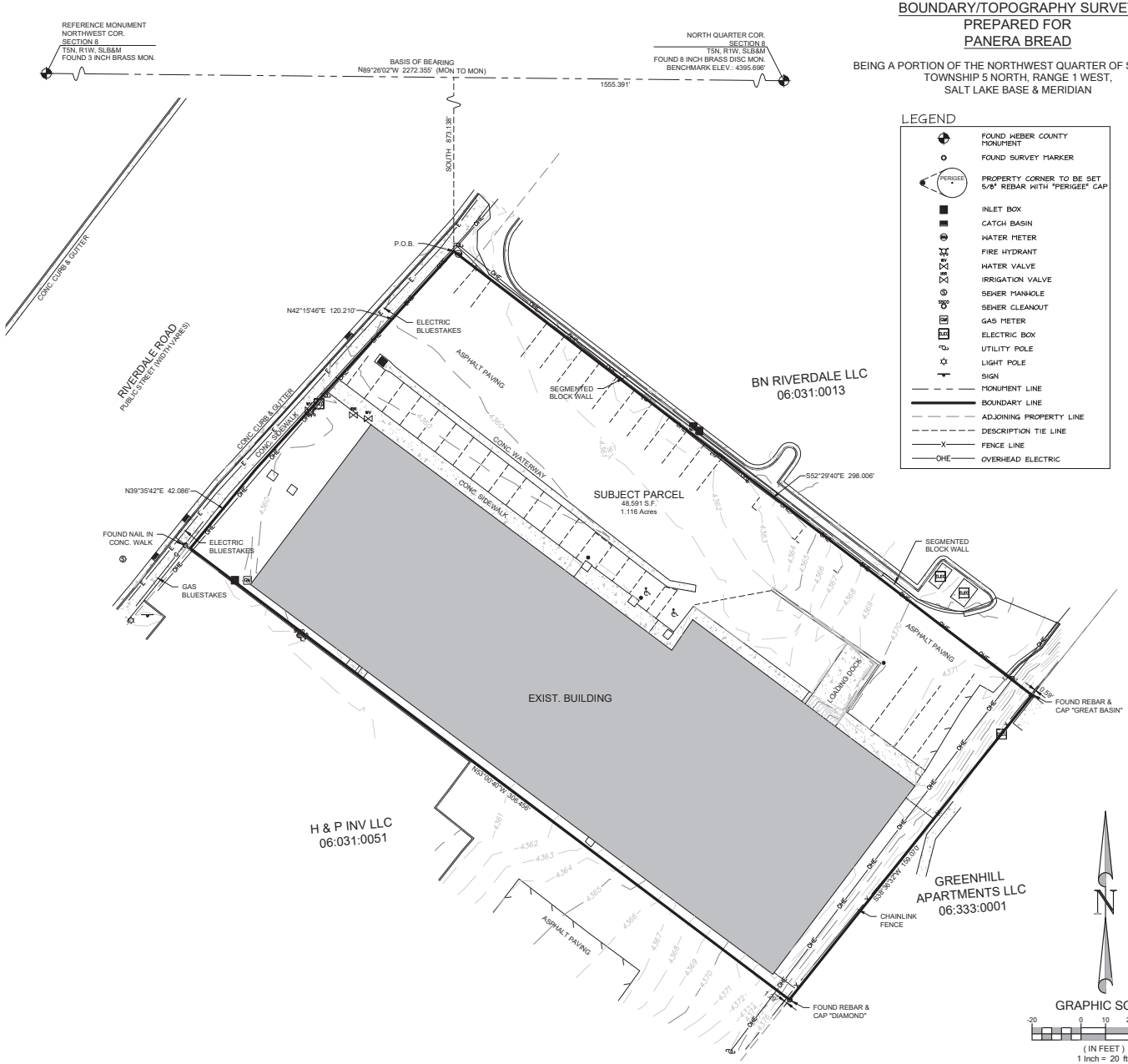
ALTA/NSPS LAND TITLE SURVEY

1 OF 1

S:\2021\Proj\21812\Survey\Prod Dwg\21812 ALTA.dwg Nov 10, 2022 - 10:00am

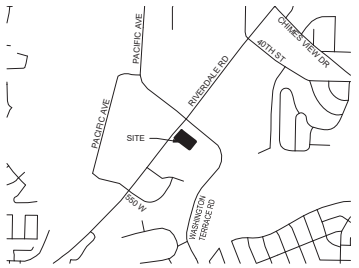
BOUNDARY/TOPOGRAPHY SURVEY
PREPARED FOR
PANERA BREAD

BEING A PORTION OF THE NORTHWEST QUARTER OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 1 WEST, SALT LAKE BASE & MERIDIAN



LEGEND

- FOUND WEBER COUNTY MONUMENT
- FOUND SURVEY MARKER
- PROPERTY CORNER TO BE SET 5/8" REBAR WITH "PERIGEE" CAP
- INLET BOX
- CATCH BASIN
- WATER METER
- FIRE HYDRANT
- WATER VALVE
- IRRIGATION VALVE
- SEWER MANHOLE
- SEWER CLEANOUT
- GAS METER
- ELECTRIC BOX
- UTILITY POLE
- LIGHT POLE
- SIGN
- MONUMENT LINE
- BOUNDARY LINE
- ADJOINING PROPERTY LINE
- DESCRIPTION TIE LINE
- FENCE LINE
- OHE — OVERHEAD ELECTRIC



VICINITY MAP
N.T.S.

AS-PROVIDED DESCRIPTION

A PART OF THE NORTHWEST QUARTER OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN, U.S. SURVEY:

BEGINNING 965.42 FEET (957.54 ORIGINAL DEED) NORTH 89°26'02" WEST (STATE PLANE) ALONG THE SECTION LINE; 1039.34 FEET (1048.52 ORIGINAL DEED) SOUTH 38°24'20" WEST ALONG THE CENTERLINE OF RIVERDALE ROAD; 49.51 FEET (49.52 ORIGINAL DEED) SOUTH 52°29'40" EAST AND 8.00 FEET SOUTH 38°24'20" WEST FROM THE NORTHEAST CORNER OF SAID QUARTER SECTION; AND RUNNING THENCE SOUTH 52°29'40" EAST 325.00 FEET TO A FENCE; THENCE SOUTH 38°36'32" WEST 159.07 FEET ALONG SAID FENCE TO THE LOCATION OF A FENCE IN 1977; THENCE NORTH 53°00'40" WEST 324.50 FEET ALONG SAID FENCE AS LOCATED IN 1977 TO THE EASTERLY LINE OF RIVERDALE ROAD; THENCE NORTH 38°24'20" EAST 162.00 FEET ALONG SAID EASTERLY LINE TO THE POINT OF BEGINNING.

LESS AND EXCEPTING THAT PORTION OF LAND AS SET FORTH IN FINAL ORDER OF CONDEMNATION RECORDED DECEMBER 16, 2016 AS ENTRY NO. 2832539 OF OFFICIAL RECORDS.

A PARCEL OF LAND IN FEE, BEING A PART OF AN ENTIRE TRACT OF PROPERTY, SITUATE IN THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN. THE BOUNDARIES OF SAID PARCEL OF LAND ARE DESCRIBED AS FOLLOWS:

BEGINNING AT THE INTERSECTION OF THE NORTHERLY BOUNDARY LINE OF SAID ENTIRE TRACT AND THE SOUTHEASTERLY RIGHT-OF-WAY LINE OF THE EXISTING HIGHWAY STATE ROUTE 26, SAID INTERSECTION IS 964.45 FEET (965.42 FEET BY RECORD) NORTH 89°26'02" WEST ALONG THE SECTION LINE AND 1042.88 FEET SOUTH 38°26'56" WEST, (1039.34 FEET SOUTH 38°24'20" WEST BY RECORD) AND 49.51 FEET SOUTH 52°29'40" EAST AND 8.00 FEET SOUTH 38°26'56" WEST (SOUTH 38°24'20" WEST BY RECORD) FROM THE NORTHEAST CORNER OF SAID QUARTER SECTION, SAID INTERSECTION IS ALSO 46.00 FEET PERPENDICULARLY DISTANT SOUTHEASTERLY FROM THE CONTROL LINE OF SAID PROJECT SP-0026(4)0 OPPOSITE APPROXIMATE ENGINEER STATION 151+46.19, AND RUNNING THENCE SOUTH 52°33'08" EAST (SOUTH 52°29'40" EAST BY RECORD) 26.88 FEET ALONG SAID NORTHERLY BOUNDARY LINE TO A POINT 72.87 FEET PERPENDICULARLY DISTANT SOUTHEASTERLY FROM SAID CONTROL LINE; THENCE SOUTH 42°15'46" WEST 120.21 FEET TO A POINT 64.88 FEET PERPENDICULARLY DISTANT SOUTHEASTERLY FROM SAID CONTROL LINE OPPOSITE ENGINEER STATION 150+26.72; THENCE SOUTH 39°35'42" WEST 42.19 FEET TO THE SOUTHERLY BOUNDARY LINE OF SAID ENTIRE TRACT AT A POINT 64.03 FEET PERPENDICULARLY DISTANT SOUTHEASTERLY FROM SAID CONTROL LINE; THENCE NORTH 52°40'35" WEST (NORTH 53°00'40" WEST BY RECORD) 18.04 FEET ALONG SAID SOUTHERLY BOUNDARY LINE TO SAID SOUTHEASTERLY RIGHT OF WAY LINE; THENCE NORTH 38°26'56" EAST (NORTH 38°24'20" EAST BY RECORD) 162.01 FEET ALONG SAID RIGHT OF WAY LINE TO THE POINT OF BEGINNING.

(NOTE: ROTATE ALL BEARINGS IN THE ABOVE DESCRIPTION 0°00'24" COUNTERCLOCKWISE TO OBTAIN HIGHWAY BEARINGS.)

NARRATIVE:

THE PURPOSE OF THIS SURVEY IS TO ESTABLISH ON THE GROUND THE HEREON DESCRIBED TRACT OF LAND FOR FUTURE CONSTRUCTION.

BASIS OF BEARINGS IS NORTH 89°26'02" WEST 2272.355 FEET BETWEEN THE NORTH QUARTER CORNER AND THE REFERENCE MONUMENT TO THE NORTHWEST CORNER OF SECTION 8, T5N, R1W, SALT LAKE BASE & MERIDIAN

SURVEYOR'S CERTIFICATE

I, Eric D. Robins, depose and say that I am a Professional Land Surveyor as prescribed by Utah State Law and that I hold certificate no. 5152671. I further state that the property described above was surveyed under my direct supervision and the results of that survey are depicted hereon.

GRAPHIC SCALE

-20 0 10 20 40

(IN FEET)
1 Inch = 20 ft.

5152671 ERIC D. ROBINS 12/6/24 STATE OF UTAH

ERIC D. ROBINS P.L.S. 5152671
STATE OF UTAH
PERIGEE CONSULTING
9089 SOUTH 1300 WEST SUITE 160
WEST JORDAN, UTAH 84088

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CITY ENGINEER DATE

NO.	DATE	DESCRIPTION	BY

DESIGNED BY: MB
DRAWN BY:
CHECKED BY:
SUBMITTED BY:
P.E.'S NAME:
NOTED BY:
SCALE:
PLOT DATE:

BOUNDARY/TOPOGRAPHY SURVEY PREPARED FOR PANERA BREAD

SHEET NUMBER
1 OF 1

DRAWING NAME
SURVEY

N:\00909 Panera Riverdale\Survey\dwg\00909 Panera Riverdale Boundary Topo.dwg, 1/26/2024 9:33:28 AM, DWG To PDF.pc3

LEGEND

- REMOVE & DISPOSE EXISTING ASPHALT
- REMOVE & DISPOSE EXISTING CURB
- REMOVE & DISPOSE EXISTING SIDEWALK
- REMOVE & DISPOSE EXISTING LANDSCAPING & TREES

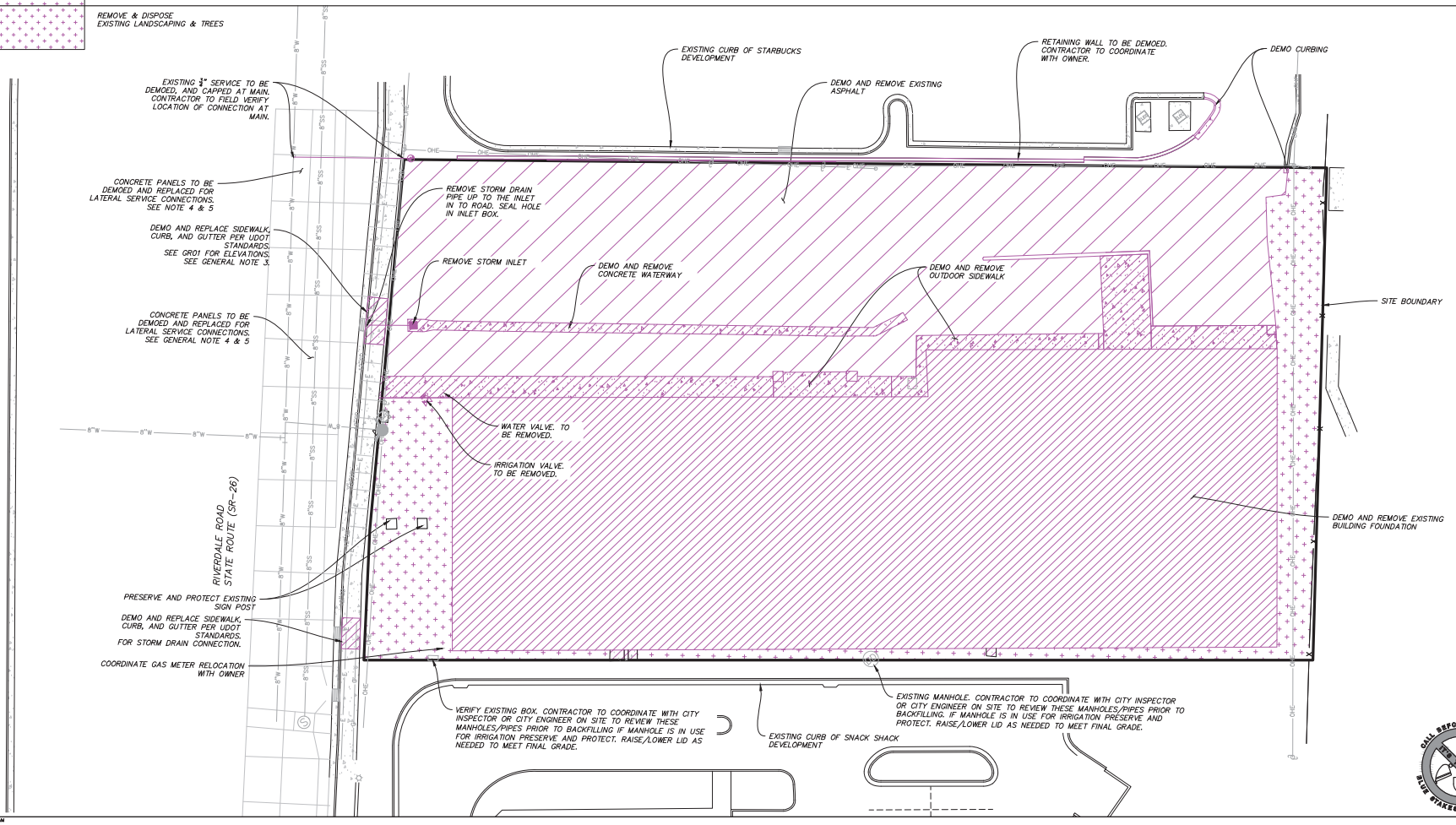
GENERAL NOTES:

1. DEMO EXISTING SEWER LATERAL. DISCONNECT LATERAL AT THE MAIN PER RIVERDALE CITY STANDARDS.
2. ALL DETERIORATED, DAMAGED OR MISSING SURFACE IMPROVEMENTS SURROUNDING THE PERIMETER OF THE DEVELOPMENT WILL NEED TO BE REPLACED OR INSTALLED, I.E., CURB AND GUTTER, SIDEWALK, LANDSCAPING PARK STRIP IMPROVEMENTS, STREET LIGHTS, FENCING, ETC
3. CONCRETE WALKS TO BE 4" CONCRETE OVER 4" ROADBASE UNLESS IN DRIVE APPROACH THEN 6" CONCRETE OVER 6" ROADBASE. SEE RIVERDALE CITY CONSTRUCTION & DEVELOPMENT STANDARDS SHEET 3 DETAIL 1.
4. CONCRETE REPLACED TO BE 11" OF RAPID STRENGTH CONCRETE (RCS) FOR ALL PANEL REPLACEMENTS IN TRAVEL LANES ACCORDING TO UDOT SPECIFICATION 03058 RAPID STRENGTH CONCRETE (RSC) AND OTHER RELATED SECTIONS OVER 3 INCHES OF UDOT– APPROVED HOT MIX ASPHALT (HMA), PG–GRADE 64–34 ASPHALT BINDER, 1/2 INCH NOMINAL MAX, 7–75–115 GYRATION PER UDOT STANDARD SPECIFICATION 02741; OVER 6 INCHES UNTREATED BASE COURSE (UTBC) PER UDOT SPECIFICATION 02721; OR MATCH EXISTING (WHICHEVER IS GREATER). PROVIDE DOCUMENTATION OF COMPACTION FROM A UDOT–QUALIFIED LABORATORY.
5. USE TRECHLESS CONSTRUCTION FOR LATERAL WHERE POSSIBLE TO AVOID NEEDING TO REPLACE CONCRETE PANELS IN RIVERDALE ROAD

N E S W

0 16 32 Feet

DEMO PLAN FOR EXISTING SITE



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WEST JORDAN, UT 84088
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REGISTERED PROFESSIONAL ENGINEER
JED T. ATHERLEY
No. 5047290
04/11/24
STATE OF UTAH

RIVERDALE CITY

CITY ENGINEER DATE

NO.	DESCRIPTION	DATE

DESIGNED BY: CTL
DRAWN BY: RN
CHECKED BY: JTA
SUBMITTED BY:
FILE NAME: N:\20000 Panera Riverdale\Civil\PLN\04 DMO
SIZE: ANSI D
PLOTTED BY:
PLOT DATE: 4/11/2024 9:11:59 AM
DATE: APR 2024
ISSUED FOR: BID
CONTRACT NO. 00000

RIVERDALE CITY
PANERA BREAD
DEMO SHEET

SHEET NUMBER 04
OF 21 SHEETS
DRAWING NAME DM01

4/11/2024 9:11:59 AM

ROADWAY SECTION NOTES:
1. CONTRACTOR TO COMPLY WITH THE RECOMMENDATIONS PROVIDED BY GORDON GEOTECHNICAL REPORT (PROJECT # 748-002-23) FOR THIS PROJECT REGARDING SITE PREPARATION, GRADING, COMPACTION ETC.

2. SEE GEOTECH REPORT FOR SUBSOIL PREPARATION.

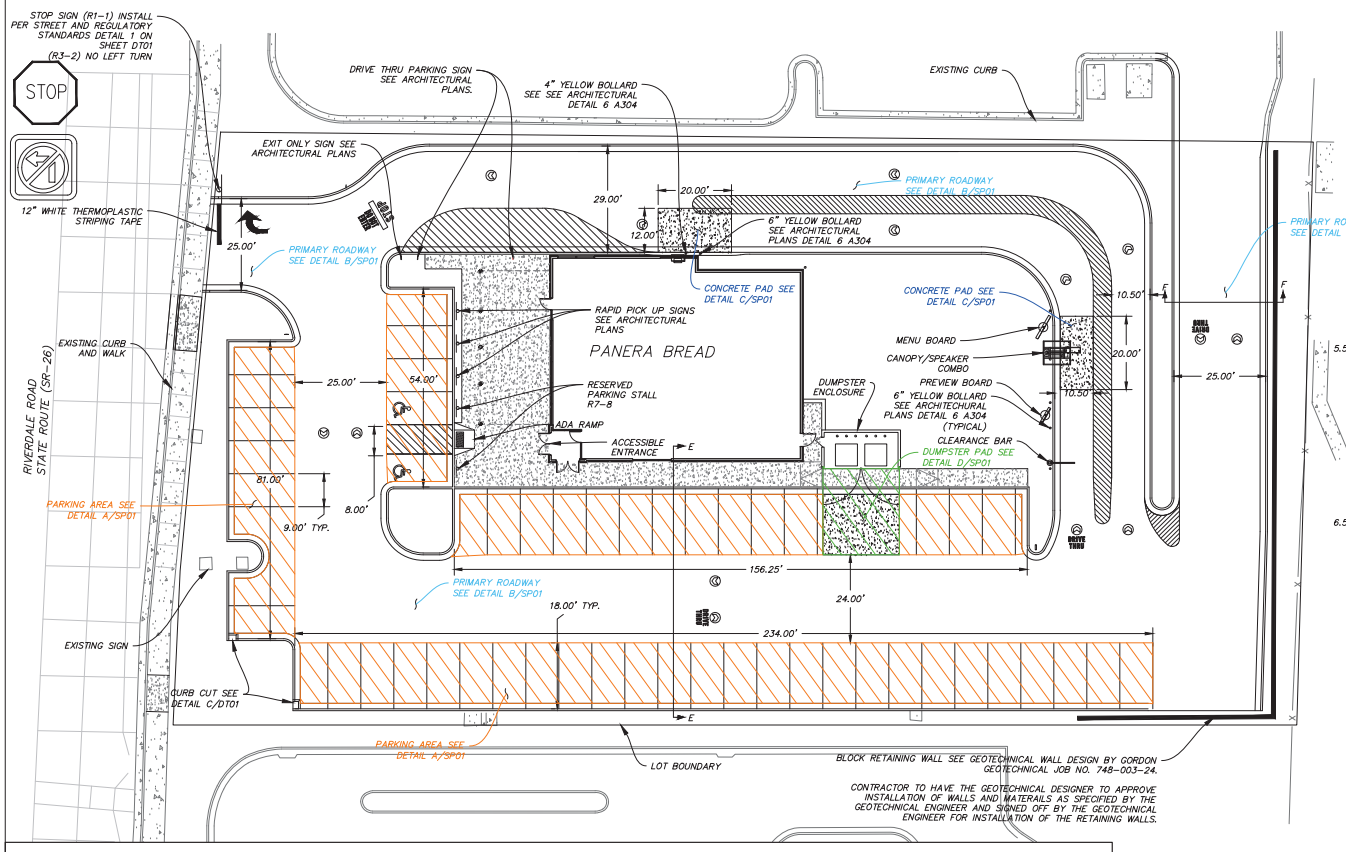
3. ALL DETERIORATED, DAMAGED OR MISSING SURFACE IMPROVEMENTS SURROUNDING THE PERIMETER OF THE DEVELOPMENT WILL NEED TO BE REPLACED OR INSTALLED, I.E., CURB AND GUTTER, SIDEWALK, LANDSCAPING PARK STRIP IMPROVEMENTS, STREET LIGHTS, FENCING, ETC.

4. ALL CONSTRUCTION AND MATERIAL SHALL MEET RIVERDALE CITY STANDARDS

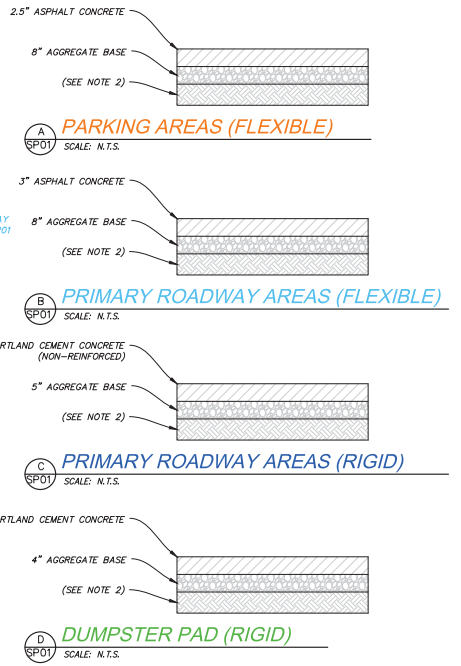
Engineering Cost Estimate
(Improvements within ROW)

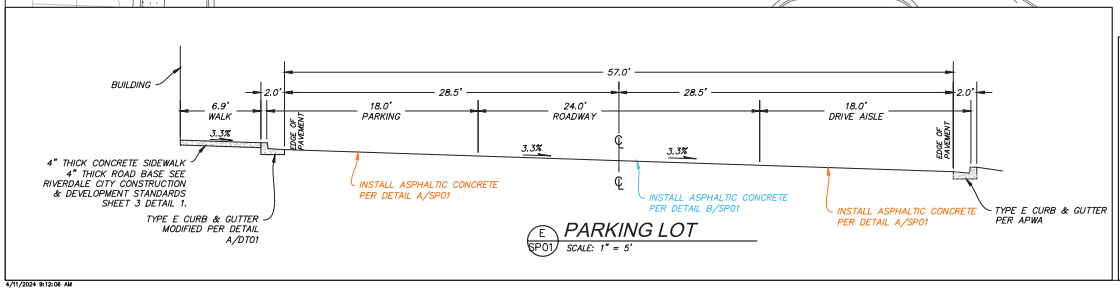
	Quantity	Unit Cost	Total Cost
6' Wide sidewalk	25 L.F.	545.00	$ 1,125.00
2.5' Curb	15 L.F.	$30.00	$ 450.00

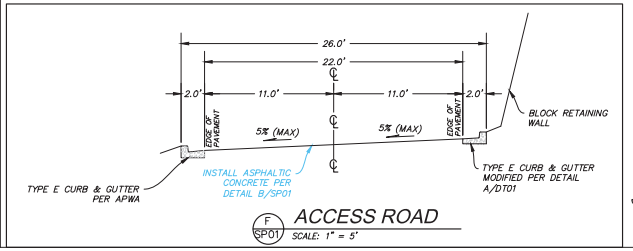
EXISTING STARBUCKS











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4/11/2024 9:12:06 AM

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REGISTERED PROFESSIONAL ENGINEER
JED T. ATHERLEY
No. 5047290
04/11/24
STATE OF UTAH

RIVERDALE CITY
CITY ENGINEER DATE

DESIGNED BY: RN	DATE: APR 2024
DRAWN BY: CTL	SUBMITTED BY: JTA
FILENAME: N:\20000 Panera Riverdale\Civil\PLOT_SP01	CONTRACT NO: 00019
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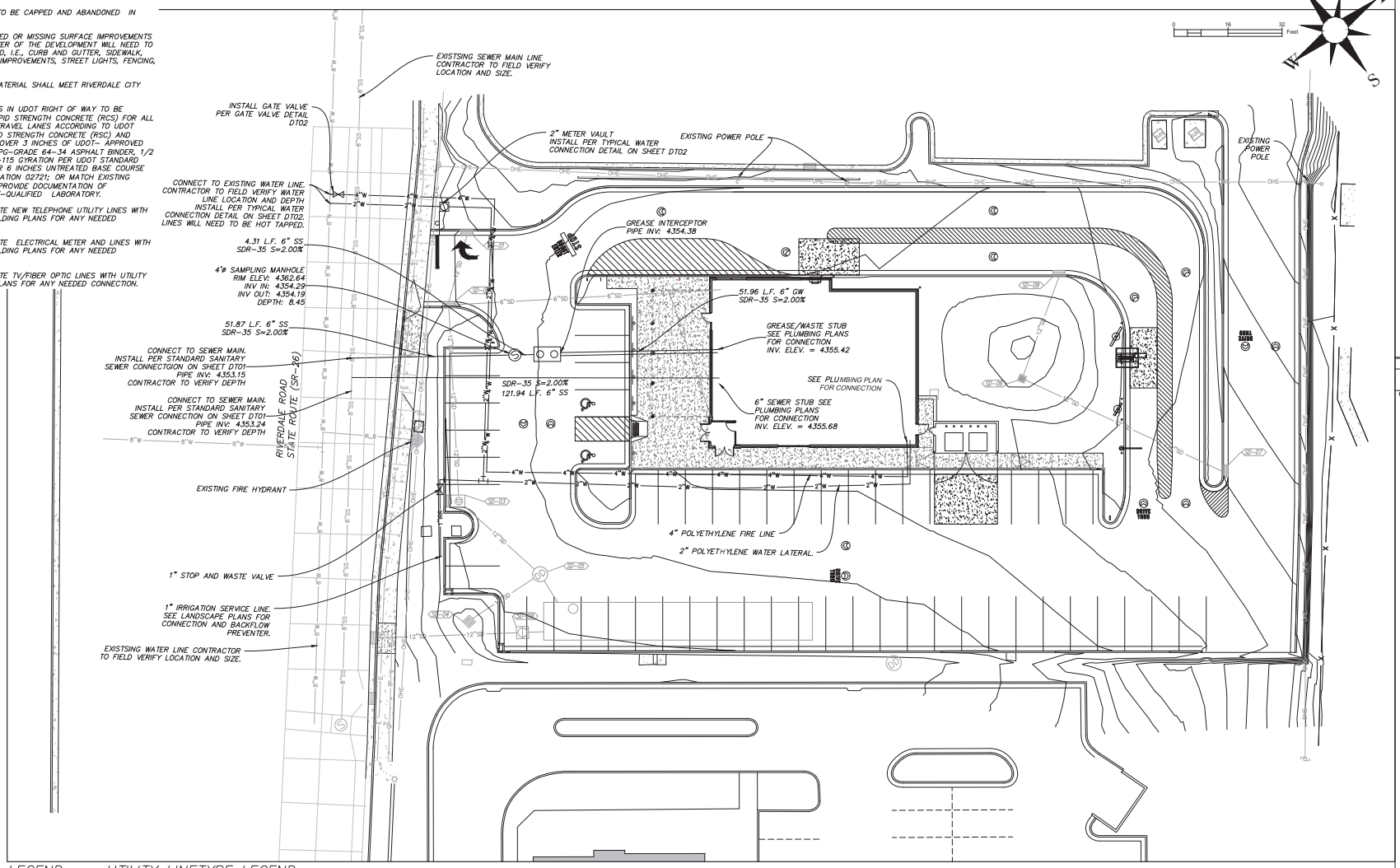
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RIVERDALE CITY
PANERA BREAD
SITE PLAN

SHEET NUMBER 05
OF 21 SHEETS
DRAWING NAME SP01

GENERAL NOTES:

1. EXISTING SEWER LATERAL TO BE CAPPED AND ABANDONED IN PLACE.
2. ALL DETERIORATED, DAMAGED OR MISSING SURFACE IMPROVEMENTS SURROUNDING THE PERIMETER OF THE DEVELOPMENT WILL NEED TO BE REPLACED OR INSTALLED, I.E., CURB AND GUTTER, SIDEWALK, LANDSCAPING PARK STRIP IMPROVEMENTS, STREET LIGHTS, FENCING, ETC.
3. ALL CONSTRUCTION AND MATERIAL SHALL MEET RIVERDALE CITY STANDARDS
4. FOR ALL CONCRETE PANELS IN UDOT RIGHT OF WAY TO BE REPLACED WITH 11" OF RAPID STRENGTH CONCRETE (RCS) FOR ALL PANEL REPLACEMENTS IN TRAVEL LANES ACCORDING TO UDOT SPECIFICATION 03058 RAPID STRENGTH CONCRETE (RSC) AND OTHER RELATED SECTIONS OVER 3 INCHES OF UDOT- APPROVED HOT MIX ASPHALT (HMA), PG-GRADE 64-34 ASPHALT BINDER, 1/2 INCH NOMINAL MAX, 7-75-115 GYRATION PER UDOT STANDARD SPECIFICATION 02741; OVER 6 INCHES UNTREATED BASE COURSE (UTBC) PER UDOT SPECIFICATION 02721; OR MATCH EXISTING (WHICHEVER IS GREATER). PROVIDE DOCUMENTATION OF COMPACTION FROM A UDOT-QUALIFIED LABORATORY.
5. CONTRACTOR TO COORDINATE NEW TELEPHONE UTILITY LINES WITH UTILITY PROVIDER. SEE BUILDING PLANS FOR ANY NEEDED CONNECTION.
6. CONTRACTOR TO COORDINATE ELECTRICAL METER AND LINES WITH UTILITY PROVIDER. SEE BUILDING PLANS FOR ANY NEEDED CONNECTION.
7. CONTRACTOR TO COORDINATE TV/FIBER OPTIC LINES WITH UTILITY PROVIDER. SEE BUILDING PLANS FOR ANY NEEDED CONNECTION.



UTILITY SYMBOL LEGEND

FIRE HYDRANT	
WATER FITTINGS	
WALK DOME	
SS MANHOLE	
WATER METER	
VALVE	
INLET	
SD MANHOLE	
STOP SIGN	
COMBO BOX	

UTILITY LINETYPE LEGEND

DOMESTIC WATER	8"W
SANITARY SEWER	8"SS
GREASE VENT	8"V
STORM DRAIN	8"SD
EXISTING DOMESTIC WATER	8"W
EXISTING SANITARY SEWER	8"SS
EXISTING STORM DRAIN	8"SD
EASEMENT	

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WWW.PERIGEECONSULTING.COM

REGISTERED PROFESSIONAL ENGINEER
JED T. ATHERLEY
No. 5047290
04/11/24
STATE OF UTAH

RIVERDALE CITY

CITY ENGINEER DATE

NO.	DESCRIPTION	DATE

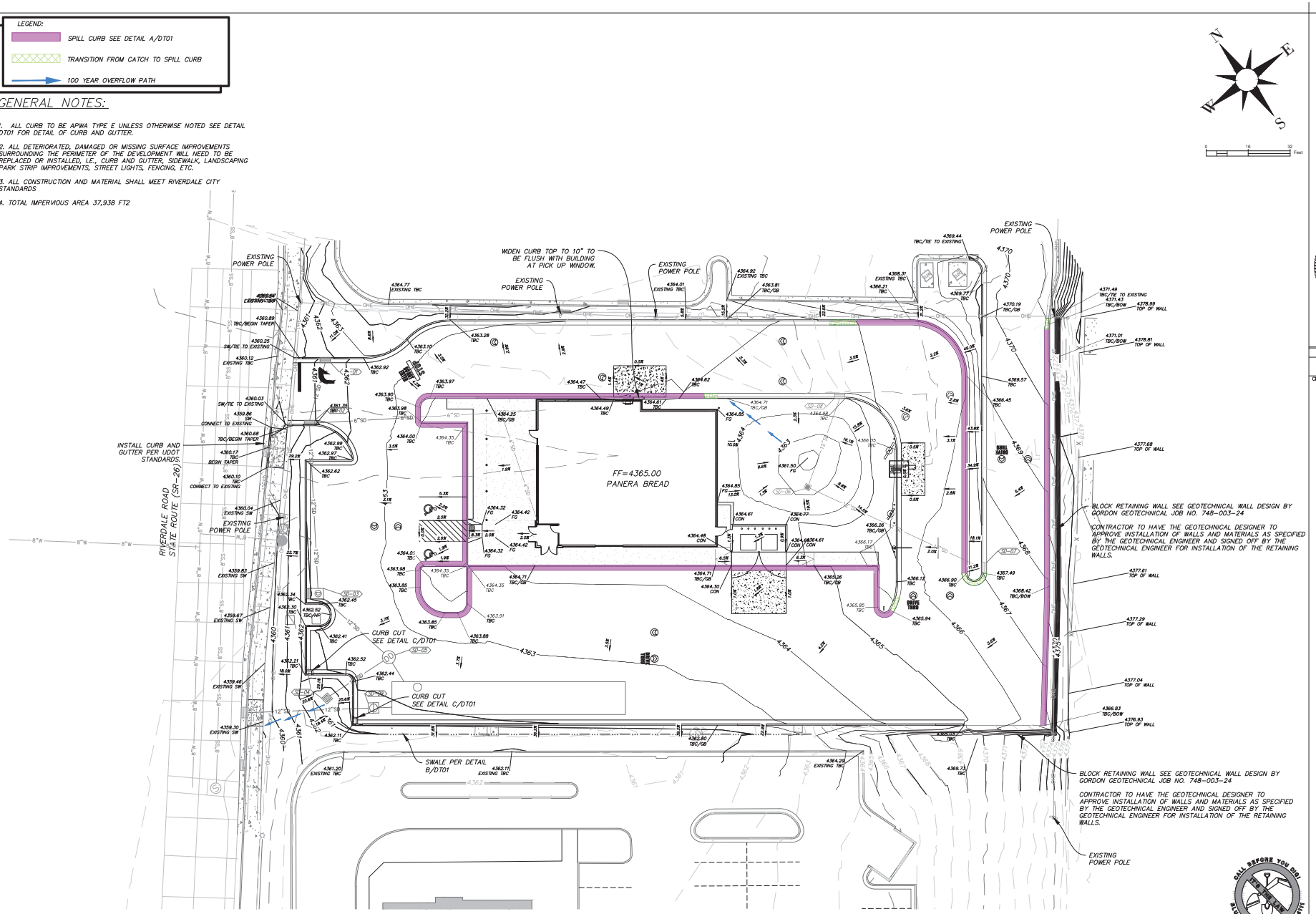
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PLOTTED BY:
DATE: APR 2024
ELEVATIONS NO:
CONTRACT NO: 00019
PLOT DATE: 4/11/2024 9:12:12 AM

RIVERDALE CITY
PANERA BREAD
UTILITY PLAN

SHEET NUMBER 06
OF 21 SHEETS
DRAWING NAME UT01

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4/11/2024 9:12:12 AM



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REGISTERED PROFESSIONAL ENGINEER
JED T. ATHERLEY
No. 5047290
04/11/24
STATE OF UTAH

RIVERDALE CITY

CITY ENGINEER DATE

NO.	DESCRIPTION	DATE

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DRAWN BY: CTL
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SUBMITTED BY:
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PLOTTED BY: JNELD
DATE: APR 2024
ELEVATIONS:
CONTRACT NO: 00809
PLOT DATE: 4/11/2024 9:12:22 AM
REV:

RIVERDALE CITY
PANERA BREAD
GRADING PLAN

SHEET NUMBER
07
OF 21 SHEETS
DRAWING NAME
GR01

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BLUE STAKES 1 800 662 4111

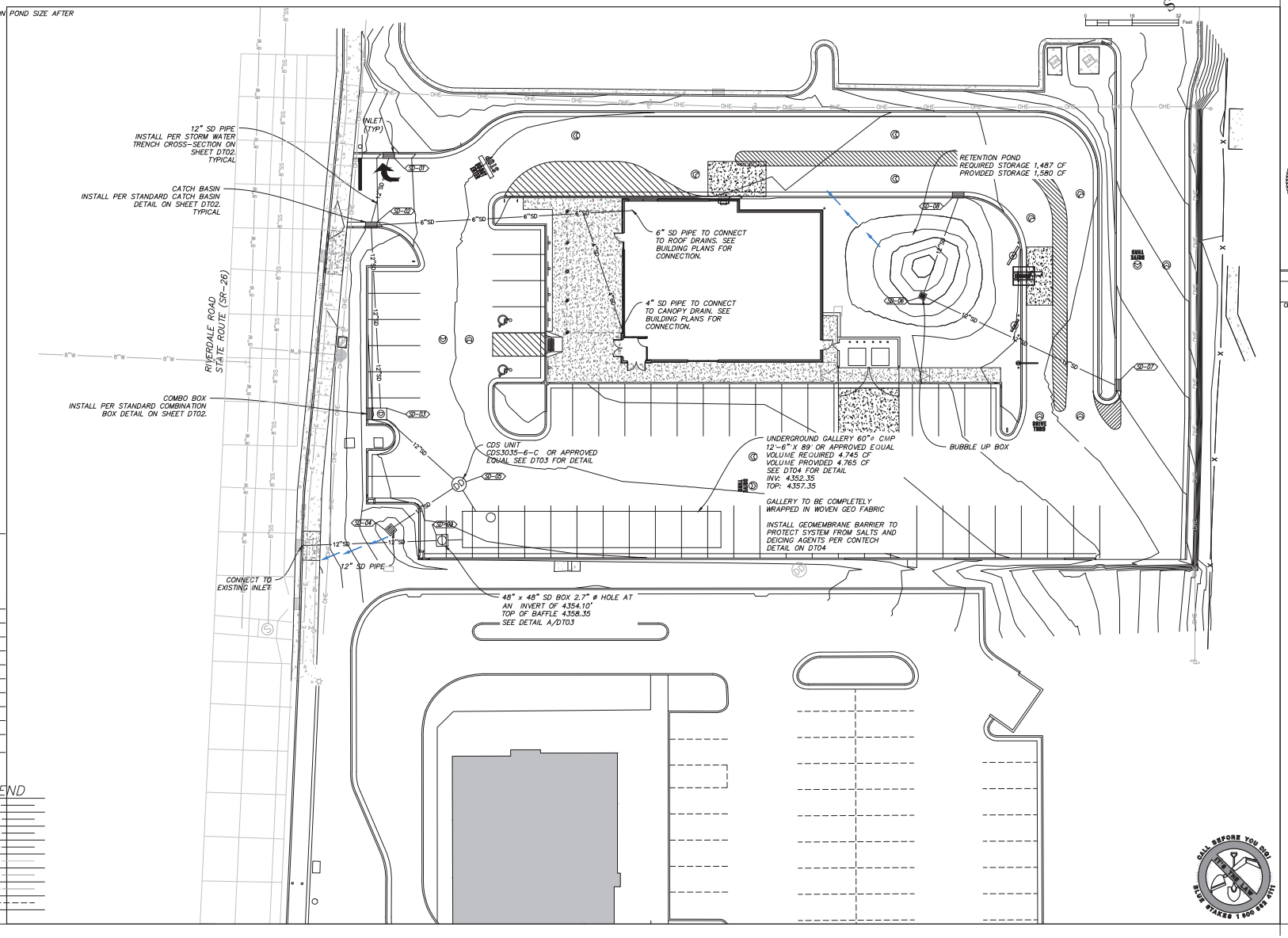
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GENERAL NOTES:

1. EXISTING SEWER LATERAL TO BE CAPPED AND ABANDONED IN PLACE.
2. ALL DETERIORATED, DAMAGED OR MISSING SURFACE IMPROVEMENTS SURROUNDING THE PERIMETER OF THE DEVELOPMENT WILL NEED TO BE REPLACED OR INSTALLED, I.E., CURB AND GUTTER, SIDEWALK, LANDSCAPING PARK STRIP IMPROVEMENTS, STREET LIGHTS, FENCING, ETC.
3. ALL CONSTRUCTION AND MATERIAL SHALL MEET RIVERDALE CITY STANDARDS
4. CERTIFY GALLERY STRUCTURE AND RETENTION POND SIZE AFTER CONSTRUCTION

STORM DRAIN CALCULATIONS

	IMPERVIOUS (%)	100YR 24YR RUNOFF (CF)	STORAGE VOLUME REQUIRED(CF)	STORAGE VOLUME PROVIDED (CF)	WQV CAPTURED (%)	10yr 24hr DISCHARAGE TO RIVERDALE ROAD
EXISTING CONDITIONS	90	N/A	N/A	0	0	NO RESTRICTION
PANERA DEVELOPMENT	78	9,718	6,230	6,345	100	RESTRICTED TO 0.2cfs/ac



LEGEND

100 YEAR OVERFLOW PATH	

UTILITY SYMBOL LEGEND

FIRE HYDRANT	
WATER FITTINGS	
WALK DOME	
SS MANHOLE	
WATER METER	
VALVE	
INLET	
SD MANHOLE	
STOP SIGN	
COMBO BOX	

UTILITY LINETYPE LEGEND

DOMESTIC WATER	8"W
SANITARY SEWER	8"SS
GREASE VENT	8"V
STORM DRAIN	8"SD
EXISTING DOMESTIC WATER	8"W
EXISTING SANITARY SEWER	8"SS
EXISTING STORM DRAIN	8"SD
EASEMENT	

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REGISTERED PROFESSIONAL ENGINEER
JED T. ATHERLEY
No. 5047290
04/11/24
STATE OF UTAH

RIVERDALE CITY

CITY ENGINEER DATE

NO.	DESCRIPTION	DATE

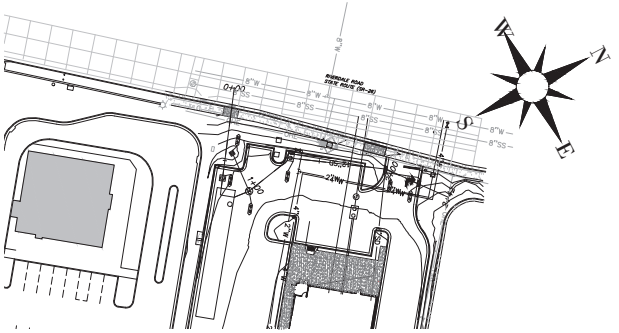
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DATE: APR 2024
ISSUED FOR: CONTRACT NO: 00839
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RIVERDALE CITY
PANERA BREAD
DRAINAGE PLAN

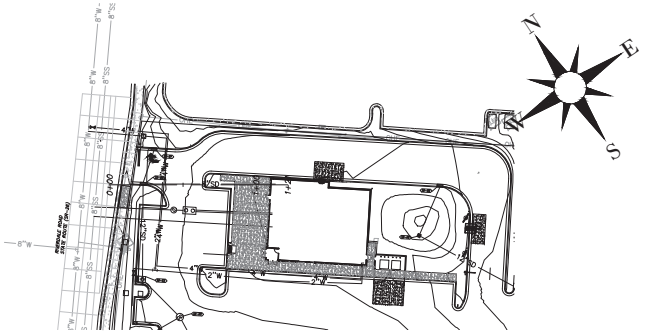
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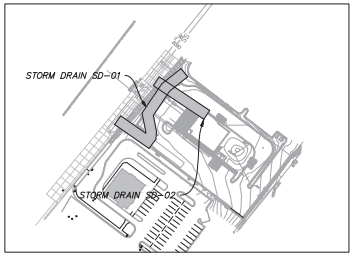
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4/11/2024 9:12:32 AM



RIVERDALE ROAD

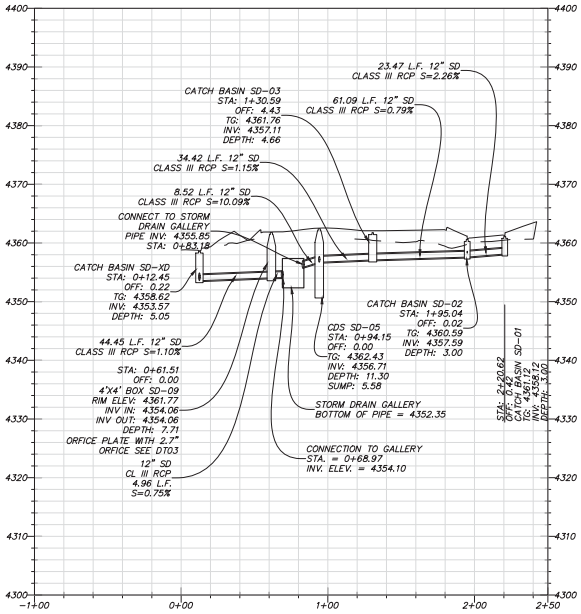




KEY MAP

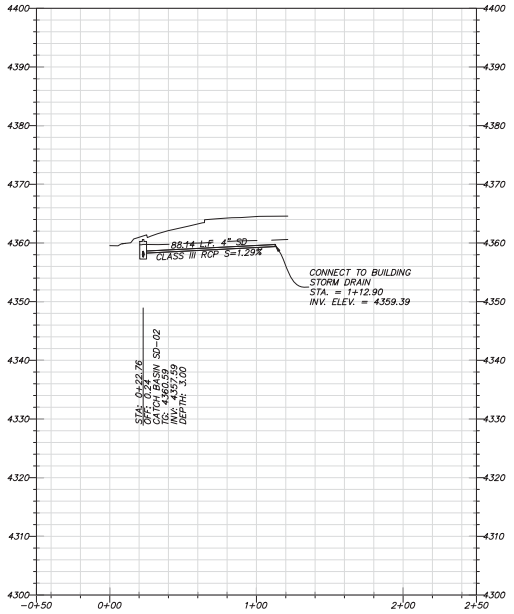
STORM DRAIN SD-01

STA: -1+00 TO 2+50



STORM DRAIN SD-02

STA: -0+50 TO 2+50



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REGISTERED PROFESSIONAL ENGINEER
JED T ATHERLEY
No. 5047290
4/4/24
STATE OF UTAH

RIVERDALE CITY

CITY ENGINEER DATE

NO.	DESCRIPTION	DATE

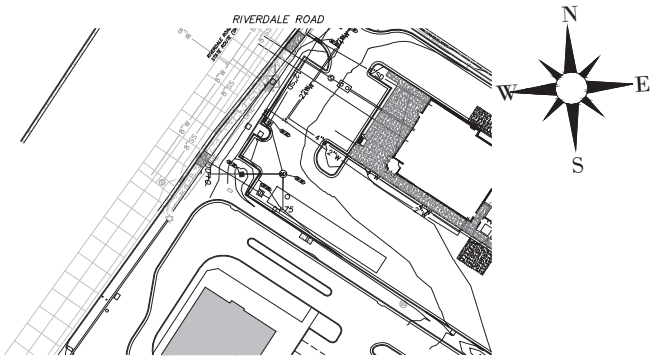
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APPROVED BY:
DATE: APR 2024
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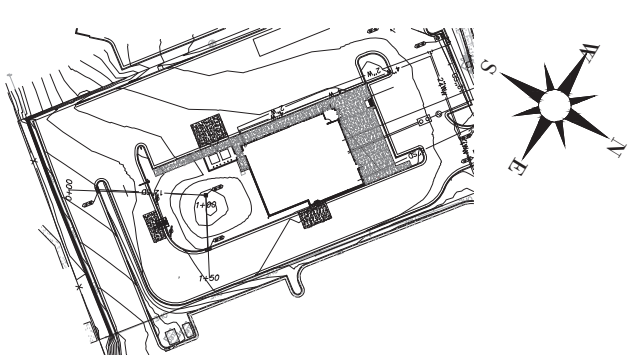
RIVERDALE CITY
PANERA BREAD
PLAN & PROFILE - STORM DRAIN

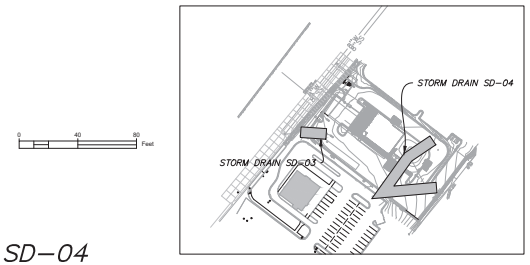
SHEET NUMBER
09
OF 21 SHEETS
DRAWING NAME
PP01

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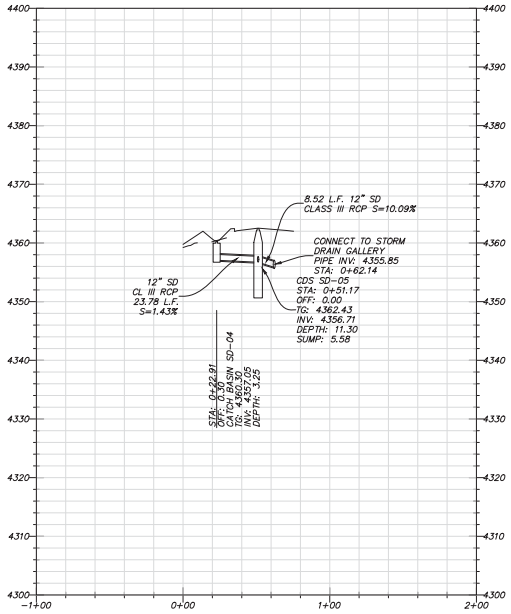


KEY MAP

0 40 80 Feet

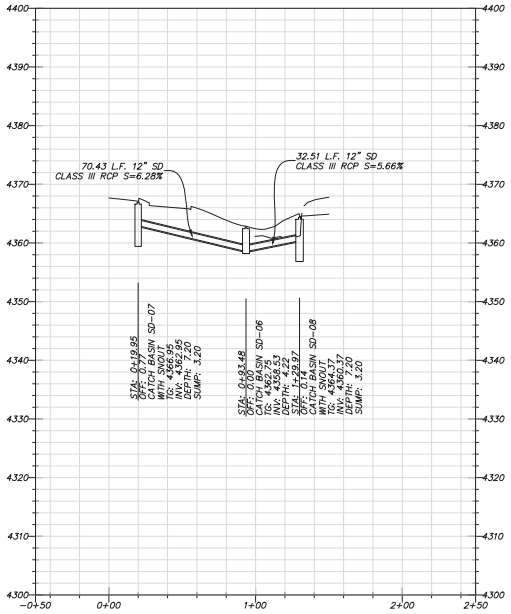
STORM DRAIN SD-03

STA: -1+00 TO 2+00



STORM DRAIN SD-04

STA: -0+50 TO 2+50



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REGISTERED PROFESSIONAL ENGINEER
JED T. ATHERLEY
No. 5047290
4/4/24
STATE OF UTAH

RIVERDALE CITY

CITY ENGINEER DATE

NO.	DESCRIPTION	DATE

DESIGNED BY: CTL
DRAWN BY: RN
CHECKED BY: JTA
SUBMITTED BY:
FILE NAME: N:\20000 Panera Riverdale\Civil\PP02
USER: ANSI D
PLOTTED BY:
DATE: APR 2024
ISSUED FOR/AS:
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PLOT DATE: 4/11/2024 9:12:48 AM
REV:

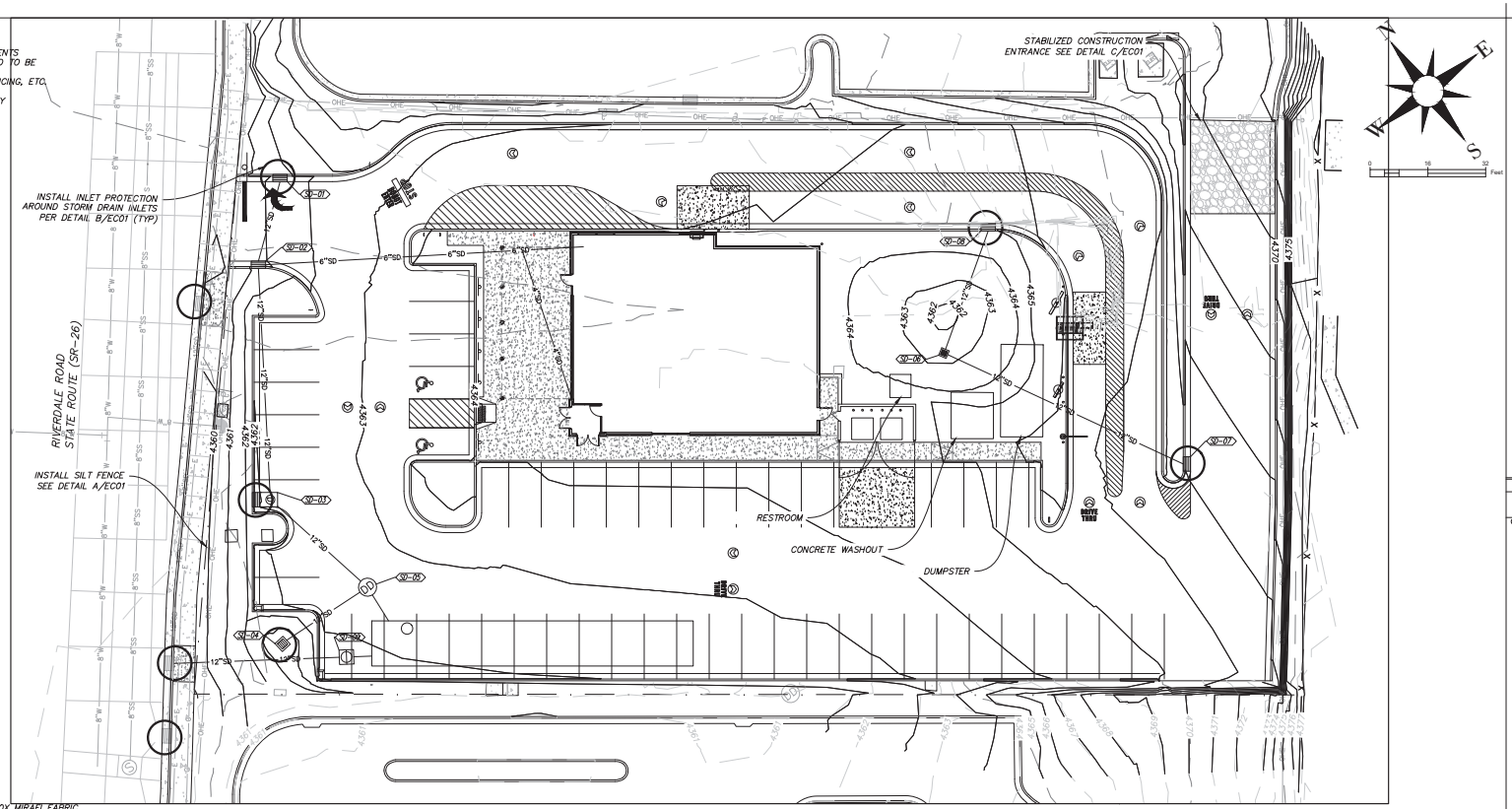
RIVERDALE CITY
PANERA BREAD
PLAN & PROFILE – STORM DRAIN

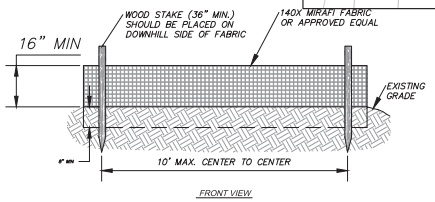
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OF 21 SHEETS
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PP02

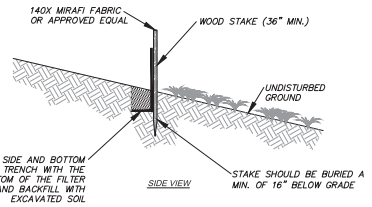
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GENERAL NOTES:

1. ALL DETERIORATED, DAMAGED OR MISSING SURFACE IMPROVEMENTS SURROUNDING THE PERIMETER OF THE DEVELOPMENT WILL NEED TO BE REPLACED OR INSTALLED, I.E., CURB AND GUTTER, SIDEWALK, LANDSCAPING PARK STRIP IMPROVEMENTS, STREET LIGHTS, FENCING, ETC.
2. ALL CONSTRUCTION AND MATERIAL SHALL MEET RIVERDALE CITY STANDARDS

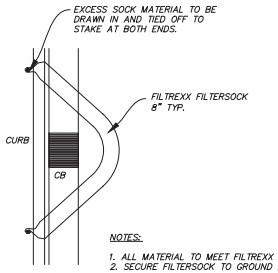


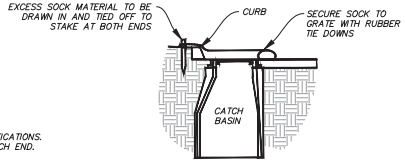




A ECO1 TYPICAL SILT FENCE DETAIL

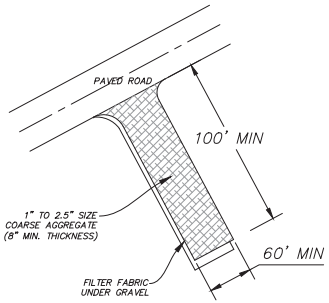
NOT TO SCALE





B ECO1 FILTREXX INLET PROTECTION -CURB INLET

NOT TO SCALE



C ECO1 STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

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REGISTERED PROFESSIONAL ENGINEER
JED T. ATHERLEY
No. 5047290
04/11/24
STATE OF UTAH

RIVERDALE CITY

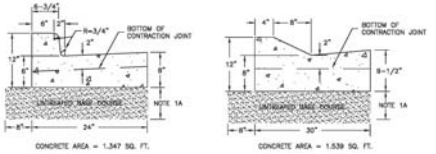
CITY ENGINEER DATE

NO.	DESCRIPTION	DATE

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DATE: APR 2024
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CONTRACT NO: 00000

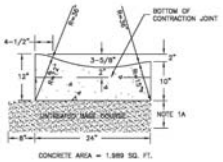
RIVERDALE CITY
PANERA BREAD
EROSION CONTROL

SHEET NUMBER 11
OF 21 SHEETS
DRAWING NAME EC01

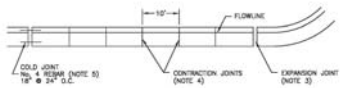


TYPE E

TYPE F



TYPE G



CURB AND GUTTER JOINT DETAIL

Curb and gutter

June 2005 | 27 | Plan No. 205 | Drawing 2 of 2

Curb and gutter

UNTREATED BASE COURSE: Provide material specified in APWA Section 32 11 23.
A. Do not use gravel as a substitute for untreated base course without ENGINEER's permission.
B. If flow line grade is greater than 0.5 percent (s=0.005), provide 6 inches uncompacted thickness. If less, provide 8 inches uncompacted thickness.
C. Place material per APWA Section 32 05 10.
D. Compact per APWA Section 31 23 26 to a modified proctor density of 95 percent or greater. Maximum lift thickness before compaction is 8 inches when using riding compaction equipment or 6 inches when using hand held compaction equipment.

CONCRETE: Class 4000 per APWA Section 03 30 04.
A. If necessary, provide concrete that achieves design strength in less than 7 days. Caution; concrete crazing (spider cracks) may develop if air temperature exceeds 90 degrees F.
B. Place concrete per APWA Section 03 30 10.
C. Provide 1/2 inch radius on concrete edges exposed to public view.
D. Cure concrete per APWA Section 03 39 00 with type ID Class A or B (clear with fugitive dye) membrane forming compound unless specified otherwise.

EXPANSION JOINT: Make expansion joints vertical, full depth, 1/2 wide with type F1 joint filler material per APWA Section 32 13 73.
A. Set top of filler flush with surface of concrete.
B. Expansion joints are required at the start or end of a street intersection curb return.
C. Expansion joints are not required in slip form work.

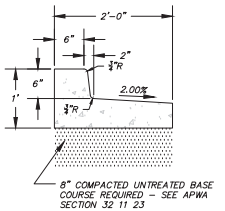
CONTRACTION JOINT: Make contraction joints vertical.
A. 1/8 inch wide and 2 inch deep or 1/4 slab thickness if slab is greater than 8 inches thick.
B. If necessary, match location of contraction joints in portland cement concrete roadway pavements.

REINFORCEMENT: ASTM A 615, grade 60, galvanized or epoxy coated deformed steel. See APWA Section 03 20 00 requirements.

FINISH: Broomed.

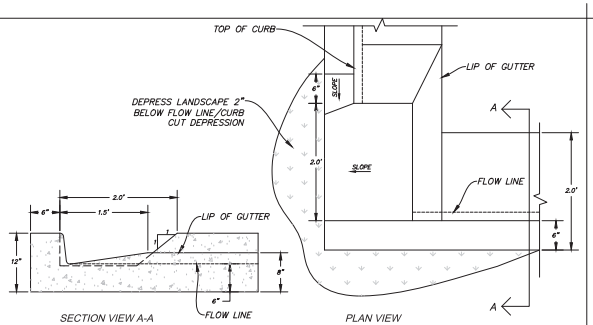
PROTECTION AND REPAIR:
A. Fill flow-line with water. Repair construction that does not drain.
B. Protect concrete from deicing chemicals during cure.

26

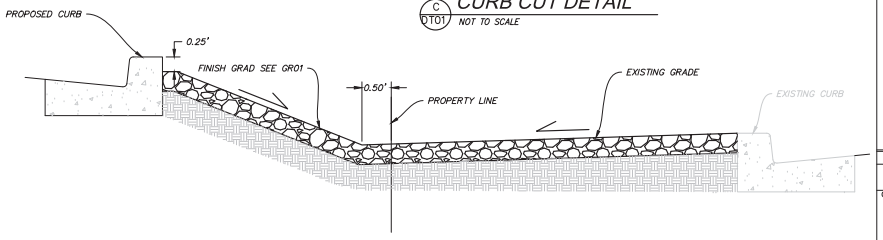


TYPE E CURB & GUTTER MODIFIED

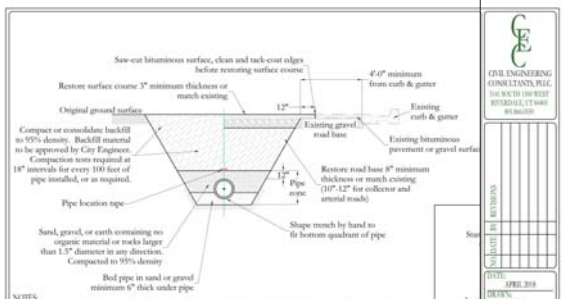
A / DT01 N.T.S.



C / DT01 CURB CUT DETAIL — NOT TO SCALE



B / DT01 SWALE SECTION DETAIL — N.T.S.



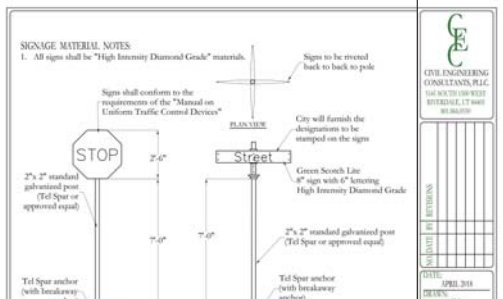
NOTES:
1. The contractor shall be responsible for meeting all current OSHA and UOSH requirements for trench safety.
2. Contractor shall locate all underground utilities before laying pipe within 200' of said utilities which may be exposed, damaged or crossed as shown on the drawings or as "blue staked" the contractor will make arrangements with the utility company to move the utility if necessary or obtain permission from the project engineer to modify grade of pipeline in order to go around utilities.
3. The contractor shall determine the actual location of existing service connections and utilities and take the necessary steps to avoid them. Contractor is responsible for any damage occurring during construction.
4. All sewer lines to be installed at a minimum 10' distance from any water lines and installed with a minimum of 4' cover to the top of the pipe.
5. All sanitary sewer pipelines shall be air & displacement tested along with a video tape recording of the pipelines interior, per the requirements of "Section 6, Paragraph G" of the "Technical Specifications".
6. All Sanitary Sewer pipelines shall be re-video recorded/taped for displacement failures just prior to the expiration of the 1-year warrantee period. Should the pipeline be displaced horizontally or vertically the Public Works Director and/ or the City Engineer shall determine the extent of the required repairs. It shall be the Contractors full responsibility to immediately make all required repairs and all costs associated with the repairs shall be paid by the Contractor.
7. With all private construction, the Contractor must submit to Riverdale City Public Works the "As Constructed" Plans, copies of the video recording of the pipe line testing and all the collection pipes (storm & sewer) must be cleaned.

STANDARD SEWER TRENCH CROSS-SECTION 1 — SCALE: NONE

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CONSTRUCTION & DEVELOPMENT STANDARDS RIVERDALE CITY, UTAH SANITARY SEWER TRENCH & MANHOLE DETAILS

CLIENT: RIVERDALE CITY
PROJECT NUMBER: RC.0002
FILE: 09-10 rc SS mh.dwg
SHEET: 9 of 18



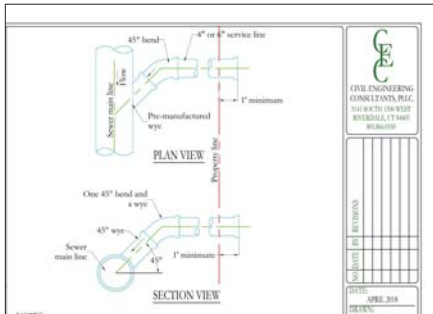
NOTES:
1. Secure Riverdale City's approval of sign format and installation.
2. Install the edge of the sign 2-feet from the vertical extension of the back of curb as near as possible to the approach curb point of curvature. Signs should not overhang sidewalk or curb & gutter
3. All street signs (Stop, Speed, etc.) shall be 7-feet minimum from ground to the bottom of the sign.
4. Placement of all street signs to be approved by Riverdale City.

STREET AND REGULATORY STANDARD DETAILS 1 — SCALE: NONE

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CONSTRUCTION & DEVELOPMENT STANDARDS RIVERDALE CITY, UTAH STREET SIGNS AND LIGHT DETAILS

CLIENT: RIVERDALE CITY
PROJECT NUMBER: RC.0002
FILE: 02-08 rc ST mh.dwg
SHEET: 7 of 18



NOTES:
1. All house services shall be 4" diameter. Commercial and public services shall be 6" diameter unless directed otherwise and shall be extended from main lines to property lines. The lateral from the main to the residential/commercial is owned and maintained by the property owner.
2. All sanitary sewer laterals shall not be connected to a manhole unless pre-approved by Riverdale City.
3. Recommended minimum grade shall be 1% for 6" service line and 2% for 4" service line.
4. Contractor shall use a "Inserta Tee" for an existing connection and a "WYE" for a new connection.
5. All 90° bends at connection to main must be constructed with one 45° bend and a wye.
6. 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.
7. Notify city 24 hours in advance of any connection. Every connection to be inspected by City.

STANDARD SANITARY SEWER CONNECTION 3 — SCALE: NONE

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CONSTRUCTION & DEVELOPMENT STANDARDS RIVERDALE CITY, UTAH SANITARY SEWER DROP MANHOLE CONCRETE COLLAR & CONNECTION DETAILS

CLIENT: RIVERDALE CITY
PROJECT NUMBER: RC.0002
FILE: 09-10 rc SS mh.dwg
SHEET: 10 of 18

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REGISTERED PROFESSIONAL ENGINEER — JED T. ATHERLEY, No. 5047290, 04/11/24, STATE OF UTAH

RIVERDALE CITY

CITY ENGINEER ____ DATE ____

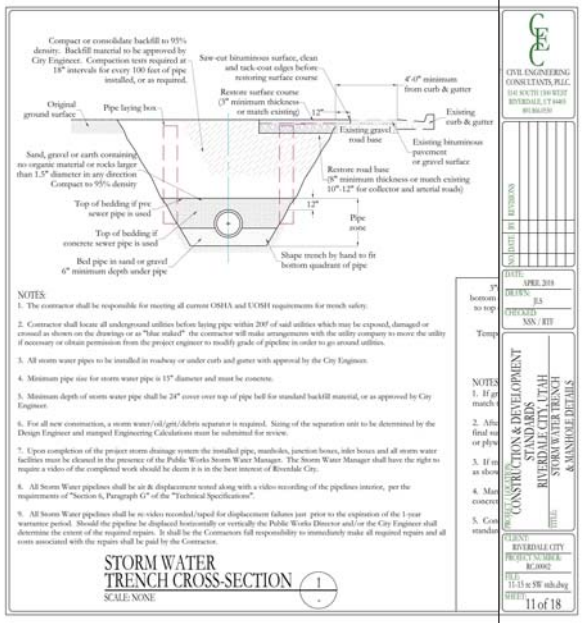
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DESIGNED BY: RN | DRAWN BY: CTL | CHECKED BY: JTA | APPROVED BY: JED | DATE: APR 2024 | REVISIONS: | CONTRACT NO: 00000 | FILE NAME: N:\00000 Panera Riverdale\Civil\PV12.DTM | SCALE: AS SHOWN | PLOT TIED BY: | PLOT DATE: 4/11/2024 9:13:03 AM

RIVERDALE CITY
PANERA BREAD
DETAILS

SHEET NUMBER 12 OF 21 SHEETS
DRAWING NAME DT01

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STORM WATER TRENCH CROSS-SECTION 1 - SCALE: NONE

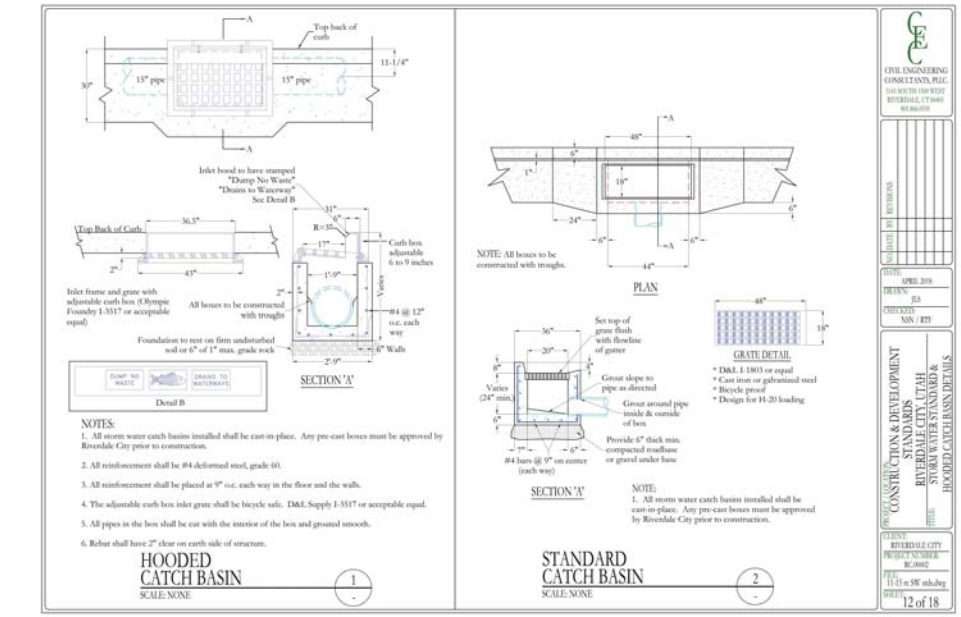
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PROJECT: CONSTRUCTION & DEVELOPMENT STANDARDS
RIVERDALE CITY, UTAH
TITLE: STORM WATER TRENCH & MANHOLE DETAILS

CLIENT: RIVERDALE CITY
PROJECT NUMBER: RC.0002
FILE: 11-15 rc SW mh.dwg
SHEET: 11 of 18



HOODED CATCH BASIN 1 - SCALE: NONE

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PROJECT: CONSTRUCTION & DEVELOPMENT STANDARDS
RIVERDALE CITY, UTAH
TITLE: STORM WATER STANDARD & HOODED CATCH BASIN DETAILS

CLIENT: RIVERDALE CITY
PROJECT NUMBER: RC.0002
FILE: 11-15 rc SW mh.dwg
SHEET: 12 of 18

STANDARD CATCH BASIN 2 - SCALE: NONE

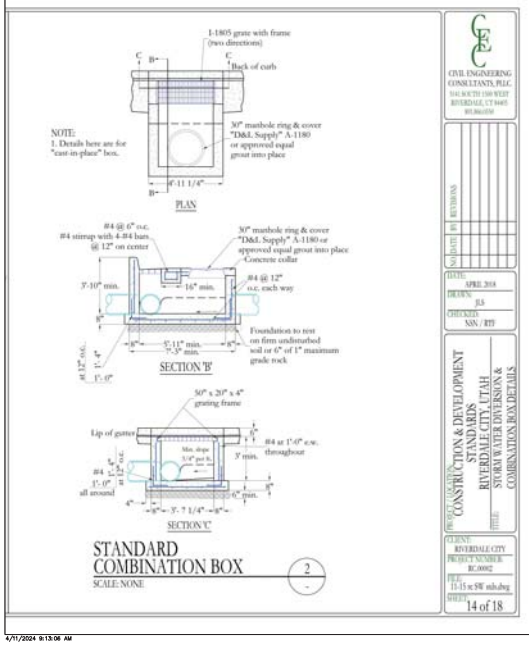
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PROJECT: CONSTRUCTION & DEVELOPMENT STANDARDS
RIVERDALE CITY, UTAH
TITLE: HOODED CATCH BASIN DETAILS

CLIENT: RIVERDALE CITY
PROJECT NUMBER: RC.0002
FILE: 11-15 rc SW mh.dwg
SHEET: 12 of 18



STANDARD COMBINATION BOX 2 - SCALE: NONE

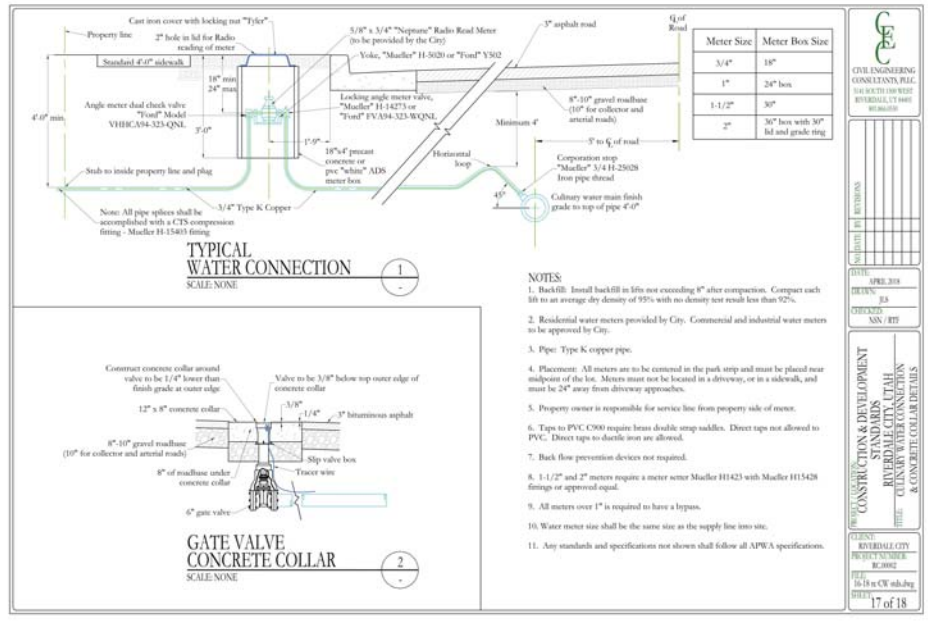
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PROJECT: CONSTRUCTION & DEVELOPMENT STANDARDS
RIVERDALE CITY, UTAH
TITLE: STORM WATER DIVERSION & COMBINATION BOX DETAILS

CLIENT: RIVERDALE CITY
PROJECT NUMBER: RC.0002
FILE: 11-15 rc SW mh.dwg
SHEET: 14 of 18



Meter Size	Meter Box Size
3/4"	18"
1"	24" box
1-1/2"	30"
2"	36" box with 30" lid and grade ring

NOTES:
1. Backfill: Install backfill in lifts not exceeding 8" after compaction. Compact each lift to an average dry density of 95% with no density test result less than 92%.
2. Residential water meters provided by City. Commercial and industrial water meters to be approved by City.
3. Pipe: Type K copper pipe.
4. Placement: All meters are to be centered in the park strip and must be placed near midpoint of the lot. Meters must not be located in a driveway, or in a sidewalk, and must be 24" away from driveway approaches.
5. Property owner is responsible for service line from property side of meter.
6. Taps to PVC C900 require brass double strap saddles. Direct taps not allowed to PVC. Direct taps to ductile iron are allowed.
7. Back flow prevention devices not required.
8. 1-1/2" and 2" meters require a meter setter Mueller H1423 with Mueller H15428 fittings or approved equal.
9. All meters over 1" is required to have a bypass.
10. Water meter size shall be the same size as the supply line into site.
11. Any standards and specifications not shown shall follow all APWA specifications.

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RIVERDALE, UT 84405
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PROJECT: CONSTRUCTION & DEVELOPMENT STANDARDS
RIVERDALE CITY, UTAH
TITLE: CULINARY WATER CONNECTION & CONCRETE COLLAR DETAILS

CLIENT: RIVERDALE CITY
PROJECT NUMBER: RC.0002
FILE: 16-18 rc CW mh.dwg
SHEET: 17 of 18

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REGISTERED PROFESSIONAL ENGINEER
JED T ATHERLEY
No. 5047290
04/11/24
STATE OF UTAH

RIVERDALE CITY

CITY ENGINEER DATE

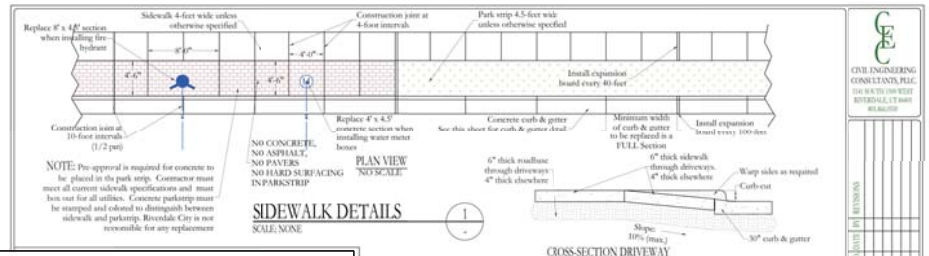
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RIVERDALE CITY
PANERA BREAD
DETAILS

SHEET NUMBER 13
OF 21 SHEETS
DRAWING NAME DT02

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NOTES:

1. A minimum 6-inch depth of roadbase or crushed gravel (¾" minus) material shall be placed to grade & compacted to 95% of maximum dry density under driveway, waterway, and curb & gutter prior to placement of concrete.

2. A minimum 4-inch depth of roadbase material shall be placed to grade and compacted to 95% of maximum dry density under sidewalk prior to placement of concrete.

3. Where construction is adjacent to State Highway Frontage, State Highway Department requirements shall govern.

4. Concrete for sidewalks, curb & gutters, driveway approaches and waterways shall be 3/4-inch maximum aggregate class B concrete, 6 bags per yard, with a minimum compressive strength of 3,500 PSI at 28 days.

5. Expansion joints shall be constructed by placing an approved material, (typically bituminous impregnated fiberboard), the full depth of the concrete. Expansion material **shall be installed prior o the placement of the concrete** and set flush with the finish level of the sidewalk. **Concrete shall not be installed below the expansion joint.**

6. Construction joint is made by inserting 1/8-inch Steel plate into the concrete; finish with 1/2-inch radius edging tool or other method approve by Engineer.

7. Slope sidewalk to roadway at 2% grade.

8. Locate all inlet grates 2-feet minimum away from the pedestrian crosswalk, with all drainage intercepted before it gets to the pedestrian crosswalk area.

9. Minimum temperature for placement of concrete without protection is 40°F. (See Technical Specifications)

10. Below 40° F, all concrete to be protected for 10 days. (Portable heater may be required, as directed - See Technical Specifications)

11. All roadbase shall meet UDOT standards and specifications. Recycled concrete will NOT be permitted to use as a roadbase substitute.

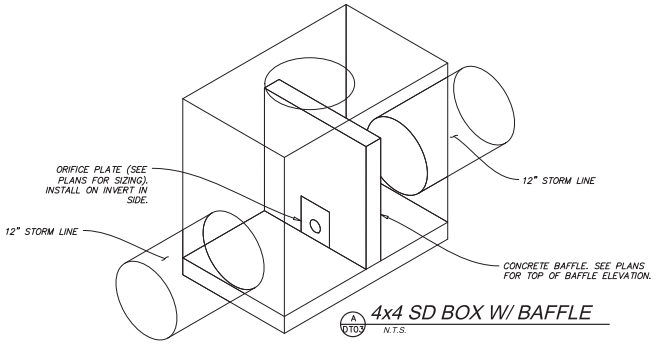
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DATE: APRIL 2018
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PROJECT: CONSTRUCTION & DEVELOPMENT STANDARDS
RIVERDALE CITY, UTAH
TITLE: SIDEWALK AND WATERWAY DETAILS

CLIENT: RIVERDALE CITY
PROJECT NUMBER: RC.0002
FILE: 02-08 st ST stds.dwg
SHEET: 3 of 18



A DT03 4x4 SD BOX W/ BAFFLE
N.T.S.

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CIVIL + PROJECT MANAGEMENT
9618 SOUTH 1300 WEST, SUITE 100
SANDY, UTAH 84070
TEL: 801.541.0545
WWW.PERIGEECONSULTING.COM

REGISTERED PROFESSIONAL ENGINEER
JED T. ATHERLEY
No. 5047290
04/11/24
STATE OF UTAH

RIVERDALE CITY

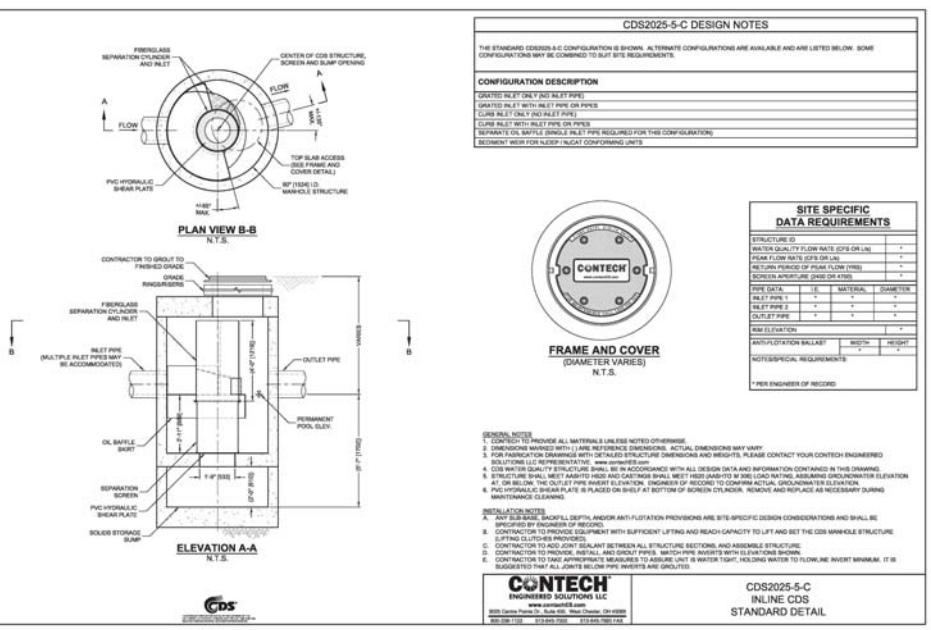
CITY ENGINEER DATE

NO.	DESCRIPTION	DATE	APPR.

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CHECKED BY: JTA
SUBMITTED BY:
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RIVERDALE CITY
PANERA BREAD
DETAILS

SHEET NUMBER
14
OF 21 SHEETS
DRAWING NAME
DT03



CDS2025-5-C DESIGN NOTES

THE STANDARD CDS2025-5-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

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.contech-cpi.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 LUGS ARE 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.

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CDS2025-5-C
INLINE CDS
STANDARD DETAIL

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PROJECT SUMMARY

CALCULATION DETAILS
- LOADING = HS20/HS25
- APPROX. LINEAR FOOTAGE = 181 LF

STORAGE SUMMARY
- STORAGE VOLUME REQUIRED = 4,745 CF
- PIPE STORAGE VOLUME = 3,544 CF
- BACKFILL STORAGE VOLUME = 1,221 CF
- TOTAL STORAGE PROVIDED = 4,765 CF

PIPE DETAILS
- DIAMETER = 60"
- CORRUGATION = 5x1
- GAGE = 16
- COATING = ALT2
- WALL TYPE = PERFORATED
- BARREL SPACING = 30"

BACKFILL DETAILS
- WIDTH AT ENDS = 12"
- ABOVE PIPE = 0"
- WIDTH AT SIDES = 12"
- BELOW PIPE = 0"



NOTES
- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE. ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998.
- ALL RISERS AND STUBS ARE 2⅔" x ½" CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR SYSTEM AS DETAILED PROVIDES NOMINAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- BAND TYPE TO BE DETERMINED UPON FINAL DESIGN.
- THE PROJECT SUMMARY IS REFLECTIVE OF THE DYODS DESIGN, QUANTITIES ARE APPROX. AND SHOULD BE VERIFIED UPON FINAL DESIGN AND APPROVAL. FOR EXAMPLE, TOTAL EXCAVATION DOES NOT CONSIDER ALL VARIABLES SUCH AS SHORING AND ONLY ACCOUNTS FOR MATERIAL WITHIN THE ESTIMATED EXCAVATION FOOTPRINT.
- THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.

ASSEMBLY
SCALE: 1" = 10'

DATE	REVISION DESCRIPTION	BY

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CONTECH CMP DETENTION SYSTEMS
CONTECH DYODS DRAWING

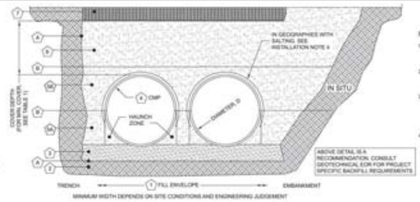
DYO38194 Panera Riverdale
CMP Gallery
Ogden, UT
DETENTION SYSTEM

1

TABLE 1:

DIAMETER, D	MIN. COVER	CORR. PROFILE
6"-10"	12"	1 1/2" x 1/4"
12"-48"	12"	2 2/3" x 1/2"
>48"-96"	12"	3" x 1", 5" x 1"
>96"	D/8	3" x 1", 5" x 1"

- STRUCTURAL BACKFILL MUST EXTEND TO LIMITS OF THE TABLE
- TOTAL HEIGHT OF COMPACTED COVER FOR CONVENTIONAL HIGHWAY LOADS IS MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TOP OF RIGID PAVEMENT
- ULTRAFLO ALSO AVAILABLE FOR SIZES 18" - 120" WITH 3/4"x 3/4"x 7 1/2" CORRUGATION



INSTALLATION NOTES
1. WHEN PLACING THE FIRST LIFTS OF BACKFILL IT IS IMPORTANT TO MAKE SURE THAT THE BACKFILL IS PROPERLY COMPACTED UNDER AND AROUND THE PIPE HAUNCHES.
2. OTHER ALTERNATE BACKFILL MATERIAL MAY BE ALLOWED DEPENDING ON SITE SPECIFIC CONDITIONS, AS APPROVED BY SITE ENGINEER.
3. BACKFILL USING CONTROLLED LOW-STRENGTH MATERIAL (CLSM, "FLASH FILL" OR "FLOWABLE FILL") MAY BE USED WHEN THE SPACING BETWEEN THE PIPES WILL NOT ALLOW FOR PLACEMENT AND ADEQUATE COMPACTION OF THE BACKFILL. CONTACT CONTECH FOR FURTHER EVALUATION.
4. IF SALTING AGENTS FOR SNOW AND ICE REMOVAL ARE USED ON OR NEAR THE PROJECT, A GEOMEMBRANE BARRIER IS RECOMMENDED OVER THE UPPER HALF OF THE PIPE. THE GEOMEMBRANE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM A CHANGE IN THE SURROUNDING ENVIRONMENT OVER A PERIOD OF TIME. PLEASE REFER TO THE CORRUGATED METAL PIPE DETENTION DESIGN GUIDE FOR ADDITIONAL INFORMATION.

TABLE 2: SOLID STANDARD

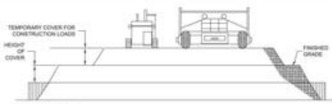
CMP DETENTION AND CMP DRAINAGE STANDARD BACKFILL SPECIFICATIONS

	MATERIAL LOCATION	MATERIAL SPECIFICATION	DESCRIPTION	
1	FILL ENVELOPE WIDTH	PER ENGINEER OF RECORD	MINIMUM TRENCH WIDTH MUST ALLOW ROOM FOR PROPER COMPACTION OF HAUNCH MATERIALS UNDER THE PIPE. THE SUGGESTED MINIMUM TRENCH WIDTH, OR EOR RECOMMENDATION: PIPE ≤ 12": D + 16" PIPE > 12": 1.5D + 12"	MINIMUM EMBANKMENT WIDTH (IN FEET) FOR INITIAL FILL ENVELOPE: PIPE < 24": 3.0D PIPE 24" - 144": D + 4'0" PIPE > 144": D + 10'0"
2	FOUNDATION	AASHTO 26.5.3 OR PER ENGINEER OF RECORD	PRIOR TO PLACING THE BEDDING, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE GRADE. IN THE EVENT THAT UNSUITABLE FOUNDATION MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEY SHALL BE REMOVED AND FOUNDATION BROUGHT BACK TO GRADE WITH A FILL MATERIAL APPROVED BY THE ENGINEER OF RECORD.	
3	BEDDING	AASHTO M 43: 3, 357, 4, 467, 5, 56, 57 (APPROVED REGIONAL EQUIVALENTS INCLUDE CA-7)	ENGINEER OF RECORD TO DETERMINE IF BEDDING IS REQUIRED. PIPE MAY BE PLACED ON THE TRENCH BOTTOM OF A RELATIVELY LOOSE, NATIVE SUITABLE WELL GRADED GRANULAR MATERIAL THAT IS ROUGHLY SHAPED TO FIT THE BOTTOM OF THE PIPE, 2" MIN DEPTH. THE BEDDING MATERIAL MAY BE SUITABLE FOUNDATION SOILS CONFORMING TO AASHTO SOIL CLASSIFICATIONS A1, A2, OR A3 WITH MAXIMUM PARTICLE SIZE OF 3" PER AASHTO 26.3.8.1	
4			CORRUGATED METAL PIPE	
5A	CRITICAL BACKFILL	AASHTO M 145: A-1, A-2, A-3 *	HAUNCH ZONE MATERIAL SHALL BE HAND SHOVELED OR SHOVEL SLICED INTO PLACE TO ALLOW FOR PROPER COMPACTION WITHOUT SOFT SPOTS. BACKFILL SHALL BE PLACED IN 8" +/- LOOSE LIFTS AND COMPACTED TO 90% STANDARD PROCTOR PER AASHTO T 99. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A THREE LIFT (24") DIFFERENTIAL BETWEEN ANY OF THE PIPES AT ANY TIME DURING THE BACKFILL PROCESS. THE BACKFILL SHOULD BE ADVANCED ALONG THE LENGTH OF THE SYSTEM TO AVOID DIFFERENTIAL LOADING. WELL GRADED GRANULAR MATERIAL WHICH MAY CONTAIN SMALL AMOUNTS OF SILT OR CLAY AND MAXIMUM PARTICLE SIZE OF 3" (PER AASHTO 26.3.8.1 AND 12.4.1.3).	
5B	BACKFILL	AASHTO M 145: A-1, A-2, A-3		
6	COVER MATERIAL	UP TO MIN. COVER - SEE 5A AND 5B ABOVE; ABOVE MIN. COVER - PER ENGINEER OF RECORD	COVER MATERIAL MAY INCLUDE NON-BITUMINOUS, GRANULAR ROAD BASE MATERIAL WITHIN MIN COVER LIMITS	
7	RIGID OR FLEXIBLE PAVEMENT (IF APPLICABLE)	PER ENGINEER OF RECORD	FLEXIBLE PAVEMENT SHOULD NOT BE COUNTED AS PART OF THE FILL HEIGHT OVER THE CMP. FINAL BACKFILL MATERIAL SELECTION AND COMPACTION REQUIREMENTS SHALL FOLLOW THE PROJECT PLANS AND SPECIFICATIONS PER THE ENGINEER OF RECORD.	
A	OPTIONAL SIDE GEOTEXTILE	NONE	GEOTEXTILE LAYER IS RECOMMENDED ON SIDES OF EXCAVATION TO PREVENT SOIL MIGRATION.	
B	OPTIONAL GEOTEXTILE BETWEEN LAYERS	NONE	IF SOIL TYPES DIFFER AT ANY POINT ABOVE PIPE INVERT, A GEOTEXTILE LAYER IS RECOMMENDED TO BE PLACED BETWEEN THE LAYERS TO PREVENT SOIL MIGRATION.	

NOTES:
- FOR MULTIPLE BARREL INSTALLATIONS, THE RECOMMENDED STANDARD SPACING BETWEEN PARALLEL PIPE RUNS SHALL BE THE PIPE DIAMETER /2 BUT NO LESS THAN 12" FOR DIAMETERS <72". FOR 72" AND LARGER DIAMETERS, THE MINIMUM SPACING IS 36". CONTACT YOUR CONTECH REPRESENTATIVE FOR NONSTANDARD SPACING.
- * APPROVED REGIONAL EQUIVALENTS FOR SECTION 5A INCLUDE CA-7, MIDOT 2G, 34G, OR 21AA STONE OR GRAVEL, #8, #57, MIDOT 6A, 2G, 3G, 34G.

MANUFACTURER RECOMMENDED BACKFILL
NOT TO SCALE

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DETENTION SYSTEM



CONSTRUCTION LOADS

FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT-OF-COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT NECESSITATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, INCHES	AXLE LOADS (kips) 18-50	50-75	75-110	110-150
	MINIMUM COVER (FT)			
12-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-120	3.0	3.5	4.0	4.0
126-144	3.5	4.0	4.5	4.5

*MINIMUM COVER MAY VARY, DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.

CONSTRUCTION LOADING DIAGRAM
SCALE: N.T.S.

SPECIFICATION FOR DESIGNED DETENTION SYSTEM:

SCOPE
THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE DESIGNED DETENTION SYSTEM DETAILED IN THE PROJECT PLANS.

MATERIAL
THE MATERIAL SHALL CONFORM TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-274 OR ASTM A-92.

THE GALVANIZED STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-218 OR ASTM A-929.

THE POLYMER COATED STEEL COILS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-246 OR ASTM A-742.

THE ALUMINUM COILS SHALL CONFORM TO THE APPLICABLE OF AASHTO M-197 OR ASTM B-744.

CONSTRUCTION LOADS
CONSTRUCTION LOADS MAY BE HIGHER THAN FINAL LOADS. FOLLOW THE MANUFACTURER'S OR NCSPA GUIDELINES.

PIPE
THE PIPE SHALL BE MANUFACTURED IN ACCORDANCE TO THE APPLICABLE REQUIREMENTS LISTED BELOW:

ALUMINIZED TYPE 2: AASHTO M-36 OR ASTM A-760

GALVANIZED: AASHTO M-36 OR ASTM A-760

POLYMER COATED: AASHTO M-245 OR ASTM A-762

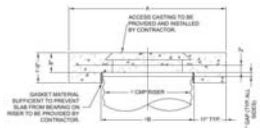
ALUMINUM: AASHTO M-196 OR ASTM B-745

HANDLING AND ASSEMBLY
SHALL BE IN ACCORDANCE WITH NCSPA'S (NATIONAL CORRUGATED STEEL PIPE ASSOCIATION) FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL. SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR ALUMINUM PIPE.

INSTALLATION
SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26, DIVISION II OR ASTM A-798 (FOR ALUMINIZED TYPE 2, GALVANIZED OR POLYMER COATED STEEL) OR ASTM B-788 (FOR ALUMINUM PIPE) AND IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR CONFLICTS THE CONTRACTOR SHOULD DISCUSS AND RESOLVE WITH THE SITE ENGINEER.

IT IS ALWAYS THE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.

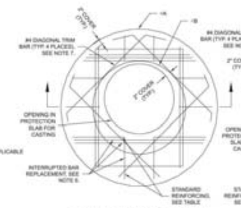
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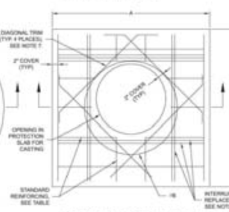
SECTION VIEW

REINFORCING TABLE				
∅ CMP RISER	A	∅ B	REINFORCING	**BEARING PRESSURE (PSF)
24"	∅ 4' / 4'X4'	26"	#5 @ 12" OCEW / #5 @ 12" OCEW	2,410 / 1,780
30"	∅ 4'-6" / 4'-6" X 4'-6"	32"	#5 @ 12" OCEW / #5 @ 12" OCEW	2,120 / 1,530
36"	∅ 5' / 5'X5'	38"	#5 @ 10" OCEW / #5 @ 10" OCEW	1,890 / 1,350
42"	∅ 5'-6" / 5'-6" X 5'-6"	44"	#5 @ 10" OCEW / #5 @ 9" OCEW	1,720 / 1,210
48"	∅ 6' / 6'X6'	50"	#5 @ 9" OCEW / #5 @ 8" OCEW	1,600 / 1,100

** ASSUMED SOIL BEARING CAPACITY



ROUND OPTION PLAN VIEW



SQUARE OPTION PLAN VIEW

NOTES:
1. DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION.
2. DESIGN LOAD HS25.
3. EARTH COVER = 1' MAX.
4. CONCRETE STRENGTH = 3,500 psi
5. REINFORCING STEEL = ASTM A615, GRADE 60.
6. PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.
7. TRIM OPENING WITH DIAGONAL #4 BARS, EXTEND BARS A MINIMUM OF 12" BEYOND OPENING, BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.
8. PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
9. DETAIL DESIGN BY DELTA ENGINEERING, BINGHAMTON, NY.

MANHOLE CAP DETAIL
SCALE: N.T.S.

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DETENTION SYSTEM

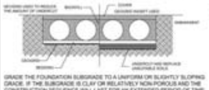
CMP DETENTION INSTALLATION GUIDE

PROPER INSTALLATION OF A FLEXIBLE UNDERGROUND DETENTION SYSTEM WILL ENSURE LONG-TERM PERFORMANCE. THE CONFIGURATION OF THESE SYSTEMS OFTEN REQUIRES SPECIAL CONSTRUCTION PRACTICES THAT DIFFER FROM CONVENTIONAL FLEXIBLE PIPE CONSTRUCTION. CONTECH ENGINEERED SOLUTIONS STRONGLY SUGGESTS SCHEDULING A PRE-CONSTRUCTION MEETING WITH YOUR LOCAL SALES ENGINEER TO DETERMINE IF ADDITIONAL MEASURES, NOT COVERED IN THIS GUIDE, ARE APPROPRIATE FOR YOUR SITE.

FOUNDATION

CONSTRUCT A FOUNDATION THAT CAN SUPPORT THE DESIGN LOADING APPLIED BY THE PIPE AND ADJACENT BACKFILL WEIGHT AS WELL AS MAINTAIN ITS INTEGRITY DURING CONSTRUCTION.

IF SOFT OR UNSUITABLE SOILS ARE ENCOUNTERED, REMOVE THE POOR SOILS DOWN TO A SUITABLE DEPTH AND THEN BUILD UP TO THE APPROPRIATE ELEVATION WITH A COMPETENT BACKFILL MATERIAL. THE STRUCTURAL FILL MATERIAL GRADATION SHOULD NOT ALLOW THE MIGRATION OF FINES, WHICH CAN CAUSE SETTLEMENT OF THE DETENTION SYSTEM OR PAVEMENT ABOVE. IF THE STRUCTURAL FILL MATERIAL IS NOT COMPATIBLE WITH THE UNDERLYING SOILS AN ENGINEERING FABRIC SHOULD BE USED AS A SEPARATOR. IN SOME CASES, USING A STIFF REINFORCING GEOGRID REDUCES OVER EXCAVATION AND REPLACEMENT FILL QUANTITIES.

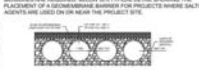


GRADE THE FOUNDATION SUBGRADE TO A UNIFORM OR SLIGHTLY SLOPING GRADE. IF THE SUBGRADE IS CLAY OR RELATIVELY NON-POROUS AND THE CONSTRUCTION SEQUENCE WILL LAST FOR AN EXTENDED PERIOD OF TIME, IT IS BEST TO SLOPE THE GRADE TO ONE END OF THE SYSTEM. THIS WILL ALLOW EXCESS WATER TO DRAIN QUICKLY, PREVENTING SATURATION OF THE SUBGRADE.

GEOMEMBRANE BARRIER

A SITE'S RESISTIVITY MAY CHANGE OVER TIME WHEN VARIOUS TYPES OF SALTING AGENTS ARE USED, SUCH AS ROAD SALTS FOR DEICING AGENTS. IF SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE, A GEOMEMBRANE BARRIER IS RECOMMENDED WITH THE SYSTEM. THE GEOMEMBRANE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM THE USE OF SUCH AGENTS INCLUDING PREMATURE CORROSION AND REDUCED ACTUAL SERVICE LIFE.

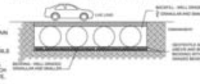
THE PROJECT'S ENGINEER OF RECORD IS TO EVALUATE WHETHER SALTING AGENTS WILL BE USED ON OR NEAR THE PROJECT SITE, AND USE HIS/HER BEST JUDGEMENT TO DETERMINE IF ANY ADDITIONAL PROTECTIVE MEASURES ARE REQUIRED. BELOW IS A TYPICAL DETAIL SHOWING THE PLACEMENT OF A GEOMEMBRANE BARRIER FOR PROJECTS WHERE SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE.



IN-SITU TRENCH WALL

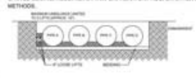
IF EXCAVATION IS REQUIRED, THE TRENCH WALL NEEDS TO BE CAPABLE OF SUPPORTING THE LOAD THAT THE PIPE SHEDS AS THE SYSTEM IS LOADED. IF SOILS ARE NOT CAPABLE OF SUPPORTING THESE LOADS, THE PIPE CAN DEFLECT. PERFORM A SIMPLE SOIL PRESSURE CHECK USING THE APPLIED LOADS TO DETERMINE THE LIMITS OF EXCAVATION BEYOND THE SPRING LINE OF THE OUTER MOST PIPES.

IN MOST CASES THE REQUIREMENTS FOR A SAFE WORK ENVIRONMENT AND PROPER BACKFILL PLACEMENT AND COMPACTION TAKE CARE OF THIS CONCERN.



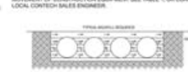
BACKFILL PLACEMENT

MATERIAL SHALL BE WORKED INTO THE PIPE HAUNCHES BY MEANS OF SHOVEL-SLICING, RODDING, AIR TAMPER, VIBRATORY ROD, OR OTHER EFFECTIVE METHODS.

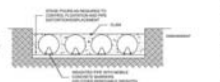


IF AASHTO T99 PROCEDURES ARE DETERMINED INFEASIBLE BY THE GEOTECHNICAL ENGINEER OF RECORD, COMPACTION IS CONSIDERED ADEQUATE WHEN NO FURTHER YIELDING OF THE MATERIAL IS OBSERVED UNDER THE COMPACTOR, OR UNDER FOOT, AND THE GEOTECHNICAL ENGINEER OF RECORD (OR REPRESENTATIVE THEREOF) IS SATISFIED WITH THE LEVEL OF COMPACTION.

FOR LARGE SYSTEMS, CONVEYOR SYSTEMS, BACKHOES WITH LONG REACHES OR DRAGLINES WITH STONE BUCKETS MAY BE USED TO PLACE BACKFILL. ONCE MINIMUM COVER FOR CONSTRUCTION LOADING ACROSS THE ENTIRE WIDTH OF THE SYSTEM IS REACHED, ADVANCE THE EQUIPMENT TO THE END OF THE RECENTLY PLACED FILL, AND BEGIN THE SEQUENCE AGAIN UNTIL THE SYSTEM IS COMPLETELY BACKFILLED. THIS TYPE OF CONSTRUCTION SEQUENCE PROVIDES ROOM FOR STOCKPILED BACKFILL DIRECTLY BEHIND THE BACKHOE, AS WELL AS THE MOVEMENT OF CONSTRUCTION TRAFFIC. MATERIAL STOCKPILES ON TOP OF THE BACKFILLED DETENTION SYSTEM SHOULD BE LIMITED TO 8- TO 10-FEET HIGH AND MUST PROVIDE BALANCED LOADING ACROSS ALL BARRELS. TO DETERMINE THE PROPER COVER OVER THE PIPES TO ALLOW THE MOVEMENT OF CONSTRUCTION EQUIPMENT SEE TABLE 1, OR CONTACT YOUR LOCAL CONTECH SALES ENGINEER.



WHEN FLOWABLE FILL IS USED, YOU MUST PREVENT PIPE FLOATATION. TYPICALLY, SMALL LIFTS ARE PLACED BETWEEN THE PIPES AND THEN ALLOWED TO SET-UP PRIOR TO THE PLACEMENT OF THE NEXT LIFT. THE ALLOWABLE THICKNESS OF THE CLSM LIFT IS A FUNCTION OF A PROPER BALANCE BETWEEN THE UPLIFT FORCE OF THE CLSM, THE OPPOSING WEIGHT OF THE PIPE, AND THE EFFECT OF OTHER RESTRAINING MEASURES. THE PIPE CAN CARRY LIMITED FLUID PRESSURE WITHOUT PIPE DISTORTION OR DISPLACEMENT, WHICH ALSO AFFECTS THE CLSM LIFT THICKNESS. YOUR LOCAL CONTECH SALES ENGINEER CAN HELP DETERMINE THE PROPER LIFT THICKNESS.



CONSTRUCTION LOADING

TYPICALLY, THE MINIMUM COVER SPECIFIED FOR A PROJECT ASSUMES H-20 LIVE LOAD. BECAUSE CONSTRUCTION LOADS OFTEN EXCEED DESIGN LIVE LOADS, INCREASED TEMPORARY MINIMUM COVER REQUIREMENTS ARE NECESSARY. SINCE CONSTRUCTION EQUIPMENT VARIES FROM JOB TO JOB, IT IS BEST TO ADDRESS EQUIPMENT SPECIFIC MINIMUM COVER REQUIREMENTS WITH YOUR LOCAL CONTECH SALES ENGINEER DURING YOUR PRE-CONSTRUCTION MEETING.

ADDITIONAL CONSIDERATIONS

BECAUSE MOST SYSTEMS ARE CONSTRUCTED BELOW-GRADE, RAINFALL CAN RAPIDLY FILL THE EXCAVATION, POTENTIALLY CAUSING FLOATATION AND MOVEMENT OF THE PREVIOUSLY PLACED PIPES. TO HELP MITIGATE POTENTIAL PROBLEMS, IT IS BEST TO START THE INSTALLATION AT THE DOWNSTREAM END WITH THE OUTLET ALREADY CONSTRUCTED TO ALLOW A ROUTE FOR THE WATER TO ESCAPE. TEMPORARY DIVERSION MEASURES MAY BE REQUIRED FOR HIGH FLOWS DUE TO THE RESTRICTED NATURE OF THE OUTLET PIPE.



CMP DETENTION SYSTEM INSPECTION AND MAINTENANCE

UNDERGROUND STORMWATER DETENTION AND INFILTRATION SYSTEMS MUST BE INSPECTED AND MAINTAINED AT REGULAR INTERVALS FOR PURPOSES OF PERFORMANCE AND LONGEVITY.

INSPECTION

INSPECTION IS THE KEY TO EFFECTIVE MAINTENANCE OF CMP DETENTION SYSTEMS AND IS EASILY PERFORMED. CONTECH RECOMMENDS ONGOING, ANNUAL INSPECTIONS. SITES WITH HIGH TRASH LOAD OR SMALL OUTLET CONTROL ORIFICES MAY NEED MORE FREQUENT INSPECTIONS. THE RATE AT WHICH THE SYSTEM COLLECTS POLLUTANTS WILL DEPEND MORE ON SITE SPECIFIC ACTIVITIES RATHER THAN THE SIZE OR CONFIGURATION OF THE SYSTEM.

INSPECTIONS SHOULD BE PERFORMED MORE OFTEN IN EQUIPMENT WASHDOWN AREAS, IN CLIMATES WHERE SANDING AND/OR SALTING OPERATIONS TAKE PLACE, AND IN OTHER VARIOUS INSTANCES IN WHICH ONE WOULD EXPECT HIGHER ACCUMULATIONS OF SEDIMENT OR ABRASIVE/CORROSIVE CONDITIONS. A RECORD OF EACH INSPECTION IS TO BE MAINTAINED FOR THE LIFE OF THE SYSTEM.

MAINTENANCE

CMP DETENTION SYSTEMS SHOULD BE CLEANED WHEN AN INSPECTION REVEALS ACCUMULATED SEDIMENT OR TRASH IS CLOGGING THE DISCHARGE ORIFICE.

ACCUMULATED SEDIMENT AND TRASH CAN TYPICALLY BE EVACUATED THROUGH THE MANHOLE OVER THE OUTLET ORIFICE. IF MAINTENANCE IS NOT PERFORMED AS RECOMMENDED, SEDIMENT AND TRASH MAY ACCUMULATE IN FRONT OF THE OUTLET ORIFICE. MANHOLE COVERS SHOULD BE SECURELY SEATED FOLLOWING CLEANING ACTIVITIES. CONTECH SUGGESTS THAT ALL SYSTEMS BE DESIGNED WITH AN ACCESS/INSPECTION MANHOLE SITUATED AT OR NEAR THE INLET AND THE OUTLET ORIFICE. SHOULD IT BE NECESSARY TO GET INSIDE THE SYSTEM TO PERFORM MAINTENANCE ACTIVITIES, ALL APPROPRIATE PRECAUTIONS REGARDING CONFINED SPACE ENTRY AND OSHA REGULATIONS SHOULD BE FOLLOWED.

ANNUAL INSPECTIONS ARE BEST PRACTICE FOR ALL UNDERGROUND SYSTEMS. DURING THIS INSPECTION, IF EVIDENCE OF SALTING/DE-ICING AGENTS IS OBSERVED WITHIN THE SYSTEM, IT IS BEST PRACTICE FOR THE SYSTEM TO BE RINSED, INCLUDING ABOVE THE SPRING LINE SOON AFTER THE SPRING THAW AS PART OF THE MAINTENANCE PROGRAM FOR THE SYSTEM.

MAINTAINING AN UNDERGROUND DETENTION OR INFILTRATION SYSTEM IS EASIEST WHEN THERE IS NO FLOW ENTERING THE SYSTEM. FOR THIS REASON, IT IS A GOOD IDEA TO SCHEDULE THE CLEANOUT DURING DRY WEATHER.

THE FOREGOING INSPECTION AND MAINTENANCE EFFORTS HELP ENSURE UNDERGROUND PIPE SYSTEMS USED FOR STORMWATER STORAGE CONTINUE TO FUNCTION AS INTENDED BY IDENTIFYING RECOMMENDED REGULAR INSPECTION AND MAINTENANCE PRACTICES. INSPECTION AND MAINTENANCE RELATED TO THE STRUCTURAL INTEGRITY OF THE PIPE OR THE SOUNDNESS OF PIPE JOINT CONNECTIONS IS BEYOND THE SCOPE OF THIS GUIDE.

DYO38194 Panera Riverdale
CMP Gallery
Ogden, UT
DETENTION SYSTEM

PERIGEE CONSULTING
CIVIL • STRUCTURAL • SURVEY
9089 SOUTH 1300 WEST, SUITE 160, WEST JORDAN, UT 84088
801.628.6004 TEL 801.590.6611 FAX
WWW.PERIGEECIVIL.COM

REGISTERED PROFESSIONAL ENGINEER
JED T. ATHERLEY
No. 5047290
04/11/24
STATE OF UTAH

RIVERDALE CITY

CITY ENGINEER	DATE

MARK	DESCRIPTION	DATE	APPR.

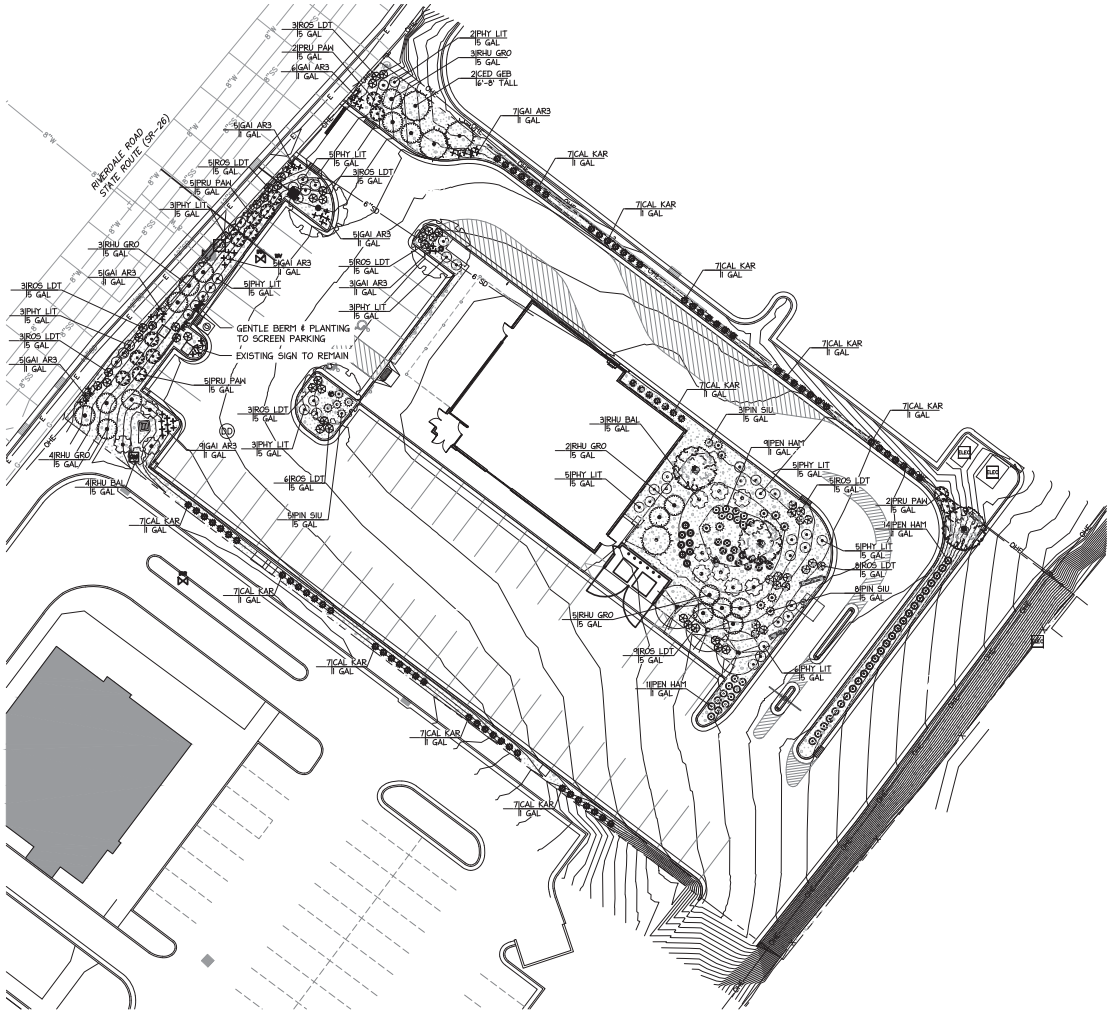
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RIVERDALE CITY
PANERA BREAD
DETAIL SHEET

SHEET NUMBER 15 OF 21 SHEETS
DRAWING NAME DT04

CALL BEFORE YOU DIG! IT'S THE LAW
BLUE STAKES 1 800 662 4111

4/11/2024 9:13:16 AM



PLANT SCHEDULE

TREES	CODE	BOTANICAL / COMMON NAME	CAL	QTY
	ACE GRA	ACER GRANDIDENTATUM BIGTOOTH MAPLE	2" CAL	3
	SYR IVO	SYRINGA RETICULATA 'IVORY SILK' IVORY SILK JAPANESE TREE LILAC	2" CAL	3
	ZEL MUS	ZELKOVA SERRATA 'MUSASHINO' MUSASHINO JAPANESE ZELKOVA	2" CAL	3
EVERGREEN TREES	**CODE**	**BOTANICAL / COMMON NAME**	**CAL**	**QTY**
	CED GEB	CEDRUS LIBANI 'GREEN CASCADE' WEEPING LEBANON CEDAR	6'-8' TALL	4
SHRUBS	**CODE**	**BOTANICAL / COMMON NAME**	**SIZE**	**QTY**
	PHY LIT	PHYSOCARPUS OPULIFOLIUS 'LITTLE DEVIL' LITTLE DEVIL® DWARF NINEBARK	5 GAL	45
	PIN SIU	PINUS MUGO 'CARSTEN'S WINTERGOLD' CARSTEN'S WINTERGOLD MUGO PINE	5 GAL	16
	PRU PAW	PRUNUS BESSEYI 'P011S' PAWNEE BUTTES® SAND CHERRY	5 GAL	14
	RHU GRO	RHUS AROMATICA 'GRO-LOW' GRO-LOW FRAGRANT SUMAC	5 GAL	17
	RHU BAL	RHUS TYPHINA 'BAILTIGER' TIGER EYES® STAGHORN SUMAC	5 GAL	12
	ROS LDT	ROSA X 'MEIZORLAND'® PP28054 WHITE DRIFT ROSE	5 GAL	53
PERENNIALS/GRASSES	**CODE**	**BOTANICAL / COMMON NAME**	**SIZE**	**QTY**
	CAL KAR	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' KARL FOERSTER FEATHER REED GRASS	1 GAL	77
	GAI AR3	GAILLARDIA ARISTATA 'ARIZONA SUN' ARIZONA SUN BLANKET FLOWER	1 GAL	55
	PEN HAM	PENNISETUM ALOPECUROIDES 'HAMELN' HAMELN FOUNTAIN GRASS	1 GAL	45
MULCH	**CODE**	**BOTANICAL / COMMON NAME**	**SIZE**	**SPACING**	**QTY**
	SM2	TAN STONE MULCH MATCH ADJACENT PROPERTY (MATCH STONE MULCH USED AT STARBUCKS)	1"-2"		10,794 SF

SITE SUMMARY CALCULATIONS:

DESCRIPTION	AREA	PERCENT
OVERALL PROJECT AREA	48,536 SF	
LANDSCAPE (LS) AREA	9,512 SF	20 % (OF TOTAL SITE)
LS AREA IN TURF GRASS	0 SF	0 % (OF LS AREA)
LS AREA DROUGHT TOLERANT	9,512 SF	100 % (OF LS AREA)

TREE SUMMARY
TREES REQUIRED (1 FOR EVERY 5,000) = 10
TREES PROVIDED 13
HIGHEST % OF TREES OF SINGLE VARIETY= 28%

0 10 20 40
SCALE: 1"= 20'

NORTH

CITY REVIEW - NOT FOR CONSTRUCTION

G.B:D
G. BROWN DESIGN INC
SITE AND LANDSCAPE ARCHITECTS
679 East 1700 South, Ste 110
Provo, Utah 84606
801.373.0866
www.gbrowndesign.com

PREPARED FOR:

CONSULTANTS:

PANERA BREAD
4130 RIVERDALE ROAD
RIVERDALE, UTAH

REVISIONS:

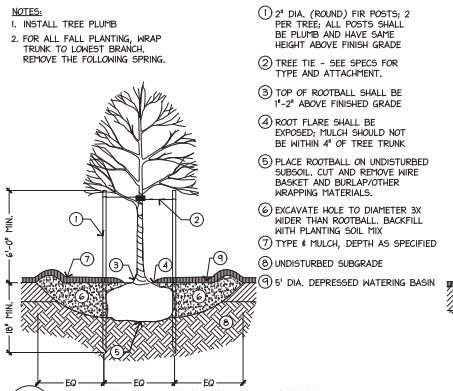
STAMP:
STATE OF UTAH
MICHAEL J. ONEMBERG
NO. 7456909-5301
LICENSED LANDSCAPE ARCHITECT
10.26.2023

SHEET TITLE:
PLANTING PLAN

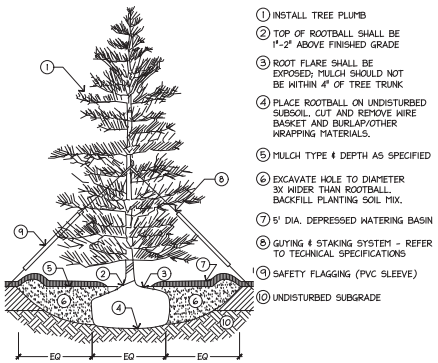
DATE: 10-26-2023
DRAWN BY: ECB
CHECKED BY: MJW
JOB NO.: U22-053

SHEET NO:
LP-101

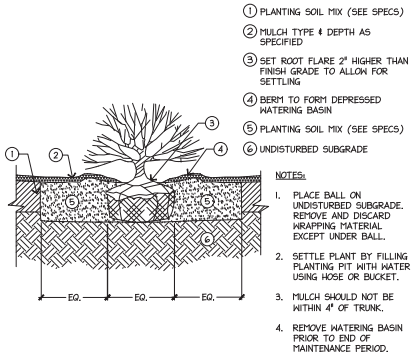
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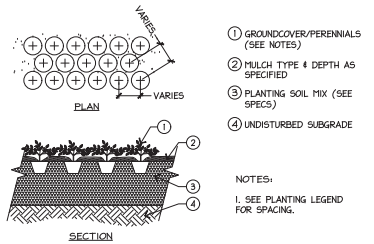
1 DECIDUOUS TREE WITH STAKING
NTS



2 EVERGREEN TREE WITH GUYING SYSTEM
NTS



3 SHRUB
NTS



4 GROUNDCOVER / PERENNIAL
NTS

PLANTING NOTES

1. THE BASE INFORMATION FOR THIS DRAWING WAS OBTAINED FROM OTHERS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE DRAWING WITH ACTUAL FIELD CONDITIONS PRIOR TO BEGINNING ANY WORK AND IMMEDIATELY NOTIFYING THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES. IN THE EVENT THAT THE CONTRACTOR BEGINS WORK PRIOR TO VERIFYING AND COMPARING THE BASE INFORMATION WITH ACTUAL FIELD CONDITIONS, THEN ANY CHANGES OR ALTERATIONS TO THE WORK INVOLVED WITH THESE DRAWINGS DUE TO SUCH DISCREPANCIES WILL BE PERFORMED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND MARKING THE LOCATIONS OF ALL UTILITIES WITHIN THE LIMITS OF WORK PRIOR TO BEGINNING CONSTRUCTION. CONTACT THE OWNER, BLUE STAKES OF UTAH AT 811 OR 1-800-662-4111, AND ALL OTHER ENTITIES AS NECESSARY. IN THE EVENT THE CONTRACTOR BEGINS CONSTRUCTION WORK PRIOR TO VERIFYING AND STAKING ALL UTILITIES, AND DAMAGE TO UTILITIES OCCURS, THE DAMAGED UTILITIES WILL BE REPAIRED AND/OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
3. REFER TO LEGENDS, NOTES, AND DETAILS FOR FURTHER INFORMATION.
4. ANY ALTERATIONS TO THESE ACTUAL PLANTING PLANS DURING CONSTRUCTION SHALL BE RECORDED ON "AS BUILT" DRAWINGS AND PROVIDED TO THE OWNER.
5. ALL PLANT MATERIAL SHALL CONFORM TO THE MINIMUM GUIDELINES ESTABLISHED BY THE AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN NURSERY ASSOCIATION, INC.
6. ALL PLANTS TO BE BALLED AND BURLAPPED OR CONTAINER GROWN, UNLESS OTHERWISE NOTED ON THE PLANT LIST.
7. THE CONTRACTOR IS RESPONSIBLE TO VERIFY ALL QUANTITIES AND SHALL SUPPLY ALL PLANT MATERIAL IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING DESIGN SHOWN ON THE PLANS REGARDLESS OF QUANTITIES INDICATED IN THE PLANT SCHEDULE.
8. ANY PROPOSED SUBSTITUTIONS OF PLANT SPECIES SHALL BE MADE WITH PLANTS OF EQUIVALENT OVERALL FORM, HEIGHT, BRANCHING HABIT, FLOWER, LEAF, COLOR, FRUIT AND CULTURE ONLY AS APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
9. ALL PLANT BEDS SHALL RECEIVE 12" OF PLANTING SOIL MIX AS SPECIFIED. BACKFILL ALL PLANTING PITS WITH PLANTING SOIL MIX.
10. PLANTING SOIL MIX TO BE AS FOLLOWS: 80% TOPSOIL, 10% UTELITE, AND 10% ORGANIC COMPOST.
11. PLANTER AREAS SHOWN IN GRAY ON THE PLANS TO RECEIVE FOUR INCHES (4)" DEPTH STONE MULCH. STONE MULCH TO MATCH ADJACENT PROPERTY (STARBUCKS). INSTALL ON TOP OF DEWITT PRO-5 WEED-BARRIER FABRIC.
12. APPLY TREFLAN (OR OWNER APPROVED EQUAL) PRE-EMERGENT HERBICIDE FOR USE IN PLANTER BEDS FOR WEED CONTROL. APPLY ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. THE PRE-EMERGENT APPLICATION MUST BE FOLLOWED WITHIN 8 HOURS WITH OVERHEAD WATERING OR RAINFALL EQUIVALENT TO 1/2".

G.B:D
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670 East 100 Street, Ste 10
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RIVERDALE, UTAH

REVISIONS:
1 -
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4 -
5 -

STAMP
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NO. 7456909-5301
LICENSED LANDSCAPE ARCHITECT
8.23.2023

SHEET TITLE:
PLANTING DETAILS

DATE: 10-26-2023
DRAWN BY: ECB
CHECKED BY: MJW
JOB NO.: U22-053

SHEET NO:
LP-501

CITY REVIEW - NOT FOR CONSTRUCTION

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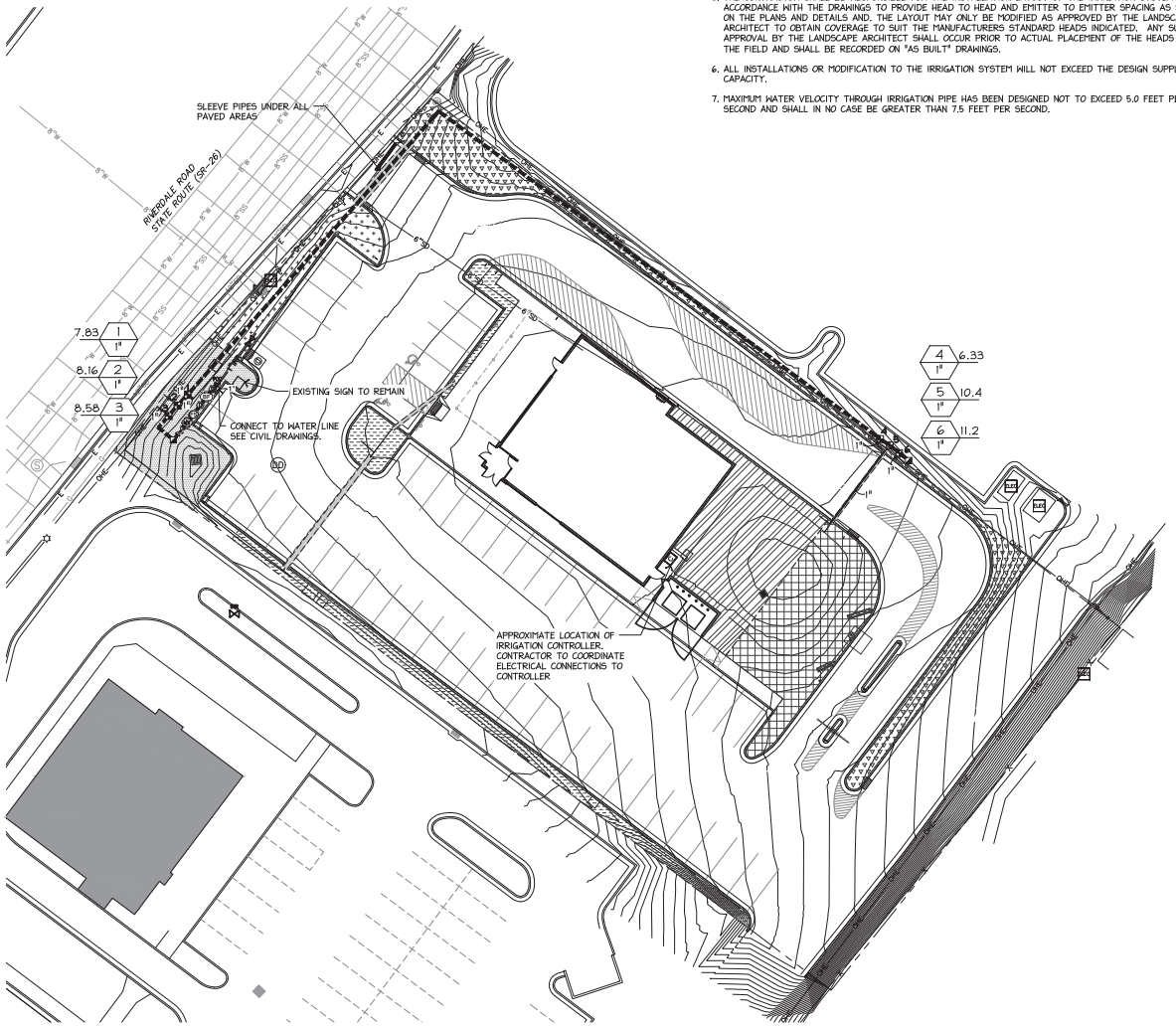
MAXIMUM WATER USAGE CALCULATIONS

GROSS IRRIGATION REQUIREMENT (GIR) = (ETo x PF x A) x 0.623
(GIR) = (7.93 x .25 x 8,232) x 0.623 = 10,282 Gallons per month
NET IRRIGATION REQUIREMENT (NIR) = GIR/E
= 10,282/.9 = 11,424 Gallons per hottest month (July)

MAXIMUM DAILY WATERING = 1,428 Gallons (assuming two waterings/week)

IRRIGATION GENERAL NOTES

1. THE BASE INFORMATION FOR THIS DRAWING WAS OBTAINED FROM OTHERS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE DRAWING WITH ACTUAL FIELD CONDITIONS PRIOR TO BEGINNING ANY WORK AND IMMEDIATELY NOTIFYING THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES. IN THE EVENT THAT THE CONTRACTOR BEGINS WORK PRIOR TO VERIFYING AND COMPARING THE BASE INFORMATION WITH ACTUAL FIELD CONDITIONS, THEN ANY CHANGES OR ALTERATIONS TO THE WORK INVOLVED WITH THESE DRAWINGS DUE TO SUCH DISCREPANCIES WILL BE PERFORMED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING AND MARKING THE LOCATIONS OF ALL UTILITIES WITHIN THE LIMITS OF WORK PRIOR TO BEGINNING CONSTRUCTION. CONTACT THE OWNER, BLUE STAKES OF UTAH AT 811 OR 1-800-662-4111, AND ALL OTHER ENTITIES AS NECESSARY. IN THE EVENT THE CONTRACTOR BEGINS CONSTRUCTION WORK PRIOR TO VERIFYING AND STAKING ALL UTILITIES, AND DAMAGE TO UTILITIES OCCURS, THE DAMAGED UTILITIES WILL BE REPAIRED AND/OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
3. REFER TO LEGENDS, NOTES, AND DETAILS FOR FURTHER INFORMATION.
4. COORDINATE LAYOUT OF THE IRRIGATION SYSTEM WITH OTHER TRADES SO THAT CONSTRUCTION CAN CONTINUE IN A NORMAL SEQUENCE OF EVENTS AND SO THAT WORK OF OTHER TRADES IS NOT DISTURBED ONCE PLACED IN THE FIELD. IN THE EVENT THE CONTRACTOR FAILS TO COORDINATE CONSTRUCTION BETWEEN TRADES AND BY DOING SO, THE CONTRACTOR DAMAGES, DISPLACES OR OTHERWISE CAUSES OTHER TRADES WORK TO BE REINSTALLED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUCH REPLACEMENT AND/OR RE-INSTALLATION AT NO ADDITIONAL COST TO THE OWNER.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION LAYOUT OF THE IRRIGATION SYSTEM IN ACCORDANCE WITH THE DRAWINGS TO PROVIDE HEAD TO HEAD AND EMITTER TO EMITTER SPACING AS SHOWN ON THE PLANS AND DETAILS AND. THE LAYOUT MAY ONLY BE MODIFIED AS APPROVED BY THE LANDSCAPE ARCHITECT TO OBTAIN COVERAGE TO SUIT THE MANUFACTURERS STANDARD HEADS INDICATED. ANY SUCH APPROVAL BY THE LANDSCAPE ARCHITECT SHALL OCCUR PRIOR TO ACTUAL PLACEMENT OF THE HEADS IN THE FIELD AND SHALL BE RECORDED ON "AS BUILT" DRAWINGS.
6. ALL INSTALLATIONS OR MODIFICATION TO THE IRRIGATION SYSTEM WILL NOT EXCEED THE DESIGN SUPPLY CAPACITY.
7. MAXIMUM WATER VELOCITY THROUGH IRRIGATION PIPE HAS BEEN DESIGNED NOT TO EXCEED 5.0 FEET PER SECOND AND SHALL IN NO CASE BE GREATER THAN 7.5 FEET PER SECOND.
8. PROVIDE AND INSTALL ALL THE MANUFACTURER'S RECOMMENDED SURGE AND LIGHTNING PROTECTION EQUIPMENT ON ALL CONTROLLERS. AG2401 SURGE SUPPRESSER ON HIGH VOLTAGE; 3 GROUND ROD GRID, 8 FOOT TRIANGLE FOR LOW VOLTAGE.
9. THE IRRIGATION DESIGN IS DIAGRAMMATIC. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE HIMSELF WITH THE SITE AND TO LOCATE ALL IRRIGATION EQUIPMENT OTHER THAN SPRAY HEADS, ROTORS, EMITTERS AND IN-LINE EMITTERS IN THE CLOSEST LANDSCAPE AREA TO WHERE THE SYMBOL FOR THAT EQUIPMENT HAS BEEN SHOWN ON THE PLANS IN THE SAME SEQUENCE AS SHOWN ON THE PLANS.
10. THE CONTRACTOR SHALL PROVIDE ALL LABOR, PARTS AND MATERIALS REQUIRED TO COMPLETE THE IRRIGATION SYSTEM IN ACCORDANCE WITH THE PLANS, AND DETAILS.
11. ALL LINES SHALL SLOPE TO MANUAL DRAIN (SEE DETAILS). IF FIELD CONDITIONS NECESSITATE ADDITIONAL DRAINS, THESE DRAINS SHALL BE INSTALLED FOR COMPLETE DRAINAGE OF THE ENTIRE SYSTEM. REFER TO DETAILS AND SPECIFICATIONS FOR DRAIN INSTALLATION, SUMP REQUIREMENTS AND DEPTH OF BOTH DRAIN AND SUMP.
12. THE IRRIGATION CONTRACTOR SHALL FLUSH AND ADJUST ALL THROTTLE CONTROLS ON ALL SPRINKLER HEADS AND ADJUST VALVES FOR OPTIMUM COVERAGE WITH MINIMAL OVER SPRAY ONTO WALKS, STREETS, WALLS, ETC.
13. INTERRUPTION OF IRRIGATION WATERING IS LIKELY TO OCCUR DUE TO OTHER CONSTRUCTION ACTIVITIES AND WORK ON THE IRRIGATION SYSTEM. ALL EXISTING PLANT MATERIAL TO REMAIN SHALL BE PROPERLY PROTECTED AND CARED FOR THROUGHOUT CONSTRUCTION. CONTRACTOR SHALL HAND WATER PLANTS AS REQUIRED. ANY DAMAGE TO PLANT MATERIAL THAT OCCURS DUE TO THIS CONSTRUCTION OR LACK OF WATER DURING CONSTRUCTION SHALL BE REPAIRED TO THE PRE-CONSTRUCTION CONDITION AT THE EXPENSE OF THE CONTRACTOR.
14. THE IRRIGATION SYSTEM SHOWN ON THE DRAWINGS REPRESENTS AN AUTOMATIC CONTROLLER IRRIGATION SYSTEM SUPPLIED FROM THE MUNICIPAL CULINARY WATER SYSTEM. THE SYSTEM IS DESIGNED FOR A MINIMUM OPERATING PRESSURE OF 70 PSI AT THE IRRIGATION POINT OF CONNECTION. THE IRRIGATION CONTRACTOR SHALL VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION AND REPORT ANY DIFFERENCES TO THE OWNER AND/OR THEIR REPRESENTATIVE.



IRRIGATION_SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	PSI
	RAIN BIRD XCZ-100-PRB-COM WIDE FLOW DRIP CONTROL KIT FOR COMMERCIAL APPLICATIONS. 1IN. BALL VALVE WITH 1IN. PESB VALVE AND 1IN. PRESSURE REGULATING 40PSI QUICK-CHECK BASKET FILTER. 0.3 GPM-20 GPM	
P	FLUSH VALVE AND DRIP INDICATOR (NOT SHOWN) INSTALL NETAFIM TLSOV MANUAL FLUSH VALVE, AND RAINBIRD OPERIND DRIP INDICATOR AT THE END OF EACH DRIP ZONE IN EACH PLANTER, AND OTHER AREAS AS NECESSARY TO WINTERIZE DRIP SYSTEM.	
VALVE NUMBER 1 2 3 4 5 6	AREA TO RECEIVE DRIP EMITTERS RAIN BIRD PCT PRESSURE COMPENSATING THREADED LOW-FLOW BUBBLERS. OFFERED IN 5 GPH, 7 GPH, AND 10 GPH MODELS, WITH 1/2IN. FPT THREADED INLET. LIGHT BROWN = 5 GPH, VIOLET = 7 GPH, AND GREEN = 10 GPH.	30
	Emitter Notes: PCT-05 emitters (1 assigned to each 1 GAL plant.)	
	PCT-05 emitters (6 assigned to each 2" CAL plant.)	
	PCT-05 emitters (2 assigned to each 5 GAL plant.)	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	
	RAIN BIRD 44-LRC 1" BRASS QUICK-COUPLING VALVE, WITH CORROSION-RESISTANT STAINLESS STEEL SPRING, LOCKING THERMOPLASTIC RUBBER COVER, AND 2-PIECE BODY.	
	RESILIENT WEDGE ISOLATION VALVE FOR MAINLINE	
	STOP & WASTE-SHUT OFF VALVE- PER LINE SIZE	
PRV	RAIN BIRD PEB 1" 1IN., 1-1/2IN., 2IN. PLASTIC INDUSTRIAL MASTER VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.	
BF	WILKINS 375XL 1-1/2" REDUCED PRESSURE BACKFLOW DEVICE IN BLACK GUARDSHACK ENCLOSURE (SIZED TO FIT) WITH INSULATED BLANKET.	
C	RAIN BIRD ESP4-SMTE WITH (1) ESP-SM3 7 STATION OUTDOOR SMART MODULAR CONTROL SYSTEM FOR RESIDENTIAL AND LIGHT COMMERCIAL USE. WALL MOUNT, TIPPING BUCKET RAIN SENSOR THAT MEASURES RAINFALL. ADD LINK2WIFI UPGRADE	
FS	RAIN BIRD UFS-100 1IN. ULTRASONIC FLOW SENSORS, WITH GLASS FILLED NYLON BODY. OPERATING RANGE .3 GPM-50 GPM. SIZE FOR FLOW NOT ACCORDING TO PIPE SIZE.	
POC	POINT OF CONNECTION 1" CONNECT TO WATER LINE STUB - SEE CIVIL DRAWINGS	
	IRRIGATION LATERAL LINE: PVC SCHEDULE 40	
	IRRIGATION MAINLINE: PVC SCHEDULE 40	
	PIPE SLEEVE: PVC SCHEDULE 40 SLEEVE SHALL BE A MINIMUM OF TWICE THE NOMINAL SIZE OF PIPE WITHIN. EXTEND SLEEVES 18 INCHES BEYOND EDGES OF PAVING OR CONSTRUCTION	

Valve Callout
Valve Number
Valve Flow
Valve Size

0 10 20 40
SCALE: 1" = 20'

NORTH

CITY REVIEW - NOT FOR CONSTRUCTION

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679 East 1700 Street, Ste 7B
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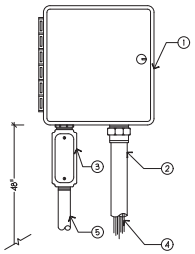
REVISIONS:
1 -
2 -
3 -
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STAMP
STATE OF UTAH
MICHAEL J. ONEMBERG
LICENSE NO. 7456909-5301
LICENSED LANDSCAPE ARCHITECT
8.23.2023

SHEET TITLE:
IRRIGATION PLAN

DATE: 10-26-2023
DRAWN BY: ECB
CHECKED BY: MJW
JOB NO.: U22-053

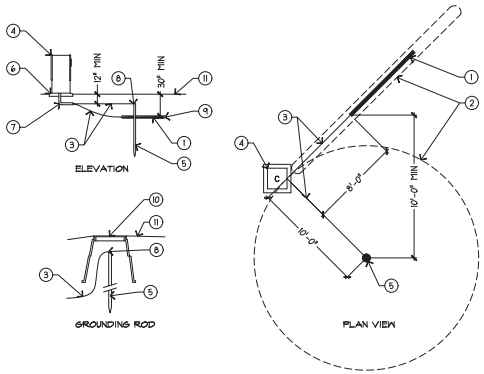
SHEET NO:
LI-101



1. WALL MOUNTED IRRIGATION CONTROLLER - REFER TO SPECS.
2. PVC SCH 80 CONDUIT AND FITTINGS SIZED PER SPECS
3. JUNCTION BOX
4. WIRES TO REMOTE CONTROL VALVES
5. 1-INCH PVC SCH 80 CONDUIT TO POWER SUPPLY (UNLESS SPECIFIED LARGER ON ELECTRICAL DRAWINGS)

NOTE:
BOTTOM OF CONTROLLER TO BE 48" ABOVE FINISH GRADE

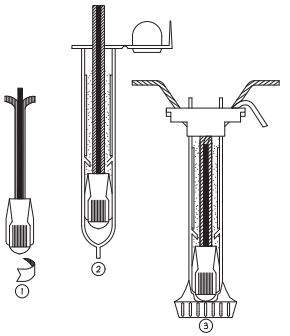
1 IRRIGATION CONTROLLER-WALL MOUNT
NTS



1. COPPER GROUND PLATE (4" X 96" X .0625")
2. ELECTRIC SPHERE OF INFLUENCE BOUNDARIES
   15' X
   24' AND 10' IN DIAMETER
3. #6 AWG SOLID BARE COPPER WIRE (TYP.)
4. IRRIGATION CONTROLLER- SEE CONTROLLER DETAIL
5. 5/8" DIAMETER 10' LONG UL LISTED COPPER CLAD
   GROUNDING ROD
6. CONCRETE PAD
7. PVC SWEEP ELL 1-1/2" OR LARGER
8. CADWELD CONNECTION
9. EARTH CONTACT MATERIAL (POWER SET)
10. 10" ROUND VALVE BOX
11. FINISH GRADE

NOTES:
1. DO NOT INSTALL ANY OTHER WIRES OR CABLE WITHIN THE SPHERE OF INFLUENCE.
2. PLACE 100 LB POWER SET SOIL AMENDMENT TO EACH PLATE AS PER MANUFACTURER'S RECOMMENDATIONS.
3. ALL GROUNDING TO BE TESTED BY CONTRACTOR TO HAVE MAXIMUM RESISTANCE OF 10 OHMS OR LESS PER MANUFACTURER'S RECOMMENDATIONS

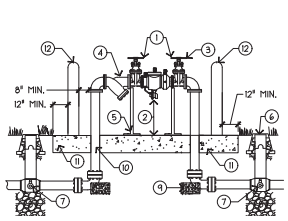
2 GROUNDING ROD & PLATE
NTS



1. STRIP WIRES AND APPLY PERFORMANCE PLUS WIRE CONNECTOR R/Y+ ELECTRICAL CONNECTOR IN A CLOCKWISE DIRECT SPLICE TO BOTTOM OF GEL FILLED TUBE. VISUALLY CHECK TO MAKE SURE CONNECTOR HAS BEEN PUSHED PAST THE LOCKING FINGERS AND IS SEATED ON THE BOTTOM OF THE TUBE.
2. INSERTION WIRES IN WIRE CHANNELS AND CLOSE INSULATOR TUBE COVER.

NOTE: SOLDER ALL WIRE CONNECTIONS

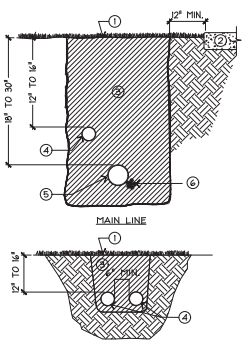
3 3M DBR/Y DIRECT BURY SPLICE KIT
NTS



1. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER ASSEMBLY (SEE SPECIFICATIONS)
2. 24" MAX. ABOVE FINISH GRADE
3. SHUT OFF VALVE TYP.
4. LINE SIZE WYE STRAINER (IF SPECIFIED)
5. PIPE SUPPORT
6. TOP OF BOXES 2" TO TOP OF STAND PIPES
7. 3/4" MANUAL DRAIN VALVE TYP. (SEE DETAIL)
8. 12" GRAVEL SUMP TYP.
9. THRUST BLOCK TYP.
10. SPOOL OR GALV. PIPE
11. CONCRETE PAD 6" THICK EXTEND 12" BEYOND STEEL BOLLARD
12. CONCRETE FILLED STEEL BOLLARD INSTALLED MIN 6" FROM SPOOL

NOTES:
1. CONFORM TO COUNTY STANDARDS AND AWWA CODES WHEN CONNECTING WATER MAIN SUPPLY.
2. ALL BACKFLOW PREVENTER ASSEMBLIES ARE TO MEET UTAH STATE CODES.
3. ALL STANDPIPES AND BOXES MUST HAVE PROPER PROVISIONS FOR DRAINING AND FROST PROTECTION.
4. BACKFLOW PREVENTER AND CONCRETE PAD TO BE INSTALLED AT LEVEL GRADE. SLOPE PAD 2% FROM CENTER FOR DRAINAGE. SMOOTHLY TRANSITION SLOPE BACK TO NATURAL GRADE AT HILLSIDE.
5. EDGE OF CONCRETE PAD SHALL BE FLUSH WITH SURROUNDING FINISH GRADE.

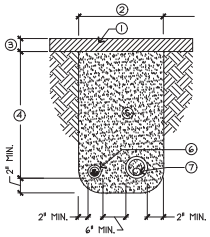
4 RP BACKFLOW PREVENTER ASSEMBLY
NTS



1. FINISHED GRADE
2. HARDSCAPE SURFACE
3. CLEAN BACKFILL (SHALL CONTAIN NO SHARP OR ANGULAR ROCKS OR ANY ROCK OVER 1" DIA.
4. LATERAL LINE
5. MAIN LINE
6. CONTROL WIRES

NOTE:
1. ATTACH CONTROL WIRES TO EITHER SIDE OF MAIN LINE WITH DUCT TAPE AT 15 FEET O.C.

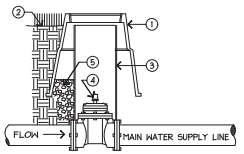
5 TRENCHING
NTS



1. PROPOSED HARDSCAPE SURFACE
2. WIDTH AS REQUIRED
3. VARIES AS PER HARDSCAPE SURFACE
4. DEPTH AS REQUIRED TO MATCH MAIN LINE (18"-30") OR LATERAL LINE (12"-16") OR CONTROL WIRES (18"-30")
5. BACKFILL COMPACTED AT 95%.
6. CONTROL WIRES 6" TO EITHER SIDE IN CONDUCT SLEEVE PER SPECS.
7. MAIN LINE or LATERAL IN SLEEVE

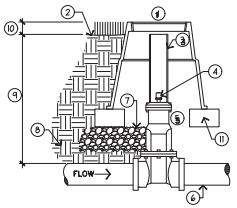
NOTES:
1. ALL SLEEVES SHALL BE SCHEDULE 40 PVC.
2. ALL SLEEVES SHALL BE A MINIMUM OF 4" AND TWICE THE NOMINAL SIZE OF THE PIPE WITHIN.
3. ALL SLEEVING SHALL EXTEND A MIN. OF 18" BEYOND EDGE OF HARDSCAPE.

6 SLEEVING
NTS



1. 10" ROUND CARSON-BROOKS 910 VALVE BOX
2. INSTALL BOX AT FINISH GRADE IN TURF AREAS AND LEVEL WITH MULCH IN PLANTING BEDS
3. 6" PVC SCH. 40 PIPE SLEEVE, 4" - 6" BELOW GRADE
4. ISOLATION VALVE OR STOP & WASTE VALVE - REFER TO IRRIGATION LEGEND
5. 6" MIN. DEPTH 3/4" WASHED AGGREGATE

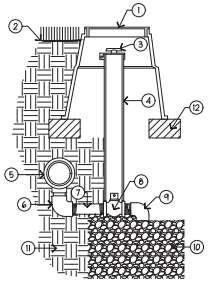
7 ISOLATION VALVE/STOP & WASTE
1" = 1"



1. 10" ROUND GREEN PLASTIC VALVE BOX W/BOLT LOCK, CARSON-BROOKS OR EQUAL
2. FINISH GRADE
3. 6" PVC SCH. 40 PIPE SLEEBE, 4" - 6" BELOW GRADE
4. 2" SQUARE OPERATING NUT
5. RESILIENT WEDGE GATE VALVE - SEE SPECS FOR REQUIREMENTS
6. MAIN WATER SUPPLY LINE
7. 6" MIN. GRAVEL
8. SUBGRADE COMPACTED TO 90%
9. DEPTH: 18" - 30"
10. SHRUBS-2"; SOD-1 1/2"; SEED-1"
11. STANDARD BRICK - TYPICAL

NOTES:
EACH FITTING & VALVE BELL MUST BE RESTRAINED TO THE LENGTH OF PIPE NOTED IN THE HARCO DI FITTINGS TABLE USING FITTING TO PIPE RESTRAINT, VALVE TO PIPE RESTRAINT, AND PIPE TO PIPE RESTRAINT AS REQUIRED.

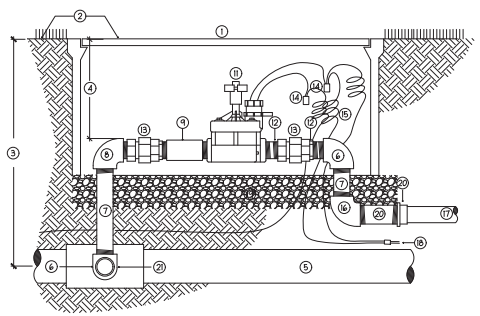
8 RESILIENT WEDGE ISOLATION VALVE
NTS



1. 10" ROUND VALVE BOX W/ LOCK BOLT, CARON-BROOKS 910 OR EQUAL
2. FINISH GRADE
3. 906L WEATHERMATIC LOCKING VALVE CAP PERMANENTLY ATTACHED TO SLEEVE. TOP OF MARKER 4" - 6" BELOW GRADE
4. 2" PVC SCH. 40 SLEEVE NOTCHED OVER VALVE
5. PVC SCH. 80 TEE & MAIN LINE
6. 3/4" PVC SCH. 80 ELBOW
7. 3/4" PVC SCH. 80 NIPPLE (LENGTH AS REQUIRED)
8. 3/4" FORD B11333 BALL VALVE
9. 3/4" MARLEX STREET ELBOW
10. GRAVEL SUMP - 18"x18"x12" MIN. SIZE
11. SUBGRADE COMPACTED TO 90%
12. STANDARD BRICK, TYP.

NOTES:
1. ALL PVC NIPPLES TO BE SCH. 80.
2. PROVIDE VALVE KEY TO OWNER.

9 MANUAL DRAIN VALVE ASSEMBLY
NTS



1. STANDARD OR JUMBO VALVE BOX
2. INSTALL BOX AT FINISH GRADE IN TURF AREAS AND LEVEL WITH TOP OF MULCH IN PLANTING AREAS
3. 18"-30" MAX. DEPTH
4. MAX. DEPTH 12"
5. IRRIGATION MAIN LINE, SIZE AS PER PLANS
6. PVC SCH. 80 T X T ELBOW
7. PVC SCH. 80 NIPPLE; LENGTH AS REQUIRED (TYP.)
8. PVC SCH. 80 T X T ELL SAME SIZE AS VALVE
9. SCH. 80 NIPPLE
10. (NOT USED)
11. ELECTRIC REMOTE CONTROL VALVE - SEE IRRIGATION LEGEND
12. SCH. 80 NIPPLE ON EITHER SIDE OF UNION
13. PVC SCH. 80 UNION
14. WATER TIGHT CONNECTORS (3M DBR/Y ONLY)
15. PROVIDE 24" EXPANSION LOOP AT EACH WIRE CONNECTOR IN BOX.
16. SCH. 80 ELBOW WITH SCHED. 80 NIPPLE INTO T X T BUSHING TO LATERAL
17. IRRIGATION LATERAL LINE, SIZE AS PER PLANS
18. CONTROL WIRES
19. 6" MIN. DEPTH- 1/2" WASHED AGGREGATE
20. THREADED NIPPLE WITH BUSHING
21. PVC SCH. 80 TEE SXSXS WITH SCH. 80 SXT BUSHING OR DOUBLE STRAP SADDLE OR HARCO SERVICE TEE.

NOTES:
1. ALL FITTINGS AND NIPPLES IN MANIFOLD SHALL BE SCH. 80 THREADED PVC USING TEFLON TAPE.
2. VALVE MANIFOLD TO BE INSTALLED GOING AWAY FROM MAIN LINE. MINIMUM OF 1 FOOT BEFORE CHANGE IN DIRECTION.

10 CONTROL VALVE ASSEMBLY
NTS

G.B:D
G. BROWN DESIGN INC
SITE RED LICENSED ARCHITECTS
678 East 1700 Street, Ste 7B
Murray, Utah 84107
801.913.0866
www.gbrowndesign.com

PREPARED FOR:

CONSULTANTS:

PANERA BREAD
4130 RIVERDALE ROAD
RIVERDALE, UTAH

REVISIONS:
1 -
2 -
3 -
4 -
5 -

STAMP



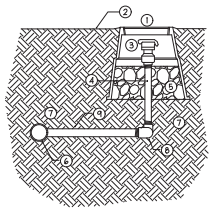
SHEET TITLE:
IRRIGATION DETAILS

DATE: 10-26-2023
DRAWN BY: ECB
CHECKED BY: MJW
JOB NO.: U22-053

SHEET NO:
LI-501

CITY REVIEW - NOT FOR CONSTRUCTION

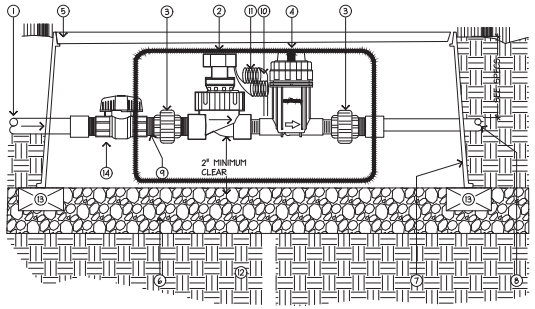
©2023GBD Panera Bread - Riverdale\CAD\Irrigation\Panera Bread - Riverdale.dwg 8/23/2023 2:53:24 PM



1. ROUND VALVE BOX, CARSON BROOKS
2. INSTALL BOX AT FINISH GRADE IN TURF AREAS AND LEVEL WITH TOP OF BARK MULCH IN PLANTING AREAS
3. QUICK COUPLER - REFER TO IRRIGATION LEGEND
4. 1" BRASS RISER, LENGTH AS REQUIRED
5. 6" MIN. DEPTH 1/2" WASHED AGGREGATE
6. IRRIGATION MAIN LINE, SIZE AS PER PLANS
7. SUBGRADE COMPACTED TO 95%
8. 1" PRE-MANUFACTURED SWING JOINT WITH BRASS THREADED INSERTS.
9. 1" SCH 80 NIPPLE, LENGTH AS REQUIRED.

1 QUICK COUPLING VALVE ASSEMBLY

NTS



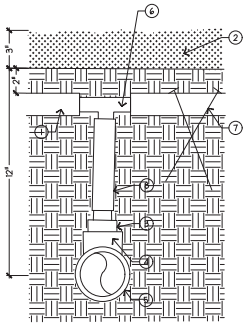
1. IRRIGATION MAIN SUPPLE LINE, SIZE AS PER PLANS
2. DRIP CONTROL VALVE PER PLANS
3. SCH 80 UNION
4. PRB QUICK-CHECK PRESSURE REDUCING BASKET FILTER
5. INSTALL BOX AT FINISH GRADE (TOP OF MULCH OR TURF.)
6. 6" MIN. DEPTH- 1/2" WASHED AGGREGATE
7. CARSON BROOKS VALVE BOX WITH BOLT DOWN LID. SIZE AS NECESSARY TO CONTAIN VALVE, FILTER, AND PRESSURE REGULATOR IN SAME BOX.
8. IRRIGATION LATERAL LINE, SIZE AS PER PLANS
9. PVC SCH. 80 NIPPLE; LENGTH AS REQUIRED (TYP.)
10. WATER TIGHT CONNECTORS (SEE SPECS.)
11. PROVIDE 24" EXPANSION LOOP AT EACH WIRE CONNECTOR IN BOX.
12. 90% COMPACTED SUB-GRADE
13. BRICK FOUNDATION OR PRESSURE TREATED WOOD FRAME
14. PVC BALL VALVE (PER KIT)

NOTES:

1. ALL FITTINGS AND NIPPLES IN MANIFOLD SHALL BE SCH. 80 THREADED PVC USING TEFLON TAPE.
2. VALVE MANIFOLD TO BE INSTALLED GOING AWAY FROM MAIN LINE. MINIMUM OF 1 FOOT BEFORE CHANGE IN DIRECTION.
3. LOCATE ALL VALVE BOXES IN LANDSCAPE AREAS UNLESS OTHERWISE INDICATED.

2 DRIP CONTROL VALVE ASSEMBLY

NTS



1. DRIP TUBING
2. MULCH, AS SPECIFIED
3. THREADED MALE DRIP TUBING ADAPTER
4. SCH 40 PVC TEE
5. SCH 40 PVC PIPE. SIZE AS NOTED ON THE PLANS.
6. COMPATIBLE DRIP TUBING FITTING
7. 2 WIRE STAKES 2' O.C. MAX. ANGLED AND CROSSED ALL TUBINGS
8. BLANK TUBING

NOTES:

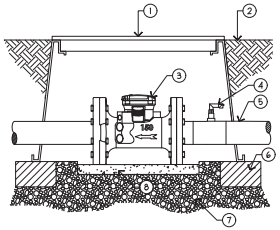
DRIP TUBING SHALL NOT BE PLACED ON THE SURFACE. IT SHALL BE PLACED 2" BELOW GRADE AS DETAILED. NO EXCEPTIONS.

3 DRIP TUBING CONNECTION

NTS

NOTES:

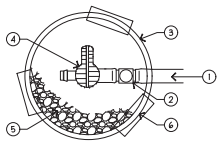
1. AT LEAST TWO (2) PIPE DIAMETERS ARE REQUIRED BOTH UP AND DOWN STREAM BETWEEN FLOWHD AND ANY FITTINGS.
2. AT LEAST FIVE (5) PIPE DIAMETERS BETWEEN A PUMP AND THE FLOWHD.
3. INSTALL A COMBINATION AIR/VACUUM OR CONTINUOUS ACTING AIR VENT RIGHT BEFORE THE FLOWHD (SEE INSTALLATION INSTRUCTIONS).



1. 14"x19" VALVE BOX
2. GRADE LEVEL
3. 2" FLOWHD FLOW SENSOR
4. AIR/VACUUM VENT
5. 2" PVC PIPE
6. BRICK SUPPORT
7. 1/2" CRUSHED GRAVEL
8. CONCRETE PAVER

4 FLOW SENOR

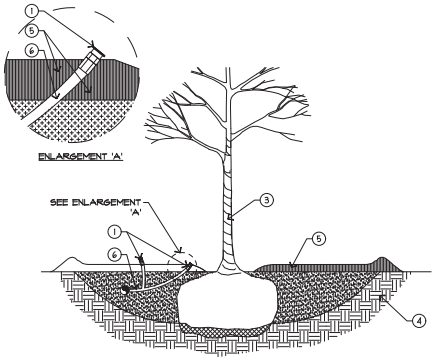
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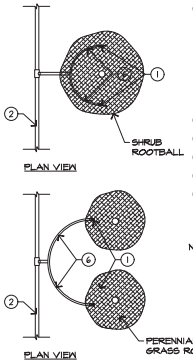


1. BLANK TUBING TYP.
2. TEE 12" X 18" VALVE
3. BOX (INSTALL PER SPECS)
4. SHUT-OFF VALVE (NETAFIM #TLSOV)
5. 3/4" GRAVEL SUMP (FILLING 10" WIDE X 24" DEEP HOLE) WITH FILTER FABRIC ON TOP AND SIDES.
6. BRICK FOUNDATION OR PRESSURE TREATED WOOD FRAME

5 LINE FLUSHING VALVE

NTS





1. SEE IRRIGATION SCHEDULE FOR EMITTER QUANTITY. FIRST ROW OF EMITTERS SHALL BE CENTERED BETWEEN TREE TRUNK AND EDGE OF ROOTBALL. SECOND ROW OF EMITTERS SHALL BE PLACED 24" FROM PREVIOUS ROW. HALF OF THE EMITTERS SHALL BE INSTALLED ON ROW ONE AND THE REMAINING EMITTERS ON ROW TWO. PLACEMENT OF EMITTER SHALL BE SPACED EVENLY AROUND TREE AND ROWS SHALL BE OFFSET.
2. IRRIGATION LATERAL LINE
3. SEE PLANTING DETAIL
4. UNDISTURBED SUBGRADE
5. MULCH
6. 1/2" POLETHYLENE SWING PIPE, LENGTH AS NEEDED

NOTES:

1. TREES PLANTED ON SLOPE SHALL HAVE 2 EMITTERS PLACED ON UPHILL SIDE OF ROOTBALL. SHRUB EMITTERS SHALL BE PLACED ON UPHILL SIDE OF ROOTBALL.

6 TREE & SHRUB BUBBLER WATERING

NTS

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G. BROWN: DESIGN INC
SITE RED LANDSCAPE ARCHITECTS
679 East 1700 Street, Ste 1B
Murray, Utah 84107
801.913.0866
www.gbrownd.com

PREPARED FOR:

CONSULTANTS:

PANERA BREAD
4130 RIVERDALE ROAD
RIVERDALE, UTAH

REVISIONS:

STAMP



SHEET TITLE:
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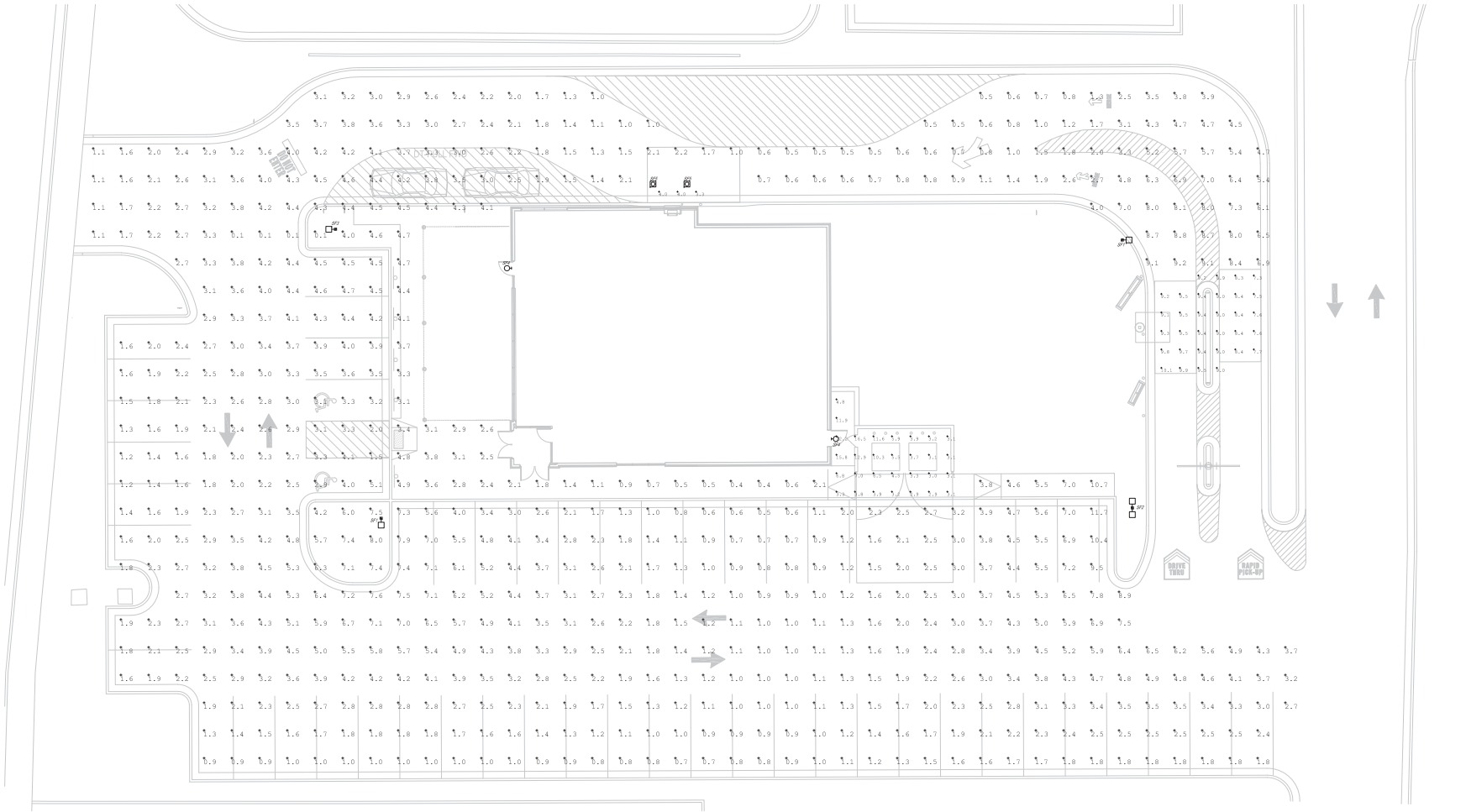
SHEET NO:
LI-502

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SITE LUMINAIRE SCHEDULE

SYMBOL	MANUFACTURER	LUMINAIRE CATALOG #	LAMP QTY	LAMP TYPE	LAMP WATTAGE	LAMP LUMENS	MOUNTING TYPE	POLE QTY	POLE MANUFACTURER/HEIGHT	POLE DESCRIPTION	REMARKS
SF1	LITHONIA	DSX1 LED P3 SIK 80CRI T3A	1@1	1	277	POLE	LED 5000 SLOT LUMENS	1	LITHONIA	20	SQUARE STEEL POLE	COORDINATE FINISH COLOR WITH OWNER AND ARCHITECT
SF2	LITHONIA	DSX1 LED P3 SIK 80CRI T4W	1@1	1	277	POLE	LED 5000 SLOT LUMENS	1	LITHONIA	20	SQUARE STEEL POLE	COORDINATE FINISH COLOR WITH OWNER AND ARCHITECT
SF3	LITHONIA	DSX1 LED P3 SIK 80CRI T4W	1@1	1	277	POLE	LED 5000 SLOT LUMENS	1	LITHONIA	20	SQUARE STEEL POLE	COORDINATE FINISH COLOR WITH OWNER AND ARCHITECT
SF4	LANTSLER	TWINSLOTSMWMCP	LED	N/A	111	N/A(LED)	LED 5000 SLOT LUMENS	1	N/A	N/A	N/A	COORDINATE FUTURE TYPE WITH ARCHITECT
SF5	RAB LIGHTING	SLW8P1P1	LED	N/A	46	WALL MOUNT	LED 5000 SLOT LUMENS	1	N/A	N/A	N/A	COORDINATE FUTURE TYPE WITH ARCHITECT

Calculation Summary						
Label	CalcType	Units	Avg	Max	Min	Avg/Min
Menu Board	Illuminance	FC	8.82	10.1	7.3	1.21
Order Window	Illuminance	FC	5.77	6.0	5.3	1.10
Parking Lot	Illuminance	FC	2.99	11.7	0.1	29.90
Rear Service Door and Dumpster	Illuminance	FC	6.49	22.2	2.5	2.59



A E1.1 SITE PHOTOMETRIC PLAN
SCALE: 3/32" = 1'-0"

TAGUS ENGINEERING
PROFESSIONAL | INNOVATIVE | RELIABLE

PANERA BREAD - RIVERDALE

PROJECT ADDRESS

DRAWN BY:	PCH
CHECKED BY:	PCH
PROJECT NO.:	23033.01

NO.	DATE	DESCRIPTION

SITE PHOTOMETRIC PLAN

DRAWING NO.
E1.1

C:\USERS\PHILH\ONEDRIVE - TAGUSENGINEERING.COM\01 - PROJECTS\2023\23033.01 - PANERA BREAD - RIVERDALE\E1.1 - 23033.01.DWG 1/24/2024



2924

Riverdale, UT
New Cafe | OPS Review

TODAY'S DATE
10/24/2022

OPENING DATE
10/15/2023

ESTIMATED CONSTRUCTION START
06/01/2023

LOCATION TYPE
[Suburban]

CAFE FOOTPRINT
[3,800 SF]

PROPOSED SEAT COUNT
[Interior: 66 | Exterior: 14]

POS & KIOSK COUNTS
[Proposed POS: 2 | Proposed Kiosks: 3]

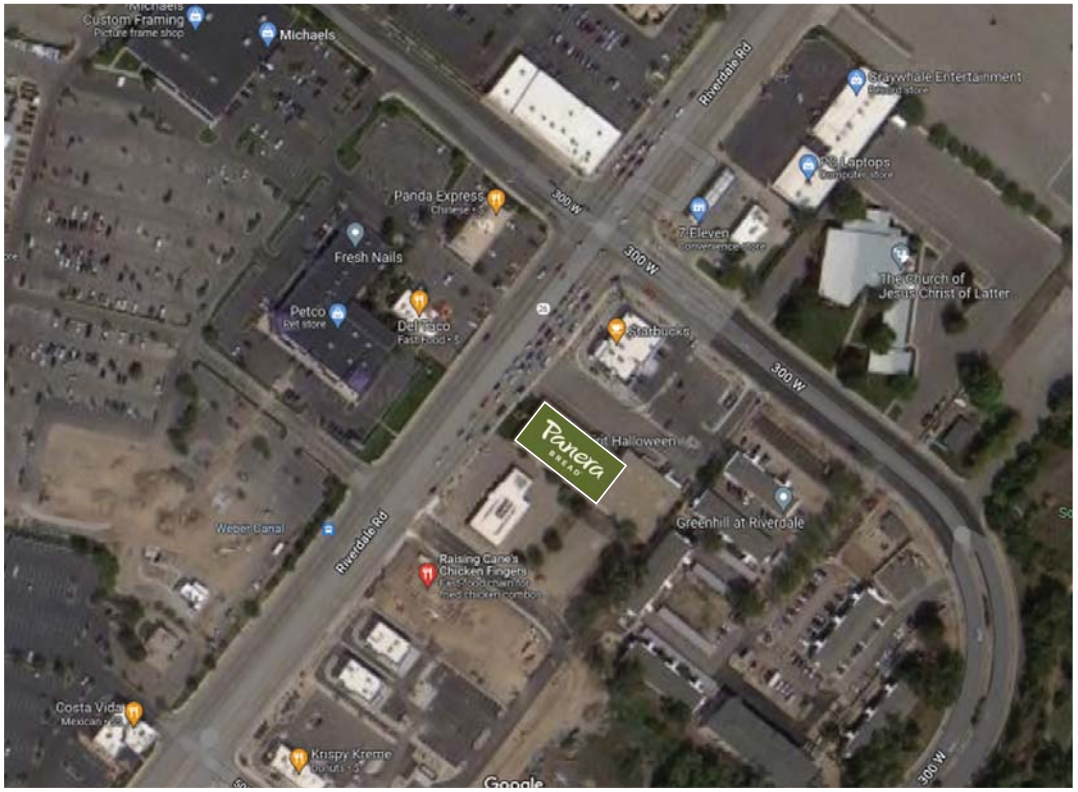
DELIVERY
[3rd Party]

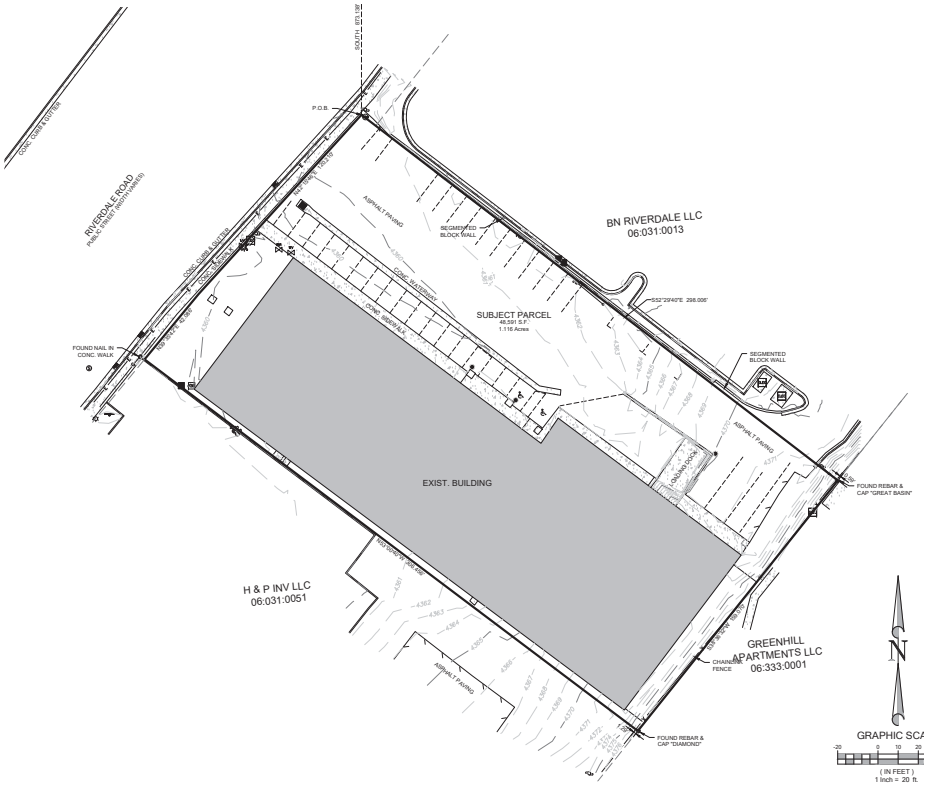
PRODUCTION & BAKING
[2x2 | T-line w/ DT, Remote Market bakery]

NOTES, NEARBY COMPETITORS, ETC.
[Cross-access w/ Starbucks, site grade +10' @ rear of site, Del Taco, Panda Express, Subway, Raising Canes, Cafe Rio, Chick Fil-A, Jimmy Johns]

☐ APPROVED ☐ APPROVED AS NOTED ☐ NOT APPROVED DATE: _____

EXISTING SITE

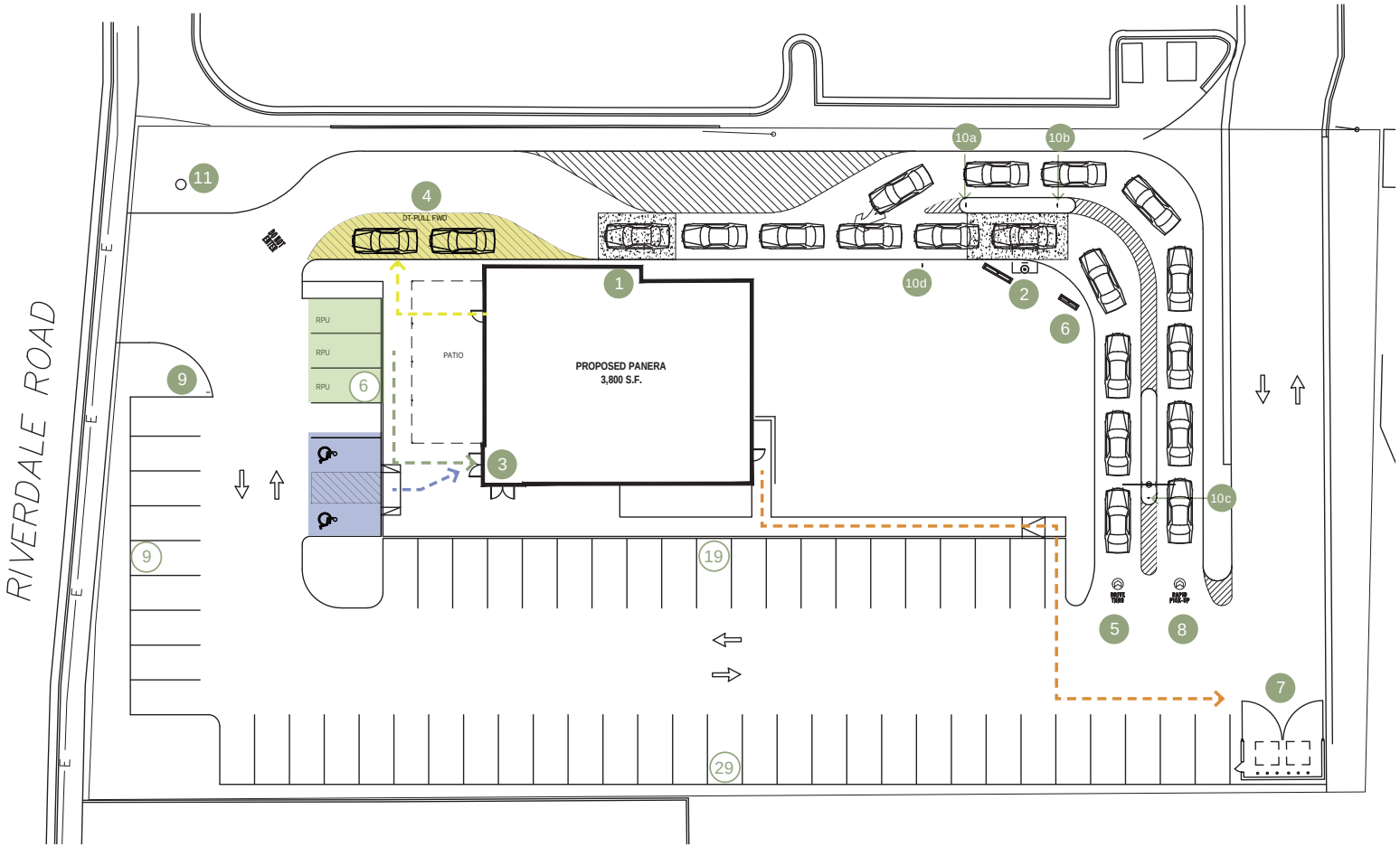




Aerial

Development

PROPOSED SITE



1. Drive Thru Window
2. Menu Board
3. Cafe Main Entry
4. Signed Pull Forward Spaces
5. Drive Thru Entry
6. Preview Sign
7. Trash Enclosure
8. Rapid Pick-Up Lane Entry
9. Drive Thru/RPU Directional
10. Drive Thru Messaging
    - a | Merge
    - b | Bread Ahead...
    - c | DT/RPU Lane ID
    - d | Kindly Merge....
11. (E) Pylon Sign

(X) Parking Count (63 total)

Rapid Pick-up Path of Travel

ADA Path of Travel

DT Associate Path of Travel

Service Path of Travel

RPU Parking

ADA Parking

Drive Thru Pull Forward

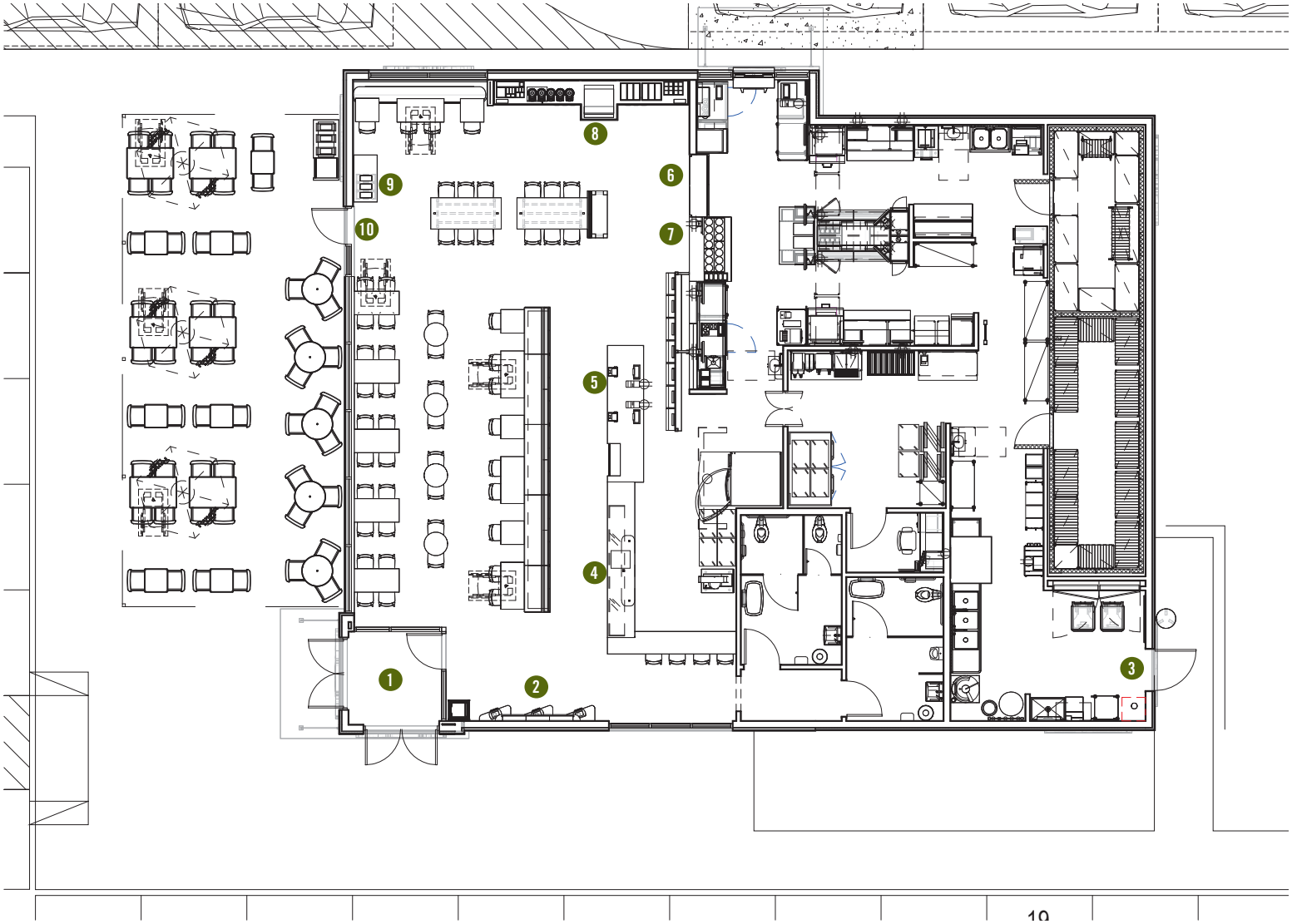
EXISTING EXTERIORS







FLOOR PLAN

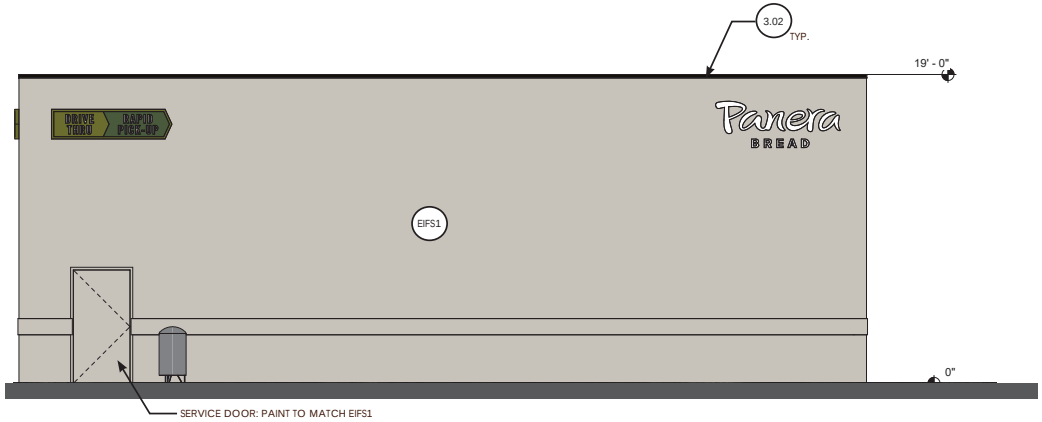


1. Primary Entrance
2. Kiosks
3. Service Entry
4. Bakery
5. POS
6. Pick-Up/Delivery
7. RPU Shelves
8. Beverages
9. Trash/Bus
10. Secondary Entry

ELEVATIONS



North Elevation



East Elevation

Exterior Materials

BR1 - Thin Brick, field
- Mfg: Creative Materials
- Size: Standard
- Color: Santiago Blend

EIFS2 - Exterior Insulation Finish System
- Mfg: Dryvit "Outsulation Plus MD" EIFS with moisture drainage,
- Color: Match PMS 2307C
- Texture: Dryvit "Lymestone" DPR textured finish

SFS1 - Storefront System
- Mfg: Trifab Versaglaze 451
- Framing System
- Finish: Clear anodized aluminum

BR2 - Thin Brick, accent
- Size: standard
- Color: Goldenbluff

EIFS1 - Exterior Insulation Finish System
- Mfg: Dryvit "Outsulation Plus MD" EIFS with moisture drainage
- Color: #105 Suede
- Texture: Dryvit "Lymestone" DPR textured finish

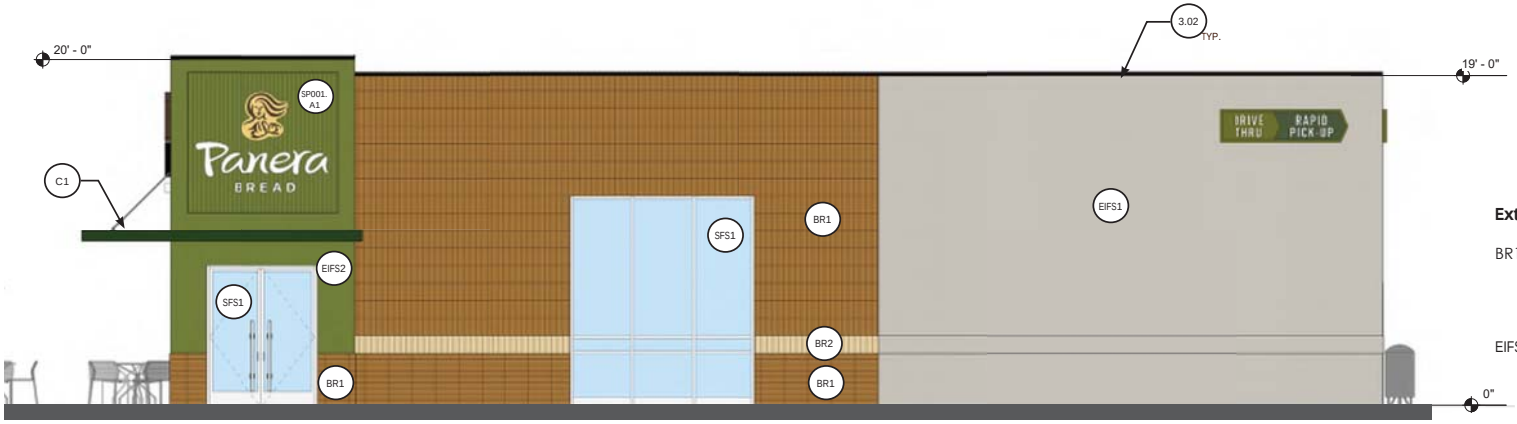
C1 - Pre-Manufactured aluminum canopy - color match PMS2411C

3.02 - Pre-finished metal coping, color to match RAL 7043

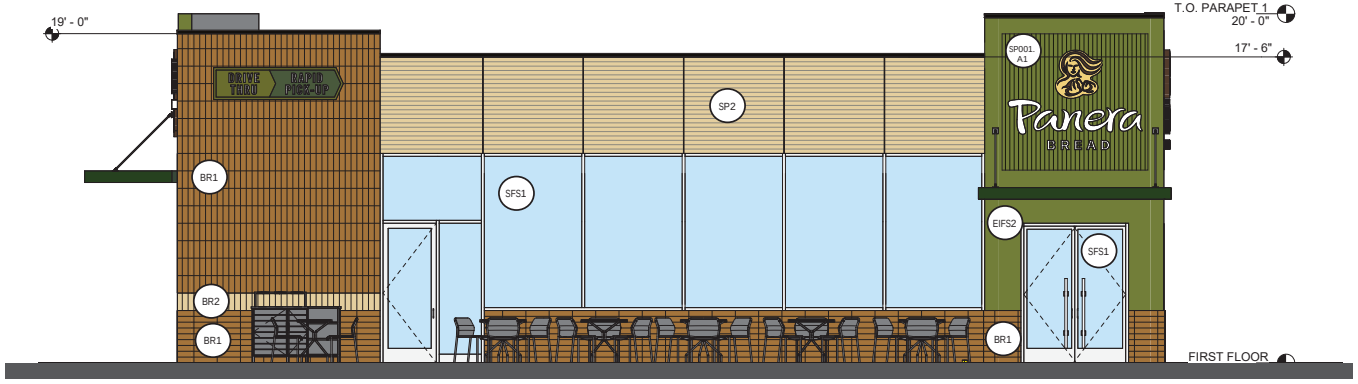
SP1 - Fiberglass Reinforced Panel
- Mfg: Formglas FRP Custom Pattern
- Surface: Handcrafted Flute
- Paint Type: Gel, matte finish
- Paint Color: Match PMS2307C

SP2 - Fiberglass Reinforced Panel
- Mfg: Knotwood
- Self-mating cladding system
- Color: White Ash

ELEVATIONS



South Elevation



West Elevation

Exterior Materials

BR1 - Thin Brick, field
- Mfg: Creative Materials
- Size: Standard
- Color: Santiago Blend

EIFS2 - Exterior Insulation Finish System
- Mfg: Dryvit "Outsulation Plus MD" EIFS with moisture drainage,
- Color: Match PMS 2307C
- Texture: Dryvit "Lymestone" DPR textured finish

SFS1 - Storefront System
- Mfg: Trifab Versaglaze 451
- Framing System
- Finish: Clear anodized aluminum

BR2 - Thin Brick, accent
- Size: standard
- Color: Goldenbluff

EIFS1 - Exterior Insulation Finish System
- Mfg: Dryvit "Outsulation Plus MD" EIFS with moisture drainage
- Color: #105 Suede
- Texture: Dryvit "Lymestone" DPR textured finish

C1 - Pre-Manufactured aluminum canopy - color match PMS2411C

3.02 - Pre-finished metal coping, color to match RAL 7043

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SP2 - Fiberglass Reinforced Panel
- Mfg: Knotwood
- Self-mating cladding system
- Color: White Ash



2924

Riverdale, UT
New Cafe | DD Review

TODAY'S DATE
11/18/2022

OPENING DATE
10/15/2023

ESTIMATED CONSTRUCTION START
06/01/2023

LOCATION TYPE
[Suburban]

CAFE FOOTPRINT
[3,800 SF]

PROPOSED SEAT COUNT
[Interior: 64 | Exterior: 14]

POS & KIOSK COUNTS
[Proposed POS: 2 | Proposed Kiosks: 3]

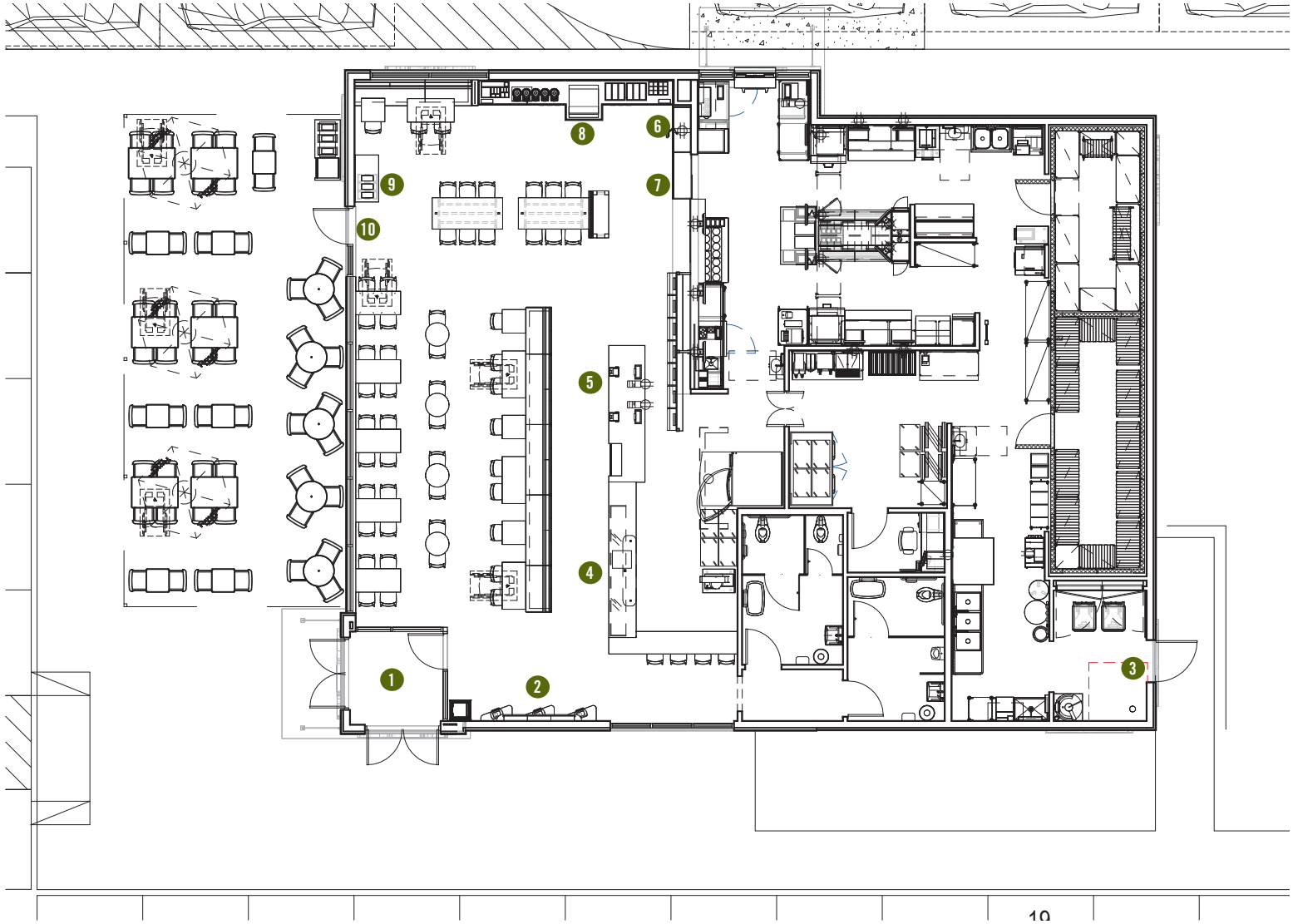
DELIVERY
[3rd Party]

PRODUCTION & BAKING
[2x2 | T-line w/ DT, Remote Market bakery]

NOTES, NEARBY COMPETITORS, ETC.
[Cross-access w/ Starbucks, site grade +10' @ rear of site, Del Taco, Panda Express, Subway, Raising Canes, Cafe Rio, Chick Fil-A, Jimmy Johns]

☐ APPROVED ☐ APPROVED AS NOTED ☐ NOT APPROVED DATE: _____

FLOOR PLAN



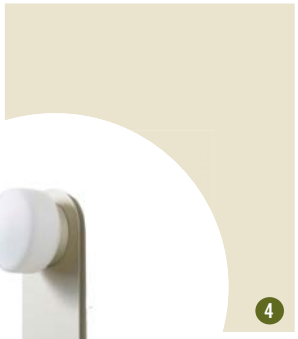
1. Primary Entrance
2. Kiosks
3. Service Entry
4. Bakery
5. POS
6. Pick-Up/Delivery
7. RPU Shelves
8. Beverages
9. Trash/Bus
10. Secondary Entry

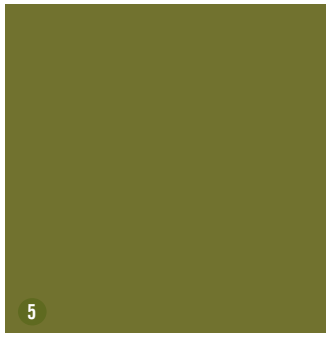
INTERIOR FINISHES



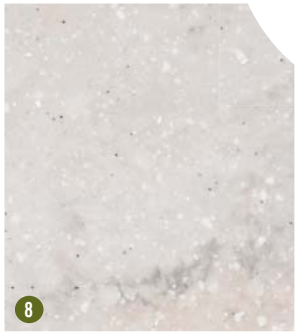


















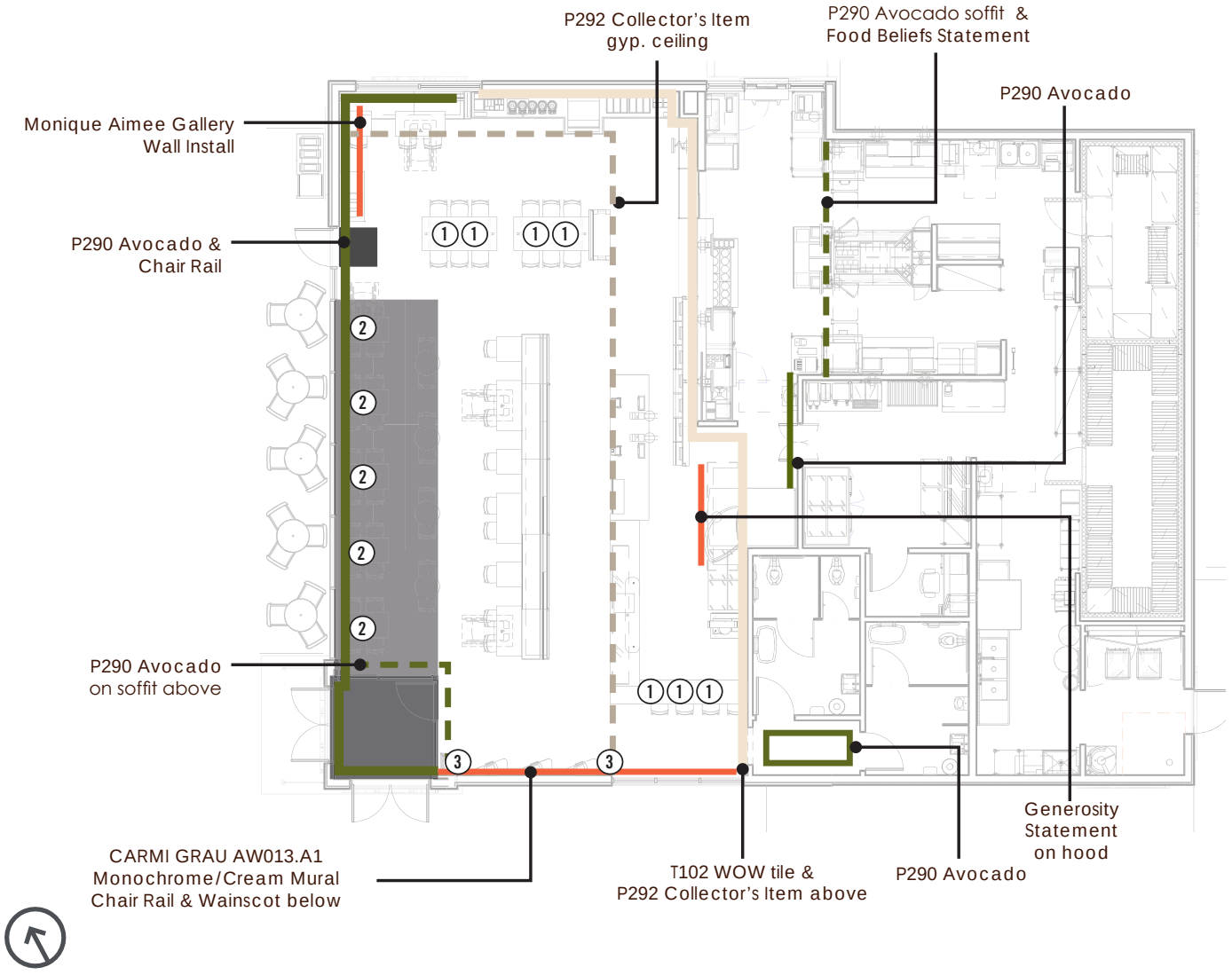




NEXT GEN PALETTE

1. F185 | Momentum Flock - Forrest
2. T102 | Wow Tile - Zellige Porcelain Tile - Speckled Taupe
3. WS16A | Rich Brilliant Willing - Silk Sconce, oval backer - Gray
4. P291 | Bejnamin Moore - Collector's Item
5. P290 | Benjamin Moore - Avocado
6. LP021.M1/2 | Hinkly 14" Warby MD Pendant Frosted & Clear
7. S10 | Deisgntex Rein - Sable
8. SS23 | Dupont Corian - Rain Cloud
9. MW900.H1 + WD4 | Half Rounded Walnut
10. C6 | Shaw Contract | Matrix - Mesa
11. AP014.A1 - A6 | Monique Aimee - framed canvas, various sizes
12. AW013.A1 | Carmi Grau Monochrome/ Cream mural
13. T104 | Creative Materials - Oxidize, brown, 12"x24"

FINISH PLAN | FOR REFERENCE ONLY



Decorative Lighting

1. Hinkley Pendant - Clear
2. Hinkley Pendant - Frosted
3. RBW Silk Sconce

Flooring

T104 - Oxidize tile (typ. dining)

C6 - Matrix carpet

C5 - Black Pearl carpet

Monique Aimee Gallery Wall

a. AP014.A4 - 28"x40" print stretch canvas, white oak frame

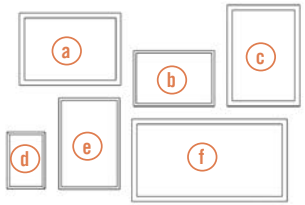
b. AP014.A6 - 24"x30" print stretch canvas, white oak frame

c. AP014.A2 - 40"x28" print stretch canvas, white oak frame

d. AP014.A3 - 20"x18" print stretch canvas, white oak frame

e. AP014.A5 - 30"x24" print stretch canvas, white oak frame

f. AP014.A1 - 30"x60" print stretch canvas, white oak frame



FURNITURE PLAN | FOR REFERENCE ONLY



Indoor Furniture

FS001.D3 + FS006.D3 | Loft Chair - typ. u.o.n.

1. FS001.C3 + FS006.D3 | Loft Counter stool
2. FS001.B3 + FS006.D3 | Loft Bar stool
3. FT001.x1 | Oak Light table top finish
4. FT001.x2 | Oak Dark table top finish
5. FT206.x3 | Corian Rain Cloud

Outdoor Furniture

ODC2MAI | Darwin Chair, antique iron - typ. u.o.n.

6. OT3248AI | Cambi ADA, antique iron
7. OTR32AI | Cambi 32” dia., antique iron
8. OT2424AI | Cambi 24”x24”, antique iron
9. FU001.A1 | Umbrella, tresco grass



BIRD'S EYE VIEW



BAKERY



DELIVERY & RPU SHELVES



CORNER BANQUETTE



DINING ROOM



DEPARTMENTAL STAFF REPORTS – 11/2/2023 to 11/8/2023

From: Shawn Douglas
Sent: Wed 11/8/2023 3:11 PM
To: Mike Eggett
Subject: Panera

Mike,

I have included my review comments for Panera. Thanks

Plan Review For Panera

Storm Water

1-Drainage system operation and maintenance plan. Plan needs to be labeled as Panera. Maintenance requirement plan sheet needs to list specific items and cleaning frequencies. The plan needs to include a training log.
2-Detail plan for orifice structure.
3-Storm water prevention plan for construction site including BMP's. Plan needs to include concrete washout, restroom, and dumpster.
4-Injection well permit.
5-Storm water calculations need to be based on 100 Year storm.

Shawn Douglas

Riverdale City Public Works
801-394-5541 ext 1217
Sdouglas@Riverdalecity.com

From: Casey Warren (Police Chief)
Sent: Thu 11/2/2023 11:06 AM
To: Mike Eggett
Subject: Re: Traffic Impact Study document for Updated review comments needed for Panera Bread Site Plan resubmit

Mike,

It'd be nice to add the RIRO access if udot will allow it on sr26 south of 300 w. Between that access, 300 w and kanes access road if it cuts through there should be plenty of access and shouldn't be a problem. I don't see any other input to offer on the plans.

Thanks

Casey

Chief Casey Warren
Riverdale Police Department
4580 S. Weber River Dr.
Riverdale, UT 84405
(801)394-6616
cwarren@riverdalecity.com

From: Jared Sholly
Sent: Mon 11/6/2023 12:56 PM
To: Mike Eggett
Subject: RE: Traffic Impact Study document for Updated review comments needed for Panera Bread Site Plan resubmit

I have no issues on my end.

Thanks,

Jared Sholly
Fire Chief
Riverdale City Fire Department
jsholly@riverdalecity.com
801-394-7481 Office
801-628-6562 Cell

Community Development
4600 So. Weber River Drive
Riverdale, Utah 84405
801-394-5541

Final Site Plan Review: Panera Bread, 4122 South Riverdale Road

Completed by Mike Eggett, Community Dev. Director on 11/8/2023

Recommendation: City staff recommends that the Planning Commission examine and review items associated with this proposed final site plan review. Items of consideration or note (if any) have been highlighted in yellow for potential discussion purposes. City staff recommends that the Planning Commission act accordingly to approve the final site plan or not approve the proposed Panera Bread final site plan with any additional comments, requirements or concerns to be addressed by the developer.

Date Plan Submitted to City: (Must be at least two weeks prior to Planning Commission meeting)	August 29, 2023 and October 31, 2023 (updated)
Date Application Submitted to City:	August 29, 2023
Date Fee Paid:	August 29, 2023 (see receipt for detail)
Site Plan – Preliminary Requirements	**Departmental Review Comments**
COVER SHEET	Provided
Title Block	
Project name and address	Project name and address location shown; please update site address to "4122 South Riverdale Road" to meet Weber County records for property
Property Owner's name, address, and phone number	Williamsen Riverdale 2 LLC., this says "Thorn Wiliamson" and I believe this should be corrected to be "Thom Williamsen", 801-364-2602; mailing address for group still not showing at this time and this needs to be added still (154 E. Myrtle Ave, Murray, Utah 84107)
Property Developer's name, address, and phone number	Panera Bread, Attn: Peter Strang, it says "Peter Strange" and this needs to be corrected to the correct last name, mailing address still not showing at this time and this needs to be added still, 216-401-0030

Approving agency's name and address: Utility companies if applicable	Riverdale City, 4600 So. Weber River Drive, Riverdale, Utah 84405 (The zip code on the plans is incorrectly showing "84408" and this needs to be corrected to "84405"); also for Fire Department please change name from "Randy Koger" to "Jared Sholly"; other utility agencies name and contact info not provided, where applicable
Consulting Engineer's name, address, and phone number	Perigee Consulting, Attn: Jed Atherley, 9089 South 1300 West, Suite 160, West Jordan, Utah 84088, 801-590-6611
Licensed Land Surveyor's name, address, phone number, signature, and seal	McNeil Engineering, Attn: Dennis K. Withers, 8610 South Sandy Parkway, Suite 200, Sandy, Utah 84070, 801-255-7700; seal and signature provided for land surveyor
Date	Yes – October 31, 2023
Revision block with date and initials	Revision block shown and no notes yet
Sheet number and total sheets	Shown (21 total sheets), elevation plans and interior layout submitted as well; Sheet E1.1 is shown on the "Sheet List Table" as "Irrigation Details", this needs to be corrected to be "Site Photometric Plan"
General	
Street names	Yes – Riverdale Road
Layouts of lots with lot numbers	Yes, shown
Adjacent tract ownership and tax identification numbers	Shown on Alta Survey sheet
Scale (minimum 1"=50' to 1"=10')	Scale missing on cover sheet; otherwise scale is shown on other pages, 1"=20', 1"=32' and 1"=80'
North arrow	Yes
Existing easements, structures, and utility lines: Approval to cross, use, or relocate	Existing easements identified on Alta Survey sheet, existing structures currently on site shown on demo sheet, existing utility lines on site shown; unknown if there are approvals to cross, use, relocate utilities
Space for notes	Yes, provided
Contours	Yes, shown on survey sheets and grading plan
Public areas	Existing and planned sidewalks and curb/gutter shown on multiple sheets
Vicinity Map	
Street names	Yes

Site location	Yes
North arrow	Yes on main sheet
Scale	Still no scale identification shown for vicinity map on cover sheet, also no scale identification shown on cover sheet
Layout	
Landscaping (location and type with area calculations)	Yes, provided on sheets LI-101 to LI-502; landscaping area calculations shown to meet requirements of City Code 10-14-12(B.)(2.) not provided
Location of exterior lighting devices, signs, and outdoor advertising	Yes, location of existing lighting and signs shown on demolition plan; location of proposed onsite lighting devices shown on photometric plan; proposed signage locations shown using existing sign poles; architectural elevations and interior layout plan provided; planned building lighting provided on photometric plan
Location of underground tanks, dumpsters, etc	Location of retention tank provided on Sheet DR01; dumpster and dumpster enclosure location shown in packet on multiple sheets
Additional Information	
Benchmark	Shown and identified on Alta Survey sheets, defer to City Engineer
Basis of bearings	Shown and identified on Alta Survey sheets, defer to City Engineer
Legend	Shown on various sheets
PLAN AND PROFILE SHEETS	Site plan and profile sheets provided
Title Block	
Project name and address	Project name and address location shown
Approving Agency's name and address	Riverdale City, 4600 So. Weber River Drive, Riverdale, Utah 84405 (The zip code on the plans is incorrectly showing "84408" and this needs to be corrected to "84405"); also for Fire Department please change name from "Randy Koger" to "Jared Sholly";
Consulting Engineer's name, address, and phone number	Perigee Consulting, Attn: Jed Atherley, 9089 South 1300 West, Suite 160, West Jordan, Utah 84088, 801-590-6611
Date	Yes – October 31, 2023
Scale	Scale is not shown on cover page, but is shown on all other sheets

Revision block with date and initials	Revision block shown and no notes yet
Sheet number and total sheets	Shown (21 total sheets), elevation plans and interior layout submitted as well; Sheet E1.1 is shown on the "Sheet List Table" as "Irrigation Details", this needs to be corrected to be "Site Photometric Plan"
General	
North arrow	Yes
Street names	Yes, shown on cover sheet and shown on other sheets in packet – Riverdale Road and drive aisle accessway
Lot numbers	Yes, shown
Reference to sheets showing adjacent areas	Not applicable
Center line stationing	Shown on plans, where applicable
Existing natural ground	Shown on sheet GR01
Signage	Existing pole signage location shown and other site signage locations shown; some proposed building signage shown on architectural rendering sheet; may inquire more regarding future signage intent if desired
Height	Future final pole sign height is unknown; maximum of 40' allowed
Size	Pole sign size is unknown at this time; building signs sizing is unknown at this time
Locations	Some building signage concepts shown on arch drawing; Existing on site pole sign locations shown
Colors	Pole signage coloration and design not provided at this time
Lighting	Signage lighting unknown at this time
New and Existing Buildings	
Height and Size	New building - Height = approximately 20 feet at highest point; Building size = total 3800 sf
Location, setbacks, and all dimensions	Building setbacks provided; approximates: south setback – 67.20 ft at nearest point; north setback – 29 ft at nearest point; front (west) setback – 90 feet at nearest point; back (east) setback – 124.6 feet at nearest point
Type of construction	Materials for structure, texture, color appearance provided on architectural rendering; DRC will need to approve the building colorations and material, signage concepts, and landscape plan

Type of occupancy and proposed uses	Regional restaurant with drive thru access
Show handicapped access	ADA accessible ramp and access areas shown and handicapped parking stalls shown
New and Existing Landscaping & Percentage	Landscaping identified on sheet LP-101; Percentage of landscaping provided for site is 20% as shown on sheet LP-101 table, therefore landscaping plan meets minimum requirement of 20% or more landscaping coverage per City Code 10-14-12(B.)(2.)
Number of trees	13 trees, 157 shrubs, 177 ornamental grasses
Landscape plan showing all planting, hardscaping, berming, and watering	Planting, hardscaping shown; new site development requires gentle berming/screening locations, as required in 10-14-12 (B.)(2.) to screen drive thru and parking area from motorists along road; this is clearly identified on landscaping plan sheet, also shrub row screening is provided, irrigation plan provided
Xeriscaping alternatives being considered	Yes, xeriscaping seems to be applied in the rock mulch and ground cover areas of landscape plan; for more, inquire of the developer
New and Existing Walls and Fences	
Location, design, and height	Existing fence location shown; no new fences appear to be planned for site
Materials proposed for construction	No new fences planned for site
New and Existing Parking	
Location, area, and layout of off-street parking (size of stalls, regular and handicapped)	53 dedicated stalls are provided and shown and then drive-thru stacking location for 18 vehicles shown; handicapped parking space provided and shown; size meets city requirements
Location of employees' parking, customer parking, and handicapped parking	Established as shown in drawings; employee parking and customer parking appear shared
Internal circulation pattern	Internal circulation pattern identified
New and Existing Ingress and Egress	
Location and size of points of ingress and egress for motor vehicles and internal use	Yes, shown
Circulation pattern	Internal circulation pattern identified
New and Existing Streets	
All access points	Yes, this is shown
Center lines	Yes, this is shown

Right-of-way lines	Shown, dedicated right-of-way identified on Alta Survey sheet
Face of curb lines	Yes, this is shown
Centerline slope	Shown on drawings and established per previous and other project road development
Signing and striping	Public signing installation should be coordinated with public works dept and paid for by applicant, where applicable; roadway striping should be coordinated with public works, where applicable
Light poles	Yes, location of onsite proposed light poles and equipment shown in packet on photometric sheet
Street lights	Location of existing street light poles and power equipment shown on Alta Survey sheets; no newly proposed street light poles or devices appear to be planned
Street name signs	Location of street name signs on site not applicable to this location
Stop signs	Location of stop signs shown and identified
UDOT approval (if required for project)	This project has a compliance concern with UDOT approvals for the site; this is being discussed for resolution and applicant has submitted traffic study and variance from to UDOT for this access to remain open to Riverdale Road
Sidewalk (4' side with 4" of road base or 6' side with 6" of road base through the approach)	Yes, location shown and detail shown on sheet DT03
Planting Strip	There are no planting strips available along Riverdale Road for this project
New and Existing Storm Drainage	
Top of curb elevations	Shown on GR-01 and detail shown on sheet DT01
Slope of gutter	Shown on GR-01 and detail shown on sheet DT01
Manholes	No existing on site; new shown on multiple sheets
Invert elevations	Shown on GR-01 and detail shown on sheet DT01, defer to City Engineer
Length, size, slope, and type of mains and laterals	Shown on DR-01, in detail on sheets PP-01 to PP-03, defer to City Engineer
Location of catch basins	Shown on multiple sheets in packet
Ditches, location and ownership	No waterways or ditches located on this site or planned for this project
Approval to pipe, reroute or use	Other than future City approval, unknown if other approval required, defer to City Engineer

Calculations for retention system	Calculations for the retention system shown on sheet DR01 and also discussed in storm drain plan, defer to City Engineer
Method of storm water clean-up	This is discussed and outlined on sheet EC01 and in more detail in storm drain plan
New and Existing Sanitary Sewers	
Manholes	Existing shown on multiple sheets; new shown on multiple sheets
Invert elevations	Shown on UT-01, defer to City Engineer
Length, size, type, and slope of mains and laterals	Shown on UT-01, details provided on sheets DT01-DT04, defer to City Engineer
New and Existing Water Lines	
Length, size, type, and slope of mains and laterals	Shown on UT-01, details provided on sheets DT01-DT04, defer to City Engineer
Location, size, and type of water meters, valves, and fire hydrants	Shown on UT-01, water meter location and size shown, type identified on sheet DT02; Location of existing valves shown; Location of new valves shown; existing fire hydrants on site shown; no new hydrants planned for this site plan
New and Existing Gas Lines	
Size and type	Existing gas lines shown on Alta Survey; note of "coordinate gas meter relocation with owner" shown on sheet DM01
New and Existing Electrical Lines	
Size, location, and type	Existing power lines shown on multiple sheets; new lines location, size, and type not shown or identified in notes
Location of power poles	Existing power poles and overhead lines location shown on multiple sheets; new power poles location not planned
New and Existing Telephone Lines	
Location of poles, junction boxes, and manholes	Existing location of telephone lines shown on multiple sheets, new telephone utility lines location not shown or identified in notes
New and Existing Cable TV Lines	
Location of lines (if applicable)	Existing location of communication lines shown, where applicable; new cable TV/fiber optic lines not shown or identified in notes, where applicable
DETAILED DRAWINGS	
Cross section of roadway (minimum 8" road base and 3" asphalt)	Roadway/accessway cross sections provided on sheets SP01

Cross section of curb and gutter (standard 30" high back)	This is shown on sheet DT01, defer to City Engineer
Gutter inlet box with bicycle safe grate	Details provided on sheet DT02, locations identified on multiple sheets; gutter inlet boxes identified as having bicycle safe grates; defer to City Engineer
Cleanout box	Shown on sheet DR01 and details provided on sheet DT02; defer to City Engineer
Thrust blocking	None showing and may not be applicable; defer to City Engineer
Special energy dissipating or drop manholes	None showing and may not be applicable; defer to City Engineer
ADDITIONAL INFORMATION	
Soils report	Geotechnical report has been provided as completed by Gordon Geotechnical Engineers, Inc on March 22, 2023 for this site
Drainage and runoff calculations	Calculations for the retention system shown on sheet DR01 and also discussed in storm drain plan, defer to City Engineer
Water right transfer documentation	Applicant needs to work with Public Works Department to provide adequate water rights for this site per 8-6-3 of City Code
Copy of protective covenants, codes, and regulations for development	No CCR's know to apply to this project
Three (4) total 11" X 17" copies of plan drawings, one large full set of plan drawings, and one digital full set copy of plan drawings	Yes, provided as requested
Building elevation renderings	Provided with packet and interior plans as well
Corp of Engineers approval (if required)	Located outside of the 0.2% annual floodplain; no approval req.
Zoning compliance	Yes, Community Commercial (C-2) Zone meets intended uses for site design; Conditional Use Permit app submitted for consideration by PC in meeting C-2 zoning requirements
RDA compliance (if applicable)	No applicable RDA regulations for this project area; this is located in the 550 West RDA area
Use compliance	Yes, this use complies with the zoning for this C-2 zoned area; Conditional Use Permit app submitted for consideration by PC in meeting C-2 zoning requirements
Engineering comments and letter of approval recommendation	Engineering comments, along with Public Works, Police Department, Fire Department provided

Traffic study	This is being negotiated and worked on by applicant group, staff, and associated project design group in resolving concerns of UDOT, traffic study has been submitted with variance request to UDOT with anticipation to receive final UDOT determination for accessway continued use
All Planning Commission and City Staff conditions for approval have been met	Currently Final Site Plan recommendation submittal consideration being reviewed by Planning Commission

Panera Riverdale Response

Commentor	Comment sheet	Comment	Response
Mike Eggett - Community Dev.			
	Cover Sheet	Williamsen Riverdale 2, LLC; address and phone number unknown at this time; all owner information not shown on cover sheet, this needs to be updated and added.	Contact added to cover sheet.
	Cover Sheet	Developer name, address, and phone number unknown at this time; all developer information not shown on cover sheet, this needs to be updated and added.	Added to TC01
	Cover Sheet	Riverdale City 4600 So. Weber River Drive, Riverdale, Utah 84405 (this needs to be added to cover sheet as well) ; Other utilties agencies name and contact info not provided, where applicable	Added to TC01 as a contact
	Cover Sheet	Seal and signature not provided for land surveyor, where applicable	See added survey sheets.
	General: Adjacent tract ownership and tax identification number	Tract ownership names and tax ID not shown and needs to be provided on cover or other interal sheet	See added survey sheets.
	Cover sheet?	Existing easements not clearly identified, existing utilities currently ons ite shown on demo sheet, no existing utility lines on site shown; unknown if there are approvals to cross, use relocate utilities	Topo and Alta added. Additional callouts added to sheets to existing utilities
	Cover sheet : Vicinity Map	No North Arrow	Added to TC01
	Cover sheet: Vicinity map	No scale identification shown	Added to TC01
	Cover sheet : Additional Information	Benchmark Not shown or identified, defer to City Engineer	Survey Sheet added to plan set See survey Sheet
	Cover sheet : Additional Information	Basis of bearings Not shown or identified, defer to City Engineer	Survey Sheet added to plan set See survey Sheet
	Plan and profile sheets : Title Block	Approving Agency's name and address: Riverdale City, 4600 So. Weber River Drive, Riverdale, Utah 84405 (This needs to be added to cover sheet)	Added as contact to cover sheet
	Plan and profile sheets : Signage Height	Future final pole sign height is unknown; maximum of 40' is allowed	More information to be in DRC
	Plan and profile sheets : Signage Size	Pole sign size is unknown at this time; buildingsigns sizing is unknown at this time	More information to be in DRC
	Plan and profile sheets : Signage Colors	Pole signage coloration and design not provided at this time	More information to be in DRC
	Plan and profile sheets : Lighting	Signage lighting unknown at this time	More information to be in DRC
	Plan and profile sheets : Type of construction	DRC will need to approve the building colorations and material, signage concepts, and landscape plan	More information to be in DRC
	Plan and profile sheets : Landscape plan showing all plnating, hardscaping, berming, and watering	new site development requires gentle berming/screening locations, as required in 10-14-12 (B.)(2.) to screen drive thru and parking area from motorists along road, which is not clearly identified in landscaping plan or other plan drawings, although shrub row screening appears to have been provided,	See landscape plans. Note added for berm

	Plan and profile sheets : New and existing streets right-of-way lines	shown, dedicated right-of-way not clearly identified	See added Alta. Only easment is near Riverdale Road
	Plan and profile sheets : New and existing streets street lights	Location of existing street light poles and power equipment not shown	See added survey sheets.
	Plan and profile sheets : New and existing streets stop signs	Location of stop signs, if any on site, not shown and identified, where applicable	Stop sign added to Riverdale Road entrance see SP01
	Plan and profile sheets : New and existing streets UDOT approval (if required for project)	This project has a compliance concern with UDOT approvals for the site; this is being discussed for resolution	Have submitted Traffic study and variance form to UDOT
	Plan and profile sheets : New and existing streets Sidewalk (4' side with 4" of road base or 6' side with 6" of road base through the approach)	but no details of widths to verify meets standards	General notes added and Detail sheet 3 from Riverdale city construction & Development Standards.
	Plan and profile sheets : New and existing storm drainage top of curb elevations	Shown on GR-01, no detail sheets provided	Detail sheets added.
	Plan and profile sheets : New and existing storm drainage slope of gutter	Shown on GR-01, no detail sheets provided	Details added to DT01 and DT02
	Plan and profile sheets : New and existing storm drainage invert elevations	Shown on GR-01, no detail sheets provided	Detail sheets added.
	Plan and profile sheets : New and existing storm drainage calculations for retention system	Calculations for the retention system have not been provided yet	See DR01 and strom drain letter.
	Plan and profile sheets : New and existing storm drainage method of storm water clean-up	This is unknown at this time; no storm water clean-up has been provided for project	Storm drain management plan provided with this submittal
	Plan and profile sheets : New and existing sanitary sewers Length, size, type, and slope of mains and laterals	no detail sheets provided	Called out on UT01. No main to profile. Details added to DT01 and DT02.
	Plan and profile sheets : New and existing water lines Length, size, type, and slope of mains and laterals	no detail sheets provided	See DT01 and DT02
	Plan and profile sheets : New and existing water lines Location, size, and type of water meters, valves, and fire hydrants	type not identified	See DT01 and DT02
	Plan and profile sheets : New and existing gas lines Size and Type	Existing gas lines not shown or identified; new lines location, size, and type not shown or identified in notes, where applicable	See Alta and Topo Sheet. Callout added to demo sheet to coordinate gas meter with owner.
	Plan and profile sheets : New and existing electrical lines Size, location, and type	Existing power lines not shown or identified; new lines location, size, and type not shown or identified in notes, where applicable	See survey sheet and callouts added to sheets.
	Plan and profile sheets : New and existing electrical lines Location of power poles	Existing power poles and overhead lines location not shown;	See Alta and Topo Sheet

	Plan and profile sheets : New and existing telephone lines Location of poles, junction boxes, and manholes	Existing location of telephone lines not shown, new telephone utilitiy lines location not shown or identified in notes	See Alta and Topo Sheet
	Plan and profile sheets : New and existing cable TV lines location of lines (if applicable)	Cable TV/Fiber optic lines not shown or identified in notes, where applicable;	No bluestakes when requested.
	Detailed drawings : Cross section of roadway (minimum 8" road base and 3" asphalt)	No roadway cross section connection to curb, gutter, and sidewalk areas provided to verify meeting standard	Cross sections added to SP01
	Detailed drawings : Cross section of curb and gutter (standard 30" high back)	This has not been provided	Curb Detail added to DT01 Callouts on GR01
	Detailed drawings : Gutter inlet box with bicycle safe grate	No detail drawings provided, gutter inlet boxes not identified as having bicycle safe grates;	Detail added to DT02. Callouts added to DR01 Sheet
	Detailed drawings : Cleanout box	No detail drawings provided, locations not identified, if any;	Detail added to DT02. Callouts added to DR01 Sheet
	Additional information : Drainage and runoff calculations	Drainage and runoff calculations for site have not been provided yet	See DR01 and strom drain letter.
	Additional information : Water right transfer documentation	Applicant needs to work with Public Works Department to provide adequate water rights for this site per 8-6-3 of City Code	Working to purse a development agreement to get water. Working with Steve Brooks.
	Additional information : Zoning compliance	Conditional Use Permit needs to be submitted and reviewed for approval by PC in meeting C-2 zoning requirements	Form Submitted
	Additional information : Use compliance	Conditional Use Permit needs to be submitted and reviewed for approval by PC in meeting C-2 use requirements	Form Submitted
Shawn Douglas - Riverdale City Public Works			
	Storm Water - 1	Drainage system operation and maintenance plan and BMP's approved and recorded with plat.	See SDMP
	Storm Water - 2	Orifice size, location and plan detail, free board on detention/retention structure, free board on structure, and emergency overflow.	Orfice 2.7". Strom Drain designed per UDOT standards with 100yr overflow path.
	Storm Water - 3	Hydraulic separator for BMP's to treat storm water before water enters underground retention/detention or city system.	CDS unit to be used to treat storm water before entering Underground Gallery.
	Storm Water - 4	Provide proposed flows gpm/gpd.	0.22cfs for the 10yr 24hr strom per udot standards
	Storm Water - 5	Storm water prevention plan for construction site including BMP's. All storm water instpections will need to be completed on Compliance Go.	SWPPP Has not been completed yet. Erosion Control sheet added to plan that will be a part of SWPPP submital.
	Storm Water - 6	Notice of intent filed with state.	See response above.
	Storm Water - 7	Note to certify retention/detention structure size after construction.	Note Added to DR01
	Storm Water - 8	Retention/Detention structure design and materials shown.	See DT04 For Detail of Gallery
	Storm Water - 9	Injection well permit.	Rough Draft of Form Provided as PDF
	Water - 1	Meter box and service line design as per Riverdale City standards.	Detail and callout added.

	Water - 2	Provide water usage peak demands.	Domestic Demand 60 gpm and 1600 GDP Fire Demand 525 gpm See landscape drawings for irrgation needs
	Water - 3	Provide what water shares will be used to meet water requirements.	Panera is to reach out to Steve Brook to purse a development agreement with the city.
	Water - 4	Provide valve at mainline tee for fire line and material type in right way needs to meet Riverdale City standards.	Valve added to UT01. Detail added to DT02
	Water - 5	Water lines need to be hot tapped.	Callout added to UT01
	Streets - 1	Traffic impact study if required by UDOT.	To be provided
	Sewer - 1	Proposed sewer flows daily and peak. Including peak demand time.	Same as water.
	Sewer - 2	Show existing sewer mains and laterals.	See 06 UT01
	Sewer - 3	Abandoned sewer lines will need to be capped at the property line.	See general note added to demo sheet.
	Sewer - 4	A will serve letter from Central Weber Sewer Improvement District needs to be provided	Reqest Sent
	Other - 1	Note requiring all construction and materials shall meet Riverdale City standards.	General note added to sheets.
	Other - 2	Note requiring all missing, nonfunctioning, and or damaged surface improvements shall be replaced. (sidewalk, curb and gutter, fencing, etc.)	General note added to sheets.
	Other - 3	Dimensions and square footage of each lot.	Alta added see second sheet.
	Other - 4	Square footage of impervious surface for each lot.	37,938 sq ft. See GR01
R. Todd Freeman - Riverdale City Engineer			
	Improvement Drawings - 1	An **electronic copy** of the final Improvement Drawings and Details must be submitted to the Public Work Department for record keeping via. Our office, upon design completion and prior to approval of the final drawings from our office.	Noted.
	Improvement Drawings - 1	A "General Note" need to be placed on the "Improvement Drawing" pages stating the following: - All deteriorated, damaged or missing surface improvements surrounding the perimeter of the development will need to be replaced or installed, i.e., curb and gutter, sidewalk, landscaping park strip improvements, street lights, fencing, etc.	Noted added as general to all imporvement sheets.
	Improvement Drawings - 2	All materials and slopes for pipelines must be called out on the drawings.	See UT01, DR01, and PP sheets for callouts.
	Improvement Drawings - 3	Riverdale Road needs to be labeled as a State Route (SR-26) as well.	Updated
	Improvement Drawings - 4	Design and details need to be shown for all retaining walls.	The retaining wall at the rear of the property wall will be a block wall. Coordinating with contractor to get designed/pick style.
	Improvement Drawings - 5	need to show all existing utilities (water, sewer, storm drain) and if they are being removed show them being disconnected at the main line.	See demo sheet (DM01) for callout and general note for existing utilites to be capped at the main.

	Improvement Drawings - 6	The proposed cross access roadway on the east side of the property will need to have a cross access agreement prepared as required.	Working to keep front access with UDOT. Poperty owner to the south doesn't want to have the access raod continue through.
	Improvement Drawings - 7	Details are called out on sheets that have not been included in the submittal. Please ensure that al sheets referenced are included in the submittal.	Detail Sheet added.
	Improvement Drawings - 8	Minimum sewer lateral for commercial developmnet is 6" diameter.	Pipe Size updated
	Improvement Drawings - 9	The fire line is shown as a 4" fire line. The Fire Marshall will need to review and approve.	Received Fire Marshel Approval with Submittal.
	Improvement Drawings - 10	The curb and gutter needs to show the grades to ensure no puddling. It appears there are a few locations where the grade is sloping away from the catch basins.	Grading tags updated.
	Improvement Drawings - 11	Check spelling "APWA" not "APAW"	Fixed
	Improvement Drawings - 12	Ensure handicap ramps have appropriate landings before and after.	Grading updated to show landing
	Improvement Drawings - 13	Need to show existing elevations of adjacent properties as the design is interconnected.	See sheet GR01 for existing curb elevations.
	Improvement Drawings - 14	Ensure the design of the east cross access roadway is connected to the existing grades appropriately and not to discharge storm water onto adjoining properties.	Between North East property and Panrea high point to be constructed at lot line. Between South West property and parna a low point is to be constructed 5' from lot line on Panera side.
	Improvement Drawings - 15	Need to have storm water design calculations to show the correct detention/retention basin sizing. The underground storm water system needs to have details and locations for access for maintenance. Need to have orifice size for discharge Into the storm water system.	See DR01 and strom drain letter.
	Improvement Drawings - 16	Storm water needs to be treated prior to an underground detention/retention system.	CDS unit to be installed upstream of gallery.
	Improvement Drawings - 17	This method of underground storm water storage is a "Class V - Injection Well System" and must receive approval from the "State of Utah" and the approval permit must be submitted to Riverdale City for record keeping.	Draft of Form sumbitted as pdf for review.
	Improvement Drawings - 18	A storm water maintenance plan will need to be developed and submitted for review.	SDMP has been submitted for review.
	Improvement Drawings - 19	Observation manholes (4' diameter) will be required on both ends of the underground isolation roll.	No Isolation Roll privided. Will have a CDS unit before Gallery.

CIVIL ENGINEERING CONSULTANTS, PLLC.

5141 South 1500 West
Riverdale City, Utah 84405
801-866-0550

27th April 2024

Riverdale City
4600 South Weber River Drive
Riverdale, Utah 84405

Attn: Brandon Cooper, Community Development Director/RDA Deputy Executive Director
Proj: **Panera Bread**
Subj: Site Plan Review – recommend approval

Dear Brandon,

I have completed my review of the recently submitted Improvement drawings, Geotechnical Report and Storm Water Calculations from the Developer's Engineer. In my opinion the drawings and calculations now reflect the Standards of Riverdale City.

I herewith recommend engineering approval of the improvement drawings and calculations as submitted.

The design of the retaining walls has been completed for the Panera Bread site. If access is granted across the Shake Shack's property, the retaining wall design will need to be continued along the east side of Shake Shack's property line and additional review will be required to ensure proper design and grading for the access roadway.

Please have the developer's engineer provide a cost estimate for the public improvements.

If you have any questions, feel free to contact our office.

Sincerely,
CEC, Civil Engineering Consultants, PLLC.

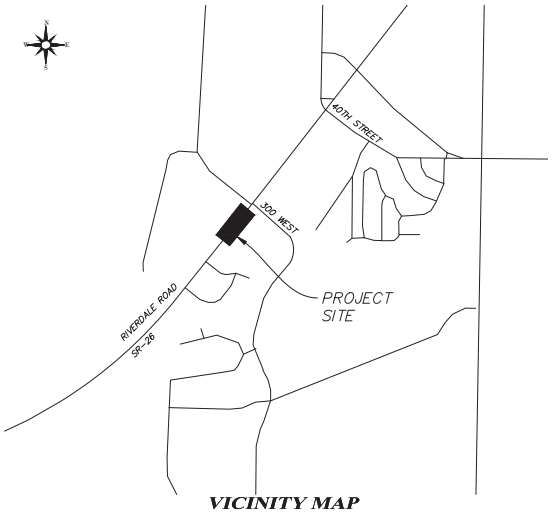
R. Todd Freeman, S.E., P.E.
City Engineer

Cc. Shawn Douglas, Public Work Director
Jeff Woody, Building Official

PANERA BREAD RIVERDLAE ROAD (SR-26) MEDIAN

4122 Riverdale Road
Riverdale, Utah 84408

APRIL 5, 2024



VICINITY MAP
N.T.S.

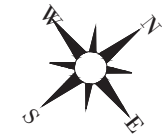
CONTACT INFO

ENGINEER	LAND OWNER	FIRE DEPARTMNET
PERIGEE CONSULTING JED ATHERLEY 801.590.6611 JED@PERIGEECIVIL.COM	WILLIAMSEN RIVERDALE LLC THOM WILLIAMSON 801.364.2602 THOM@CHASEBROOKCO.COM 154 E. MYRTLE AVE. MURRAY, UTAH 84107	RIVERDALE CITY FIRE DEPARTMNET JARED SHOLLY 801.436.1241 RKOGER@RIVERDALECITY.COM
DEVLOPER		**PUBLIC WORKS**
AMERICAN BREAD COMPANY, LLC PETER STRANG 216.401.0030 PETERS@STRANGCORP.COM 6905 LAKE AVENUE CLEVELAND, OH 44102	**APPROVING AGENCY** RIVERDALE CITY, 4600 So. WEBER RIVER DRIVE, RIVERDALE, UTAH 84408	RIVERDALE CITY PUBLIC WORKS SHAWN DOUGLAS 801.394.5541 et 1217 SDOUGLAS@RIVERDALECITY.COM

SHEET LIST TABLE

SHEET NUMBER	SHEET TITLE	SHEET DESCRIPTION
01	TC01	COVER SHEET
02	SP01	SITE PLAN
03	SI01	OFFSET STRIPING EXHIBIT
04	GR01	GRADING SHEET
05	DT01	DETAIL SHEET
06	DT02	DETAIL SHEET





0 50 100 Feet

UDOT GENERAL NOTES:

1. All construction within the UDOT right-of-way shall conform to the most current UDOT standard (including supplemental) drawings and specifications.
2. The contractor is to obtain an encroachment permit from the applicable UDOT Region Permit office prior to commencing work within UDOT right-of-way. Working hour limitations will be listed in the limitations section of the encroachment permit.
3. UDOT reserves the right, at its option, to install a raised median island or restrict the access to a right-in or right-out at any time.
4. Owner, developer, and contractor are responsible for any damages directly or indirectly within the UDOT right-of-way as a result of development activities.
5. Owner, developer, and/or contractor is required to hire an independent company for all testing within the UDOT right-of-way.
6. All signs installed on the UDOT right-of-way must be high intensity grade (Type XI sheeting) with a B3 slip base. Install all signs per UDOT SN series Standard Drawings.
7. Comply with the requirements of Utah Code 17-23-14 (Disturbed Corners – County surveyor to be notified – Coordination with certain state agencies).

CALL BEFORE YOU DIG! BLUE STAKES 1 800 662 4111

PERIGEE CONSULTING
8089 SOUTH 1300 WEST, SUITE 100
WEST JORDAN, UT 84088
TELEPHONE: 801.590.6611
WWW.PERIGEECIVIL.COM

REGISTERED PROFESSIONAL ENGINEER
JED T. ATHERLEY
No. 5047290
04/05/24
STATE OF UTAH

UDOT

APPROVED DATE

NO	DESCRIPTION	DATE
1	PER UDOT & ROW PERMIT COMMENTS	4/5/2024

DESIGNED BY: RN
DRAWN BY: CTL
CHECKED BY: JTA
SUBMITTED BY:
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FILE: ANSI D
PLOTTED BY:
DATE: APR 2024
ELECTRONIC RECORD
CONTRACT NO. 00000
PLOT DATE: 4/5/2024 10:07:08 AM

PANERA BREAD RIVERDALE
ROAD (SR-26) MEDIAN
COVER SHEET

SHEET NUMBER
01
OF 06 SHEETS
DRAWING NAME
TC01

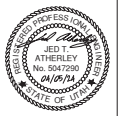
4/5/2024 10:07:08 AM

GENERAL NOTES:
1. INSTALL MEDIAN REFLECTORS PER UDOT DETAIL GW 1D FOR THE LENGTH OF THE MEDIAN





PERIGEE CONSULTING
CIVIL & STRUCTURAL ENGINEERS
8989 SOUTH 1300 WEST, SUITE 100
WEST JORDAN, UT 84088
PHONE TEL: 801.694.4545
WWW.PERIGEECG.COM



UDOT

APPROVED DATE

NO.	DESCRIPTION	DATE	APP'D
1	PER COMMENTS AND REVISED SITE PLAN	4/5/2024	RN
2	REVISED SIGNAGE AND REVISED SITE PLAN	4/5/2024	RN

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CHECKED BY: JTA
SUBMITTED BY:
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SIZE: ANSI D
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DATE: APR 2024
ELEVATIONS:
CONTRACT NO: 00000
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REV:

PANERA BREAD RIVERDALE ROAD (SR-26) MEDIAN
SITE PLAN

SHEET NUMBER
02
OF 06 SHEETS
DRAWING NAME
SP01





N W E S

0 20 40 Feet

CALL BEFORE YOU DIG
BLUE STAKES 1 800 662 4111

PERIGEE
CIVIL + ENVIRONMENTAL + ENGINEERING
9389 SOUTH 1300 WEST, SUITE 100
SOUTH JORDAN, UT 84095
TEL 801.495.2224 FAX
WWW.PERIGEE.COM

REGISTERED PROFESSIONAL ENGINEER
JED T. ATHERLEY
No. 5047290
04/09/24
STATE OF UTAH

UDOT

APPROVED DATE

NO.	DESCRIPTION	DATE
1	PER UDOT REVIEW COMMENTS	4/9/2024
2		

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SUBMITTED BY:
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DATE: APR 2024
ISSUED FOR: REV:
CONTRACT NO: 00000

PANERA BREAD RIVERDALE
ROAD (SR-26) MEDIAN
OFFSET STRIPING EXHIBIT

SHEET NUMBER
03
OF 06 SHEETS
DRAWING NAME
SI01

4/5/2024 10:07:42 AM



0 20 40 Feet

CALL BEFORE YOU DIG!
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PERIGEE
CIVIL + STRUCTURAL + ENGINEERING
9389 SOUTH 1300 WEST, SUITE 100
SOUTH JORDAN, UT 84095
801.990.1742 WWW.PERIGEE.COM

REGISTERED PROFESSIONAL ENGINEER
JED T. ATHERLEY
No. 5047290
04/09/24
STATE OF UTAH

UDOT

APPROVED DATE

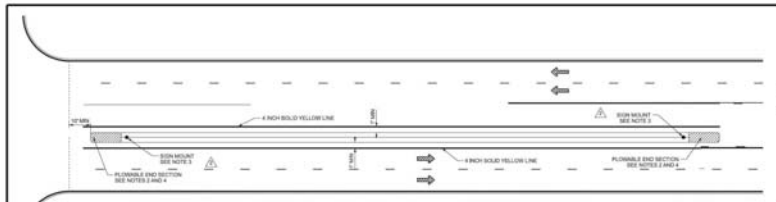
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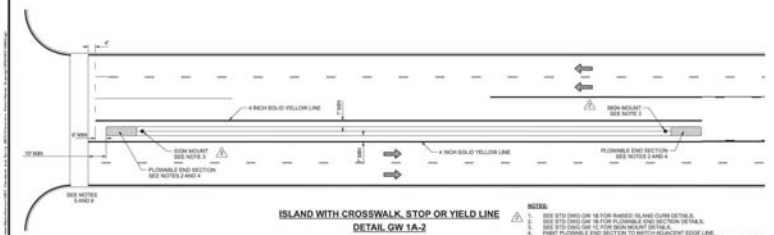
PANERA BREAD RIVERDALE
ROAD (SR-26) MEDIAN
GRADING SHEET

SHEET NUMBER
04
OF 06 SHEETS
DRAWING NAME
GR01

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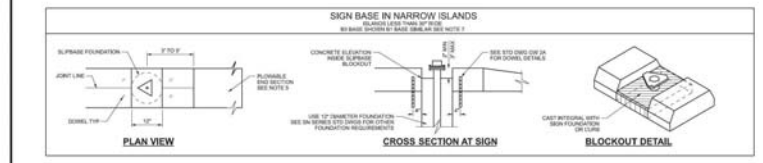
ISLAND WITHOUT CROSSWALK, STOP OR YIELD LINE
DETAIL GW 1A-1



ISLAND WITH CROSSWALK, STOP OR YIELD LINE
DETAIL GW 1A-2

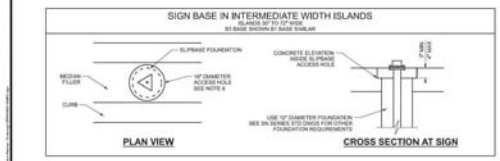
NOTES:
1. SEE STD DWG GW 1B FOR RAISED ISLAND CURB DETAILS.
2. SEE STD DWG GW 1B FOR PLOWABLE END SECTION DETAILS.
3. SEE STD DWG GW 1C FOR SIGN MOUNT DETAILS.
4. PAINT PLOWABLE END SECTION TO MATCH ADJACENT EDGE LINE.
5. SEE STD DWG ST 1 FOR STANDARD CROSSWALK, STOP AND YIELD LINE MARKINGS.
6. SEE STD DWG ST 1 FOR SCHOOL CROSSWALK, STOP AND YIELD LINE MARKINGS.

UTAH DEPARTMENT OF TRANSPORTATION
2024 Standard Drawing
RAISED ISLAND
STD. DWG. NO.
GW 1A



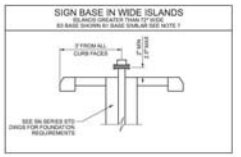
SIGN BASE IN NARROW ISLANDS
ISLANDS LESS THAN 30' WIDE
SO BASE SHOWN BY BASE SIMILAR SEE NOTE 7

PLAN VIEW | CROSS SECTION AT SIGN | BLOCKOUT DETAIL

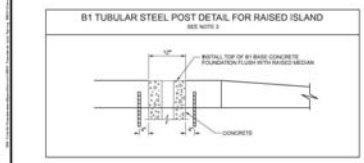


SIGN BASE IN INTERMEDIATE WIDTH ISLANDS
ISLANDS 30' TO 13' WIDE
SO BASE SHOWN BY BASE SIMILAR

PLAN VIEW | CROSS SECTION AT SIGN



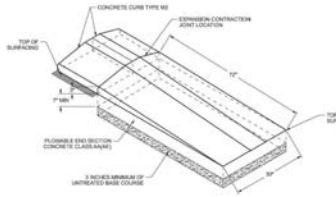
SIGN BASE IN WIDE ISLANDS
ISLANDS GREATER THAN 72' WIDE
SO BASE SHOWN BY BASE SIMILAR SEE NOTE 7



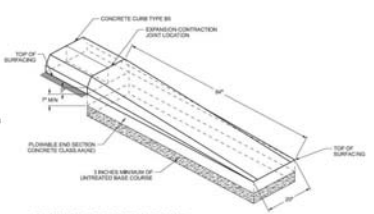
B1 TUBULAR STEEL POST DETAIL FOR RAISED ISLAND
SEE NOTE 3

NOTES:
1. PLACE TOP OF SLIPBASE STUD POST FLUSH WITH THE TOP OF THE ISLAND (EXCLUDING WIDE ISLANDS) WITH A TOLERANCE OF + 1/INCH.
2. SEE SN SERIES STD DWGS FOR SLIPBASE DETAILS.
3. SEE SN SERIES STD DWGS FOR B1 TUBULAR STEEL POST BASE.
4. KEEP EDGE OF SIGN BEHIND FACE OF CURB AS SHOWN ON STD DWG SN 7A. DO NOT EXCEED 2 INCH OVERHANG WHEN SIGN IS WIDER THAN ISLAND.
5. PAINT PLOWABLE END SECTION TO MATCH ADJACENT EDGE LINE.
6. ACCESS HOLE MAY BE FORMED OR CORE DRILLED. ACCESS HOLE MAY BE SQUARE PROVIDED CONTRACTION JOINTS ARE CUT OR TOOLED AT EACH CORNER. DO NOT CONSTRUCT AN ACCESS HOLE WHEN INSTALLING B1 BASE.
7. HORIZONTAL DIMENSIONS SHOWN FOR B1 SLIPBASE ALSO APPLY TO B1 TUBULAR STEEL POST BASE.

UTAH DEPARTMENT OF TRANSPORTATION
2024 Standard Drawing
RAISED ISLAND DETAILS
STD. DWG. NO.
GW 1C



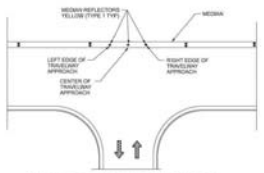
PLOWABLE END SECTION DETAIL
TYPE "M2" CURB



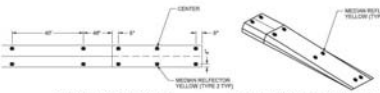
PLOWABLE END SECTION DETAIL
TYPE "B5" CURB

NOTES:
1. SEE STD DWG GW 2A FOR M2 AND B5 CURB DETAILS.
2. PAINT PLOWABLE END SECTION TO MATCH ADJACENT EDGE LINE.
3. SEE STD DWG GW 1C FOR SIGN MOUNT DETAILS.
4. SEE STD DWG GW 1D FOR MEDIAN REFLECTOR DETAILS.
5. SEE STD DWG GW 2A FOR EXPANSION-CONTRACTION JOINT DETAILS.

UTAH DEPARTMENT OF TRANSPORTATION
2024 Standard Drawing
RAISED ISLAND AND PLOWABLE END SECTION
STD. DWG. NO.
GW 1B

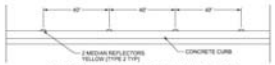


MEDIAN REFLECTOR PLACEMENT DETAIL
AT MINOR CROSS STREET
SEE NOTE 5

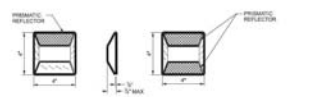


END SECTION PLAN VIEW
TYPE B SHOWN, TYPE M SIMILAR

END SECTION ISOMETRIC VIEW
TYPE B SHOWN, TYPE M SIMILAR



MEDIAN REFLECTOR PLACEMENT DETAIL
ELEVATION VIEW



MEDIAN REFLECTOR DETAIL
TYP (MAY VARY BY MANUFACTURER)

NOTES:
1. DO NOT PLACE REFLECTORS ON JOINTS.
2. PLACE REFLECTIVE SURFACE TO FACE APPROACHING TRAFFIC.
3. PLACE THREE ADDITIONAL REFLECTORS AT EVERY CROSS STREET OR DRIVEWAY. ROTATE THE REFLECTIVE SURFACE TO FACE THE CROSS STREET OR DRIVEWAY.
4. MATCH REFLECTOR COLOR TO ADJACENT PAVEMENT MARKINGS.
5. ONLY USE MEDIAN REFLECTORS AT THE DIRECTION OF THE REGION TRAFFIC ENGINEER.
6. USE 80 FT SPACING BETWEEN MEDIAN REFLECTORS. 60 FT SPACING MAY BE USED AT THE DIRECTION OF THE REGION TRAFFIC ENGINEER.
7. USE TYPE 2 REFLECTORS FOR MEDIAN.
8. USE TYPE 1 REFLECTORS FOR CROSS STREETS AND DRIVEWAYS.
9. SEE STD DWG GW 1A FOR REQUIRED PAVEMENT MARKINGS.

UTAH DEPARTMENT OF TRANSPORTATION
2024 Standard Drawing
MEDIAN REFLECTOR DETAILS
STD. DWG. NO.
GW 1D

PERIGEE CONSULTING
CIVIL + STRUCTURAL + HIGHWAY
9389 SOUTH 1300 WEST, SUITE 100
WEST JORDAN, UT 84088
TELEPHONE: 801.810.6617 FAX:
WWW.PERIGEECONSULTING.COM

REGISTERED PROFESSIONAL ENGINEER
JED T. ATHERLEY
No. 5047290
04/09/24
STATE OF UTAH

UDOT
APPROVED | DATE

NO.	DESCRIPTION	DATE	APP'D

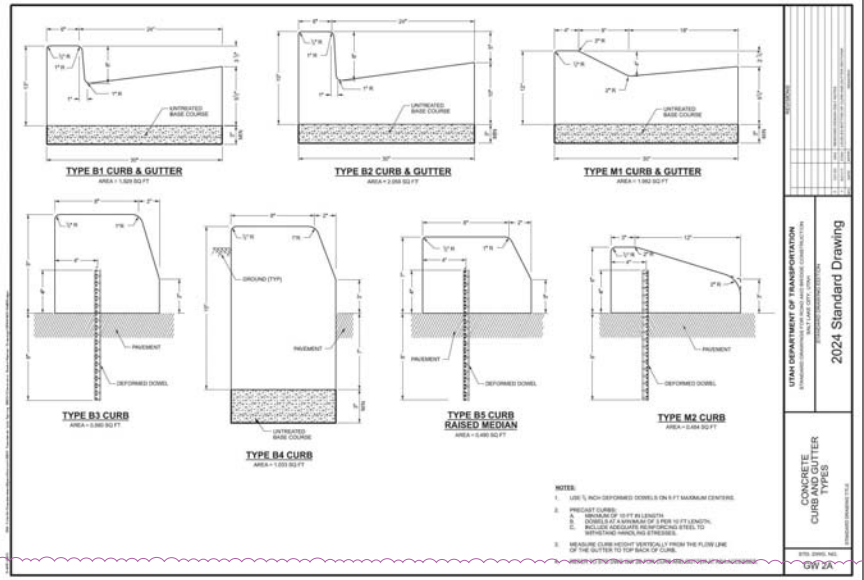
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DRAWN BY: CTL
CHECKED BY: JTA
SUBMITTED BY:
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PLOTTED BY: Kyle Hood
PLOTTED: 4/5/2024 10:08:05 AM
DATE: APR 2024
REVISIONS:
CONTRACT NO: 00000

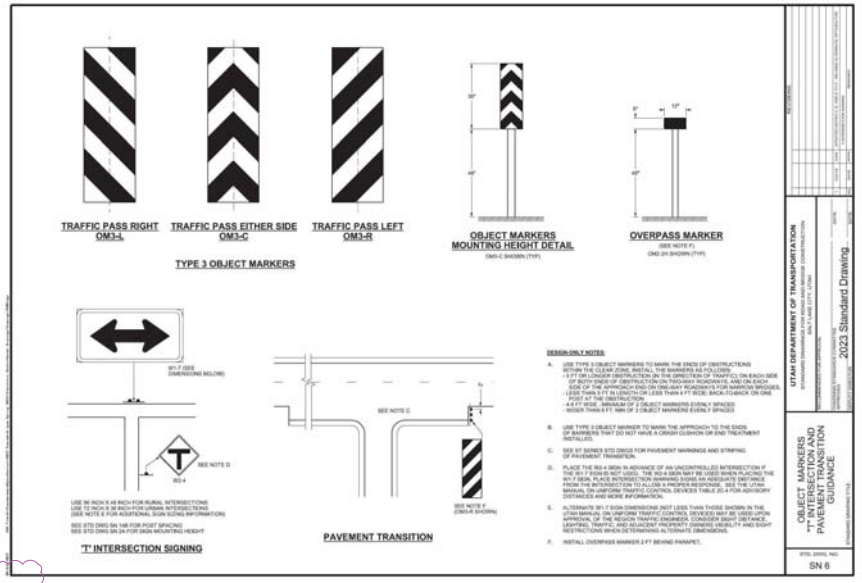
PANERA BREAD RIVERDALE
ROAD (SR-26) MEDIAN
DETAIL SHEET

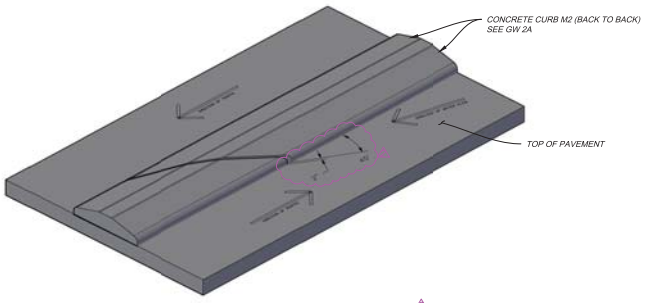
SHEET NUMBER
05
OF 06 SHEETS
DRAWING NAME
DT01

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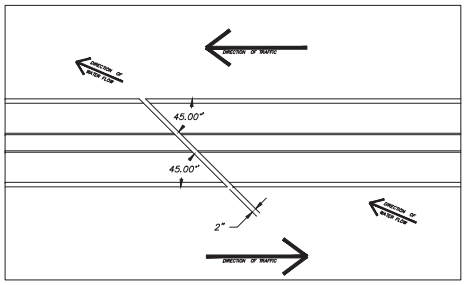






NOTES:
1. SPACE ANGLED SLOT CUTS EVERY 30' CENTER TO CENTER
2. CONSTRUCT MEDIAN PER UDOT STANDARDS DRAWINGS GW 1A AND GW 1B. SEE DT01 FOR DRAWINGS

A DT02 **ANGLED SLOT CUT**
N.T.S.



B DT02 **ANGLED SLOT CUT**
N.T.S.

PERIGEE CONSULTING
CIVIL + TRANSPORTATION + ENGINEERING
9389 SOUTH 1300 WEST, SUITE 100
WEST JORDAN, UT 84088
TELEPHONE: 801.501.7744
WWW.PERIGEECONSULTING.COM

REGISTERED PROFESSIONAL ENGINEER
JED T ATHERLEY
No. 5047290
04/05/24
STATE OF UTAH

UDOT
APPROVED DATE

NO	DESCRIPTION	DATE
A1	ADD 2" AND 45° ANGLE SLOT CUT	4/5/2024
A2	ADD STAGED SLOT CUT STANDARDS	4/5/2024

DESIGNED BY: RN
DRAWN BY: CTL
CHECKED BY: JTA
SUBMITTED BY:
FILE NAME: N:\20000 Panera Riverdale\Civil\PLS-DOT\DT02.DWG
USER: ANSI D
PLOTTED BY:
DATE: APR 2024
ELEVATIONS NO:
CONTRACT NO: 00000
ADDENDUM NO:
4/5/2024 10:08:08 AM

PANERA BREAD RIVERDALE
ROAD (SR-26) MEDIAN
DETAIL SHEET

SHEET NUMBER
06
OF 06 SHEETS
DRAWING NAME
DT02

CALL BEFORE YOU DIG!
BLUE STAKES 1 800 662 4111

4/5/2024 10:08:08 AM

Original Review Packet

- ☒ Buck Sheet
- ☒ Application
- ☒ Variance Request
- ☒ Plan Set
- ☒ TIS
- ☒ Grant of Easement
- ☐ Letter from Local Jurisdiction
- ☐ UDOT Drainage Agreement

Resubmittal

- ☐ Buck Sheet
- ☐ Response
- ☐ New info

UDOT Region 1 Permits

Application 23-099 (143834) SR-26, Panera Riverdale (0)

OLP # 143834 **Date** Nov 16, 2023

Route SR-26 **Begin Milepost** 2.660 **End Milepost**

Department	Review Stamp	Approved	More Info Needed	Variance Approved
Permit Engineer	REVIEWED By David Alger at 12:10 pm, Dec 14, 2023	○	◉	☐
		○	○	☐
		○	○	☐
		○	○	☐
		○	○	☐

Notes

PRE-APPLICATION MEETING SUMMARY

Pre-App Number: PA-140118

Property Owner Information		Applicant Information	
Name:	Chasebrook Company	Name:	Perigee Consuslting
Mailing Address:	154 E Myrtle Ave #303	Mailing Address:	9089 S 1300 W. #160
City, State, Zip:	Murray, UT 84107	City, State, Zip:	West Jordan, Utah, 84088
Email:	jay@chasebrookco.com	Email:	russell@perigeecivil.com
Phone:	8013642602	Phone:	8018932345

Purposed Access Information

Physical Address:	4130 Riverdale Road, Riverdale, UT 84405	Parcel Number:	060310012
State Route ID:	0026	Milepost Marker:	2.66
Latitude:	41.18775316	Longitude:	-111.98332158
Access Width(in feet):	30	Access Use:	Commercial
Access Category:	Reg. Priority Urban	Side of Highway:	South

PROJECT NAME AND BRIEF SCOPE OF WORK DESCRIPTION

Panera Riverdale

An old commercial building is going to be demoed and a new Panera Bread restaurant is going to be built on the site. The existing access to Riverdale Road (State Route 26) will be removed and replaced. Existing sewer and water laterals will be capped at the main. A new sewer and water lateral are proposed to be constructed. The anticipated utility demo and installment will affect 1-2 lanes of Riverdale Road.

Meeting Date	Time Spent	Participant Name	Representing	Email	Phone
15-AUG-23		Austin LaRue	UDOT	alarue@utah.gov	8017218846
		David Alger	UDOT	dalger@utah.gov	8016201654
		Dustin Jenkins	UDOT	dustinjenkins@utah.gov	8013897282
		Rodger Genereux	UDOT	jaygenereux@utah.gov	8016786283

Total Time Spent:

Access Application Review Level Fee: $475.00

SITE PLAN / ACCESS NOTES

Site Plan & Access Notes:

Recommended to remove the existing drive approach and replace with standard curb, gutter, and sidewalk. If closing the access the TIS and review fee will be waived.

If requesting the change of use/intensity of traffic to directly access SR-26 the level 2 TIS and level 2 permit review fee will be required along with a variance request form.

Add the updated UDOT Notes to General Project Notes: listed in the Conditional Access Guide at https://www.udot.utah.gov/connect/business/permits/access-management/

Consider including the current applicable UDOT standard and supplemental drawings as part of the plan set. These are available on the UDOT website at udot.utah.gov

TRAFFIC IMPACT STUDY NOTES

Traffic Impact Notes:

Recommended to remove the existing drive approach and replace with standard curb, gutter, and sidewalk. If closing the access the TIS and review fee will be waived.

If requesting the change of use/intensity of traffic to directly access SR-26 the level 2 TIS and level 2 permit review fee will be required along with a variance request form.

TIS WAIVER

Approved: N **Name:** **Title:**

UTILITIES NOTES

Utility Notes:

Show existing and tie-in requirements of utilities

Our policy is that we require trenchless construction unless convincing and sufficient reason is given for open trench construction. The reason for this is the substantial delays caused to the public which we measure in user costs, and the degradation to our pavement which increases maintenance costs and shortens the life cycle duration of the pavement.

For concrete roadway construction within the UDOT ROW, call out 11 inches of Rapid Strength Concrete (RSC) for all panel replacements in travel lanes according to UDOT specification 03058 Rapid Strength Concrete (RSC) and other related sections over 3 inches of UDOT- approved hot mix asphalt (HMA), PG-grade 64-34 asphalt binder, 1/2 inch nominal max, 7-75-115 gyration per UDOT standard specification 02741; over 6 inches untreated base course (UTBC) per UDOT specification 02721; or match existing (whichever is greater). Provide documentation of compaction from a UDOT-qualified laboratory.

Consider removing abandoned utilities when possible without major impacts to the public. All abandoned lines 6 inch diameter or larger that remain in place are to be filled with flowable fill meeting standard specification 03575.

PRE-APPLICATION MEETING SUMMARY

DRAINAGE NOTES

Drainage Notes:

Show that the stormwater discharge into the UDOT drainage system does not exceed 0.2 cfs/acre for the 10 yr 24 hr storm event and is controlled through the restriction up to the 50 yr event 24 hr storm event. Show that the existing storm drain system has adequate capacity for this connection. Show that stormwater exceeding the 50 yr 24 hr event is safely conveyed to an acceptable location. Submit the signed Drainage Agreement available at: https://www.udot.utah.gov/connect/business/permits/access-management/

OTHER NOTES

TIS Level / Permit Review Fee: $475

TIS Options, Permit Fee Options

Required Documents - for more Information visit: https://www.udot.utah.gov/connect/business/permits/access-management/

Complete Site Plans

Single Parcel Drainage Agreement (Filled, but do not record until plans are approved)

Variance Request Form (if requesting an access to SR-26)

Property Owner Statement (if removing the existing access to SR-26)

Cross Access Easement (with property to the South - parcel 060310051) - They are also starting the Conditional Access Permit process and are required to create a cross access as well. Please coordinate to determine an acceptable location and width for a cross access to connect from the streets that intersect SR-26.

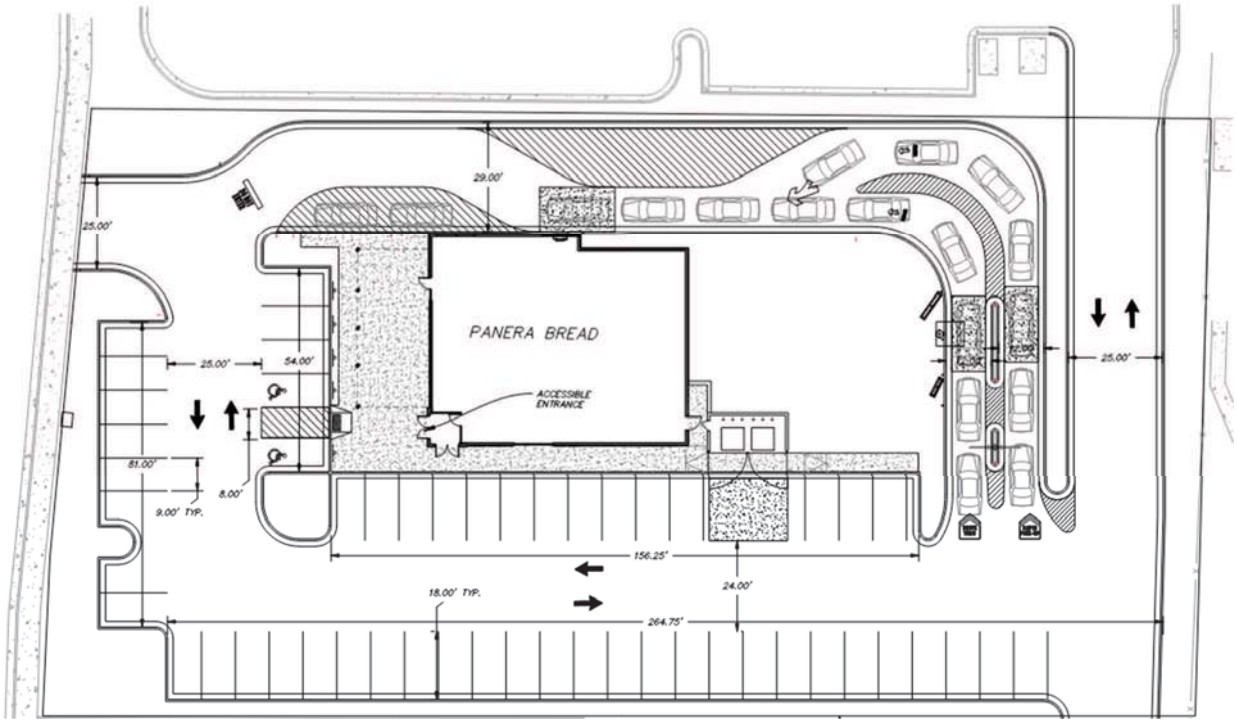
Other Notes:

Pre-application notes are valid for 12 months. Approved Conditional Access Permits have 12 months from the date of approval to acquire an Encroachment Permit to build the access.

Mike Eggett from Riverdale city attended the pre-application meeting so the applicant will not be required to provide a letter stating they are aware of the project.

Required Default Documents
Plan Set
Documents Required / Identified at Pre-Application Meeting
Variance Request Form
Drainage Agreement
Access Agreement (Cross)
Property Owner Statement

Riverdale – Panera Bread
Traffic Impact Study



LICENSED PROFESSIONAL ENGINEER
8905056
JEREMY E.
SEARLE
STATE OF UTAH

Prepared by: WCG

Date: October 24, 2023

Executive Summary

This study addresses the traffic impacts associated with the proposed Panera Bread development (Project) located in Riverdale, Utah. The Project is south of the 300 West / Riverdale Road (SR-26) intersection.

The Project proposes a new Panera Bread restaurant. The site plan includes approximately 3,800 square feet of restaurant space, and a drive thru. The Project is anticipated to add an additional 404 daily trips to the roadway network, including 52 trips in the morning peak hour and an additional 62 trips in the evening peak hour. The Project could potentially add a RIRO access 100 feet south of the 300 West / Riverdale Road (SR-26) intersection.

The level of service (LOS) for both morning and evening peak hours was determined for each study intersection under the existing and existing plus project scenarios. Both scenarios with and without a RIRO access were analyzed. The results of the analysis are summarized in ***Table ES-1***.

Table ES-1: Level of Service Summary			
Intersection	**Level of Service (sec/vehicle)[1]**		
	Existing (2023) Background	**Existing (2023) Plus Project**	**Existing (2023) Plus Project w/ RIRO Access**
AM Peak Hour			
Access Road (Canes) / Riverdale Road (SR-26)	F (>50) / EB LT	F (>50) / EB LT	F (>50) / EB LT
RIRO Access / Riverdale Road (SR-26)	-	-	B (10.9) / WB RT
300 West / Riverdale Road (SR-26)	B (16.5)	B (16.6)	B (16.2)
Access Road (Starbucks) / 300 West	C (20.1) / NB LT	C (20.5) / NB LT	C (16.3) / NB LT
PM Peak Hour			
Access Road (Canes) / Riverdale Road (SR-26)	F (>50) / EB LT	F (>50) / EB LT	F (>50) / EB LT
RIRO Access / Riverdale Road (SR-26)	-	-	F (>50) / WB RT
300 West / Riverdale Road (SR-26)	C (33.0)	C (32.3)	C (30.0)
Access Road (Starbucks) / 300 West	F (>50) / NB LT	F (>50) / NB LT	F (>50) / NB LT

[1] Intersection LOS and delay (seconds/vehicle) values represent the overall intersection average for signalized intersections and the worst movement for unsignalized intersections.

Findings and Recommendations

WCG makes the following conclusions and recommendations:

- Existing 2023 conditions were analyzed.
    - The 300 West / Riverdale Road (SR-26) intersection operates at acceptable LOS during the morning and evening peak hours.
        - During the evening peak hour, the westbound left turn movement at the 300 West / Riverdale Road (SR-26) intersection extends into the Access Road (Starbucks) / 300 West intersection.
            - It is recommended that the signal timing at the 300 West / Riverdale Road (SR-26) intersection be updated to give more time to the westbound left-turn movements.

        - Preliminary analysis determined that the westbound left-turn queue extends into the Access Road (Starbucks) / 300 West intersection less frequently.
    - The Access Road (Canes) / Riverdale Road (SR-26) intersection operates at LOS F during the morning and evening peak hours.
        - It is common for unsignalized side streets to experience long left turn delays onto busy arterials.
    - The Access Road (Starbucks) / 300 West intersection operates at LOS C during the morning peak hour and LOS F during the evening peak hour.
- The Project proposes a new Panera Bread restaurant. The site plan includes approximately 3,800 square feet of restaurant space with a drive thru.
- The Project is anticipated to generate a total of 407 daily trips to the roadway network, including 52 trips in the morning peak hour and 62 trips in the evening peak hour. These numbers are calculated values from the ITE trip generation model.
    - Based on ITE data, the convenience store / gas station has 43% pass-by trips during the morning and evening peak hour periods. To be conservative, no pass-by reductions were taken in this analysis.
- The Project could potentially add a right-in-right-out (RIRO) 100 feet south of the 300 West / Riverdale Road (SR-26) intersection.
    - A variance from UDOT standards will be required if this access is installed.
- With Project traffic added, no auxiliary lanes are required based on UDOT Administrative Rule R930-6.
- Scenarios with and without a RIRO access to the Project site were analyzed. It is assumed that signal timing at the 300 West / Riverdale Road (SR-26) intersection is updated to accommodate the new traffic volumes.
    - With Project traffic added, the 300 West / Riverdale Road (SR-26) intersection is anticipated to operate at acceptable LOS during the morning and evening peak hours with or without a RIRO access.
    - The Access Road (Starbucks) / 300 West intersection operates at acceptable LOS during the morning peak hour and LOS F during the evening peak hour with and without the RIRO access.
        - Since this intersection operates at acceptable LOS during the morning peak hour and throughout most of the day, no mitigation measures are recommended.
    - The Access Road (Canes) / Riverdale Road (SR-26) intersection operates at LOS F during the morning and evening peak hours.
        - It is common for unsignalized side streets to experience long left turn delays onto busy arterials.

Executive Summary i

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I. INTRODUCTION

A. Purpose

This study addresses the traffic impacts associated with the proposed Panera Bread restaurant (Project) located in Riverdale, Utah. The Project is located south of the 300 West / Riverdale Road (SR-26) intersection. The Project could potentially create a new right-in-right-out (RIRO) access 100 feet south of the 300 West / Riverdale Road (SR-26) intersection. ***Figure 1*** depicts the location of the Project and the study intersections. A concept land use plan is also included in ***Appendix A***.

Included within the analyses for this study are the traffic operations for opening day (2023) conditions with and without the Project at study intersections and roadways adjacent to the Project. Both scenarios with and without the RIRO access are included.

B. Scope

Based on the proximity to the Project site the following intersections were analyzed to evaluate the traffic operational impacts:

- 300 West / Riverdale Road (SR-26)
- Access Road (Adjacent to Raising Canes) / Riverdale Road (SR-26)
- Access Road (behind Starbucks) / 300 West

C. Analysis Methodology

Level-of-service (LOS) is a term that describes an intersection's operating performance during critical peak hours of the day. LOS is measured quantitatively and reported on a scale from A to F, with A representing the best performance and F the worst. ***Table 1*** provides a brief description of each LOS letter designation and an accompanying average delay per vehicle thresholds for both signalized and unsignalized intersections.

The Highway Capacity Manual (HCM) 7th Edition, 2022 methodology was used in this study. This methodology has different quantitative evaluations for signalized and unsignalized intersections. For signalized intersections, the overall intersection LOS is reported. For other unsignalized intersections, the worst approach or movement LOS is reported. LOS is measured in seconds of delay per vehicle.

Table 1: Level of Service Definition for Intersections			
LOS	**Signalized Delay (sec/vehicle)**	**Unsignalized Delay (sec/vehicle)**	**Description**
A	≤10	≤10	Favorable progression
B	>10 and ≤20	>10 and ≤15	Good progression
C	>20 and ≤35	>15 and ≤25	Fair progression
D	>35 and ≤55	>25 and ≤35	Noticeable congestion
E	>55 and ≤80	>35 and ≤50	Limit of acceptable delay
F	>80	>50	Unacceptable delay
Source: *Highway Capacity Manual*, Transportation Research Board, 2022			

Using Synchro/SimTraffic software, which incorporates the HCM methodology, WCG computed the peak hour LOS for each study intersection. Multiple runs (10) of SimTraffic were used to provide a statistical evaluation of traffic operations along the study corridor and at each study intersection. Detailed LOS and queueing reports are included in ***Appendix C***.

D. Level of Service Standards

For the purposes of this study, a minimum overall intersection performance for each of the study intersections was set at LOS D. LOS D is generally considered acceptable for urbanized areas. If LOS E or F conditions exist, an explanation and/or mitigation measures are presented.



WALL CONSULTANT GROUP

Vicinity Map

Riverdale Panera TIS

N

DATE: 10/24/2023

PROJECT: 23-420

Figure 1

II. BACKGROUND EXISTING CONDITIONS

A. Purpose

The purpose of the existing conditions section is to gather existing information on roadway geometry, lane configurations and traffic volumes for the surrounding area. This information is used to help identify and quantify impacts that the Project will have on the surrounding roadway network. The existing (2023) background analysis evaluates the study intersections and roadways without any Project traffic and establishes existing traffic and geometric conditions.

B. Roadway Network

The intersections are described below and shown in ***Figure 2***, along with existing intersection lane configurations.

300 West / Riverdale Road (SR-26) – This study intersection is a four-leg intersection controlled by a signal. The northbound (Riverdale Road) approach has three thru lanes, two left-turn lanes, and a single right-turn lane. The southbound (Riverdale Road) approach has two thru lanes, a shared thru/right-turn lane, and a single left-turn lane. The eastbound approach (300 West) has two left-turn lanes, a single thru lane, and a shared thru/right-turn lane. The westbound approach (300 West) has two left-turn lanes, a single thru lane, and a single right-turn lane. The posted speed limit along Riverdale Road (SR-26) at this location is 35 MPH. The posted speed limit on 300 West is 30 MPH.

Access Road (Canes) / Riverdale Road (SR-26) – This study intersection is a four-leg intersection. The northbound and southbound (Riverdale Road) approaches are free movements while the eastbound and westbound (Access Road) approaches are stop controlled. The northbound and southbound movements have two thru lanes and a shared thru/right-turn lane in each direction, as well as a two-way-left-turn median. Both the westbound and eastbound approaches have a left-turn and right-turn lane. The posted speed limit along Riverdale Road (SR-26) at this location is 35 MPH. The posted speed limit along the Access Road (Shake Shack) is 25 MPH.

Access Road (Starbucks) / 300 West – This study intersection is a three-leg intersection. The eastbound and westbound (300 West) approaches are free movements while the northbound (Access Road) approach is stop controlled. The eastbound approach has a single thru lane and shared thru/right-turn lane. The westbound approach has two thru lanes. 300 West also has a two-way-left-turn-median at this location. The northbound approach has a single ingress lane. The posted speed limit along the Access Road (Starbucks) is 25 MPH.

C. Traffic Volumes

WCG conducted weekday morning (7:00 AM to 9:00 AM) and evening (4:00 PM to 6:00 PM) peak period traffic counts at the following existing intersections:

- 300 West / Riverdale Road (SR-26)
- Access Road (Adjacent Raising Canes) / Riverdale Road (SR-26)

- Access Road (behind Starbucks) / 300 West

The intersection turning movement counts were completed on Wednesday October 18th, 2023. The morning peak hour was observed to be 7:30 AM – 8:30 AM. The evening peak hour was observed to be 4:45 PM – 5:45 PM.

Figure 2 depicts the existing (2023) morning and evening peak hour traffic volumes at the study intersections. Traffic count data is included in ***Appendix B***.

D. Level of Service Analysis

WCG determined that the 300 West / Riverdale Road (SR-26) intersection is operating acceptable LOS during the morning and evening peak hour. The Access Road (Canes) / Riverdale Road (SR-26) intersection operates at LOS F during the morning and evening peak hours. The Access Road (Starbucks) / 300 West intersection operates at acceptable LOS during the morning peak hour and unacceptable LOS during the evening peak hour, as shown in **Table 2**. Detailed LOS reports are included in ***Appendix C***.

E. Queuing Analysis

The 95th percentile queue lengths were evaluated for each study intersection. During the evening peak hour, the westbound left turn queue at the 300 West / Riverdale Road intersection (SR-26) is approximately 270 feet, extending past the turn pockets. This can interfere with egressing vehicles at the Access Road (Starbucks) / 300 West intersection. No significant queuing was observed. The full queuing analysis is included in ***Appendix C***.

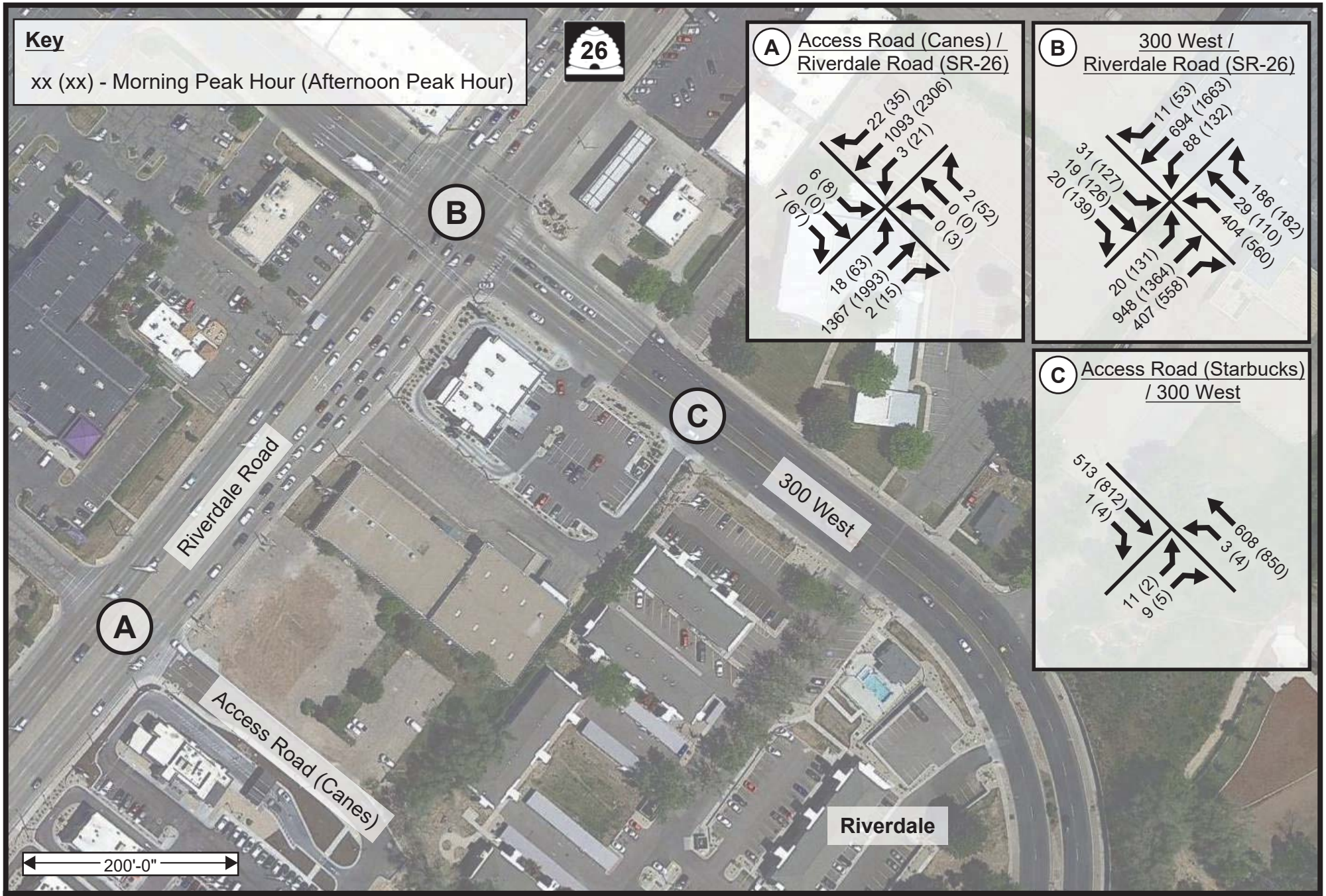
F. Mitigation Measures

As shown in ***Table 2***, the Access Road (Canes) / Riverdale Road (SR-26) intersection is currently operating at LOS F during the morning and evening peak hour. It is common for unsignalized side streets to experience long left turn delays onto busy arterials. This intersection does not meet the criteria for a signal. During the morning and (evening) peak hours, there are a total of 6 (11) vehicles attempting to make a left turn from Access Road (Canes). Since there is a low number of left turns onto this Riverdale Road (SR-26), no mitigation measures are recommended at this intersection.

The westbound queue at the 300 West / Riverdale Road (SR-26) intersection extends into the Access Road (Starbucks) / 300 West intersection during the evening peak hour. It is recommended that the signal timing at 300 West / Riverdale Road (SR-26) intersection be adjusted so that more green time is given to the westbound left turns. Preliminary analysis found that doing so reduces the 95th percentile westbound left-turn queue to 175 feet. The queue still occasionally extends into the Access Road (Starbucks) / 300 West intersection, but less frequently.

Table 2: Existing (2023) Background Conditions Peak Hour Level of Service						
Intersection		**Worst Movement[1]**			**Overall Intersection[2]**	
Intersection	**Control**	**Approach**	**Avg. Delay (Sec / Veh)**	**LOS**	**Avg. Delay (Sec / Veh)**	**LOS**
AM Peak Hour						
Access Road (Canes) / Riverdale Road (SR-26)	EB / WB Stop	EB LT	>50	F	-	-
300 West / Riverdale Road (SR-26)	Signal	-	-	-	16.5	B
Access Road (Starbucks) / 300 West	NB Stop	NB LT	20.1	C	-	-
PM Peak Hour						
Access Road (Canes) / Riverdale Road (SR-26)	EB / WB Stop	EB LT	>50	F	-	-
300 West / Riverdale Road (SR-26)	Signal	-	-	-	33.0	C
Access Road (Starbucks) / 300 West	NB Stop	NB LT	>50	F	-	-

[1] This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for unsignalized intersections.
[2] This represents the overall intersection LOS and delay (seconds / vehicle).



WALL CONSULTANT GROUP

Existing Traffic Conditions (2023)

Riverdale Panera TIS

N

DATE: 10/24/2023

PROJECT: 23-420

Figure 2

III. PROJECT CONDITIONS

A. Purpose

This section describes the type and intensity of land uses planned as a part of the Project and serves as the basis for trip generation, distribution, and assignment of Project trips to the study area roadways and intersections.

B. Project Description

The Project proposes a new Panera Bread restaurant which will have approximately 3,800 square feet of restaurant space and a drive thru. The Project could potentially create a new access 100 feet south of the 300 West / Riverdale Road (SR-26) intersection. A conceptual land use plan for the Project is included in ***Appendix A***.

C. Overall Trip Generation, Distribution and Assignment

The Project trip generation estimates were developed using trip generation rates published in the Institute of Transportation Engineers (ITE) *Trip Generation, 11th Edition*. WCG compared the trip generation rates between ITE land uses #932: High-Turnover (Sit-Down) Restaurant, #930: Fast Casual Restaurant, and #934: Fast-Food Restaurant with Drive-Thru Window. Based on the nature of Panera Bread, the trip generation for land uses #930 and #932 were more reasonable than the high number of trips generated by #934. ITE has little data for land use #930, and this land use generates less trips than land use #932. Therefore, land use #932 was used in this study. The ITE land use description for High-Turnover (Sit-Down) Restaurant states, "This land use consists of sit-down, full-service eating establishments with a typical duration of stay of 60 minutes or less. This type of restaurant is usually moderately priced, frequently belongs to a restaurant chain, and is commonly referred to as casual dining."

The number of trips generated by the overall Project is shown in ***Table 3***.

Table 3: Overall Trip Generation

Land Use	Intensity	Units	Daily	AM Peak			PM Peak		
			Total	In	Out	Total	In	Out	Total
High-Turnover (Sit-Down) Restaurant (#932)	3.8	1,000 sq ft GFA	**407**	**30**	**22**	**52**	**32**	**30**	**62**

Project traffic from ***Table 3*** was assigned to the roadway network based on the type of trip and the proximity of Project access points to regional roadways and major population/employment centers. Existing travel patterns observed during data collection and engineering judgement provided primary guidance to establish distribution percentages. It is assumed that all accesses are completed. The trip distribution for the project was estimated as follows:

- 35% North
- 40% South

- 20% East
- 5% West

With the drive thru being part of the Project, some of the trips generated are anticipated to be pass-by trips. Pass-by trips are trips that are already on the roadway that will stop at a land use on their way to their primary destination. For example, drivers may stop by the restaurant via the drive thru on their way home from work. These are not new trips to the network, but they do enter and exit the site. Based on data from ITE, a high turnover restaurant has 43% pass-by trips during the morning and evening peak hour periods. To be conservative, pass-by reduction was not used in this analysis.

Traffic was assigned for the opening day (2023) conditions. The traffic assignment for the Project without a RIRO access is shown in ***Figure 3.*** The traffic assignment for the Project without a RIRO access is shown in ***Figure 4.***

D. Accesses and Access Spacing

As previously mentioned, the Project could potentially create a new access adjacent to Starbucks along Riverdale Road (SR-26). This access would be located approximately 100 feet south of the 300 West / Riverdale Road (SR-26) intersection. This access will be a RIRO access. The westbound approach will be stop controlled.

UDOT classifies Riverdale Road (SR-26) as an Access Category 5 – Regional Priority-Urban Importance roadway. An access category 5 roadway access spacing criteria requires a minimum of ½ mile (2,640 feet) spacing between signalized intersections, 660-foot street spacing, 350-foot access spacing, and 500-foot RIRO spacing.

The potential access is located approximately 100 feet south of the 300 West / Riverdale Road (SR-26) intersection. This access is proposed to be a RIRO access. This access does not meet the UDOT access spacing requirements. A variance from UDOT standards will be required.

E. Auxiliary Lanes

Based on Administrative Rule R930-6, the following auxiliary lanes may be required for the North Access on Riverdale Road (SR-26) (UDOT Access Category 5 roadway):

Left-turn Deceleration Lane with Storage Length Plus Taper:

- Required when projected peak hour left ingress turning volume is greater than 10 vehicles per hour. As shown in ***Figure 3*** and ***Figure 4***, this access is planned as a right-in right-out access, so the projected peak hour left-turn volume is 0. Therefore, a left-turn deceleration lane with storage length plus taper is not required.

Right-turn Deceleration Lane with Storage Length Plus taper

- Required when projected peak hour right ingress turning volume is greater than 25 vehicles per hour. As shown in ***Figure 3*** and ***Figure 4***, the projected peak hour right-turn volume is less than 25 vehicles at the access to the Project along

Riverdale Road (SR-26). Therefore, a right-turn deceleration lane with storage length plus taper is not required.

Right-turn Acceleration Lane with Storage Length Plus taper

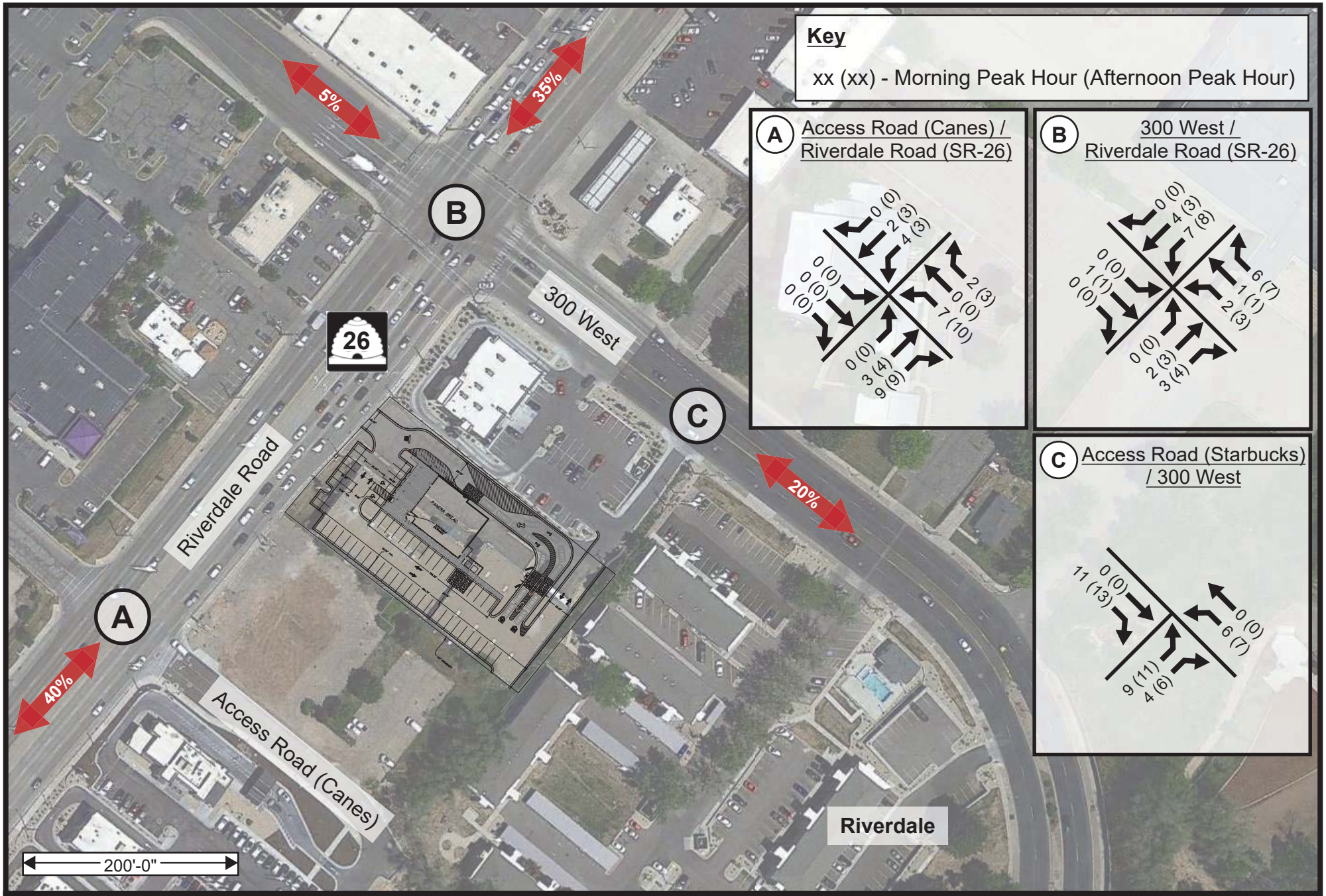
- Required with the projected peak hour right turning volume is greater than 50 vehicles per hour when the posted speed limit on the highway is greater than 40 MPH. As shown in ***Figure 3*** and ***Figure 4***, the projected peak hour right-turn volume is less than 25 vehicles the access to the Project along Riverdale Road (SR-26). Additionally, the speed limit on Riverdale Road (SR-26) is 35 MPH at this location. Therefore, a right-turn acceleration lane with storage length plus taper is not required.

Left-turn Acceleration Lane

- Administrative Rule R930-6 states that, A left turn acceleration lane is generally not required where the posted speed limit is less than 45 MPH, the intersection is signalized, or the acceleration lane would interfere with the left turn ingress movements to any other access." Since the speed limit on Riverdale Road (SR-26) is less than 45 MPH at this location and this is planned as a right-in right-out access, a left-turn acceleration lane is not required.

Administrative Rule R930-6 states that "Right turn deceleration and acceleration lanes are generally not required on roadways with three or more travel lanes in the direction of the right turn." Since Riverdale Road (SR-26) has three travel lanes in both directions and the projected peak turning movements are less than the requirements, right turn deceleration and acceleration lanes are not required.

In summary, no auxiliary lanes are required.



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Project Traffic Opening Day Trip Assignment
without RIRO Access

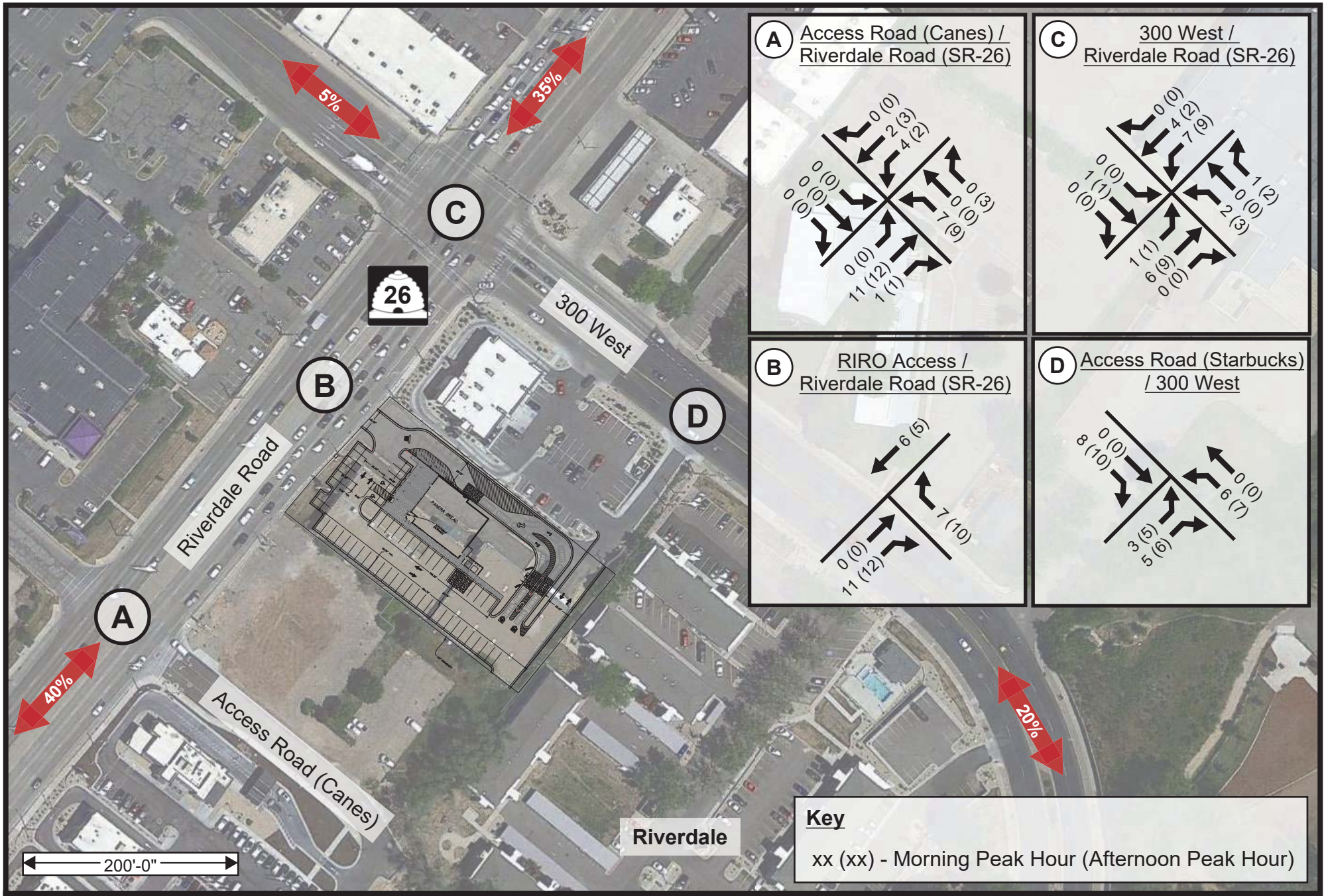
Riverdale Panera TIS

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DATE: 10/24/2023

PROJECT: 23-420

Figure 3



WALL CONSULTANT GROUP

Project Traffic Opening Day Trip Assignment with RIRO Access

Riverdale Panera TIS

N

DATE: 10/24/2023

PROJECT: 23-420

Figure 4

IV. OPENING DAY PLUS PROJECT CONDITIONS

A. Purpose

The opening day project traffic was combined with (2023) background traffic volumes to evaluate the study intersections and determine any potential impacts that are specifically attributed to Project traffic. Both scenarios with and without a RIRO access were analyzed.

B. Project Description

As mentioned in Chapter III Project Conditions, The Project proposes a Panera Bread restaurant with approximately 3,800 square feet of restaurant space and a drive thru. The Project is anticipated to add an additional 407 daily trips to the roadway network, including 52 trips in the morning peak hour and an additional 62 trips in the evening peak hour. There is potential for the Project to add a RIRO access 100 feet south of the 300 West / Riverdale Road (SR-26) intersection. ***Figure 3*** and ***Figure 4*** depict the project traffic distribution and assignment to the roadway network without and with the RIRO access, respectively.

C. Roadway Network

Besides those introduced by the project, no changes are assumed for the roadway network in opening day conditions. It is assumed that signal timing at the 300 West / Riverdale Road (SR-26) intersection has been updated to accommodate the updated volumes at the intersection.

D. Traffic Volumes

For the scenario without a RIRO access, the project traffic from ***Figure 3*** was combined with 2023 background traffic volumes (***Figure 2***) to reflect the opening day plus project traffic volumes shown in ***Figure 5.*** For the scenario with a RIRO access, the project traffic from ***Figure 4*** was combined with 2023 background traffic volumes (***Figure 2***) to reflect the opening day plus project traffic volumes shown in ***Figure 6.***

E. Level of Service Analysis

WCG determined that the 300 West / Riverdale Road (SR-26) intersection is anticipated to operate at acceptable levels of service during the morning and evening peak hours both with and without the RIRO access as shown in ***Table 4*** and ***Table 5***. With and without the RIRO access, the Access Road (Starbucks) / 300 West intersection is anticipated to operate at LOS C during the morning peak hour and LOS F during the evening peak hour. The RIRO access is anticipated to operate at LOS B during the morning peak hour and LOS F during the evening peak hour. Detailed LOS reports are included in ***Appendix C***.

F. Queuing Analysis

The 95th percentile queue lengths were evaluated for each study intersection. During the evening peak hour, the 95th percentile queue for the northbound direction at the 300 West / Riverdale Road (SR-26) intersection is anticipated to be approximately 180 feet during the evening peak hour. This can block egressing westbound vehicles at the RIRO access. The full queuing analysis is included in ***Appendix C***.

G. Mitigation Measures

As mentioned in Chapter II, it is common for unsignalized side streets to experience long left turn delays onto busy arterials. The Access Road (Canes) / Riverdale Road (SR-26) intersection does not meet the criteria for a signal. During the morning (evening) peak hour, there are a total of 13 (21) vehicles attempting to make a left turn from Access Road (Canes). Since there is a low number of left turns onto this Riverdale Road (SR-26), no mitigation measures are recommended at this intersection.

The Access Road (Starbucks) / 300 West operates at acceptable LOS during the morning peak hour and throughout most of the day. Therefore, no mitigation measures are recommended at this intersection.

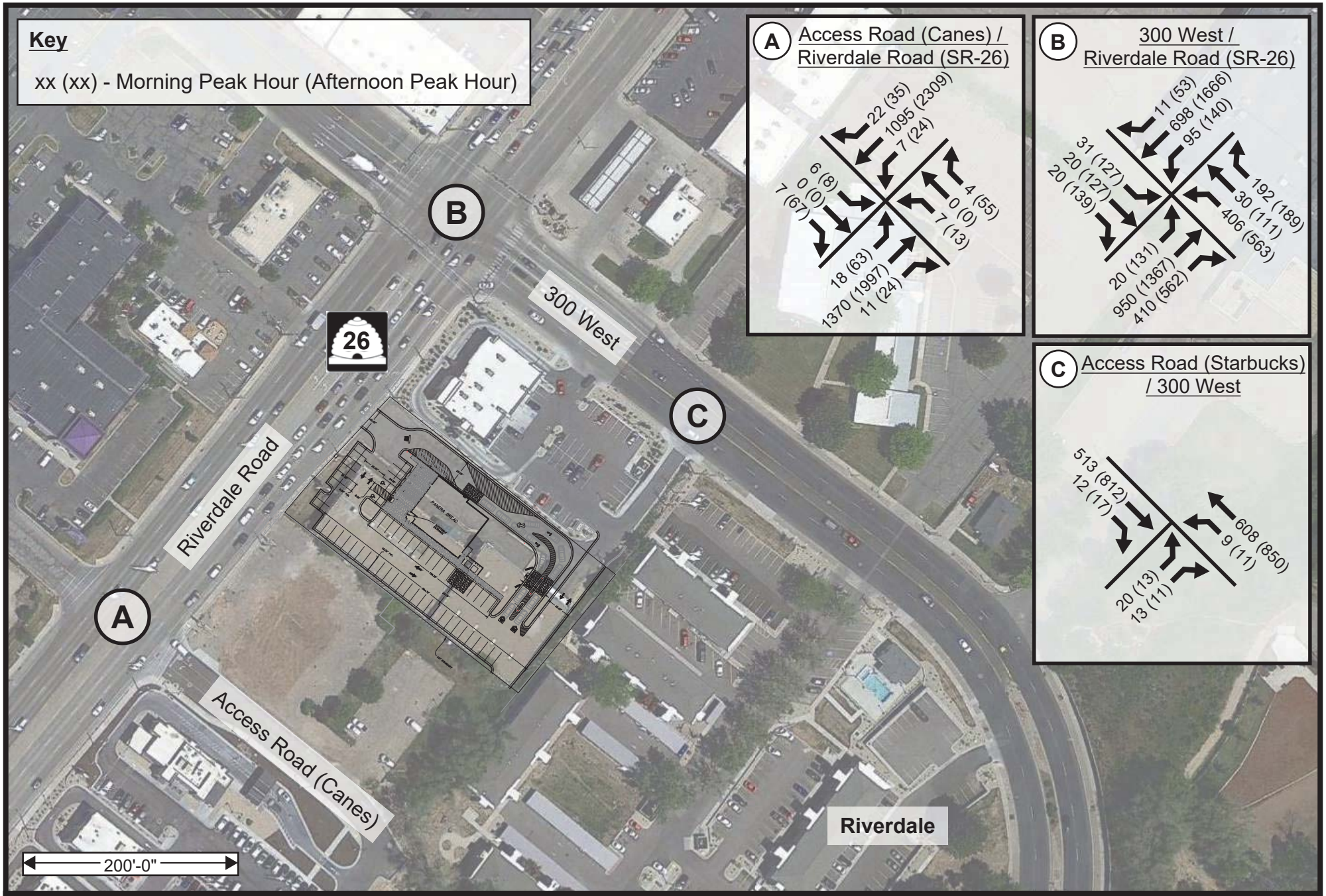
Table 4: Opening Day (2023) Plus Project Peak Hour Level of Service without RIRO Access

Intersection		Worst Movement[1]			Overall Intersection[2]	
Intersection	Control	Approach	Avg. Delay (Sec / Veh)	LOS	Avg. Delay (Sec / Veh)	LOS
AM Peak Hour						
Access Road (Shake Shack) / Riverdale Road (SR-26)	EB / WB Stop	EB LT	>50	F	-	-
300 West / Riverdale Road (SR-26)	Signal	-	-	-	16.6	B
Access Road (Starbucks) / 300 West	NB Stop	NB LT	20.5	C	-	-
PM Peak Hour						
Access Road (Shake Shack) / Riverdale Road (SR-26)	EB / WB Stop	EB LT	>50	F	-	-
300 West / Riverdale Road (SR-26)	Signal	-	-	-	32.3	C
Access Road (Starbucks) / 300 West	NB Stop	NB LT	>50	F	-	-

[1] This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for unsignalized intersections.
[2] This represents the overall intersection LOS and delay (seconds / vehicle).

Table 5: Opening Day (2023) Plus Project Peak Hour Level of Service with RIRO Access						
Intersection		**Worst Movement[1]**			**Overall Intersection[2]**	
Intersection	**Control**	**Approach**	**Avg. Delay (Sec / Veh)**	**LOS**	**Avg. Delay (Sec / Veh)**	**LOS**
AM Peak Hour						
Access Road (Shake Shack) / Riverdale Road (SR-26)	EB / WB Stop	EB LT	>50	F	-	-
RIRO access / Riverdale Road (SR-26)	WB Stop	WB RT	10.9	B	-	-
300 West / Riverdale Road (SR-26)	Signal	-	-	-	16.2	B
Access Road (Starbucks) / 300 West	NB Stop	NB LT	16.3	C	-	-
PM Peak Hour						
Access Road (Shake Shack) / Riverdale Road (SR-26)	EB / WB Stop	EB LT	>50	F	-	-
RIRO access / Riverdale Road (SR-26)	WB Stop	WB RT	>50	F	-	-
300 West / Riverdale Road (SR-26)	Signal	-	-	-	30.0	C
Access Road (Starbucks) / 300 West	NB Stop	NB LT	>50	F	-	-

[1] This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for unsignalized intersections.
[2] This represents the overall intersection LOS and delay (seconds / vehicle).



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2023 Plus Project Conditions without RIRO Access

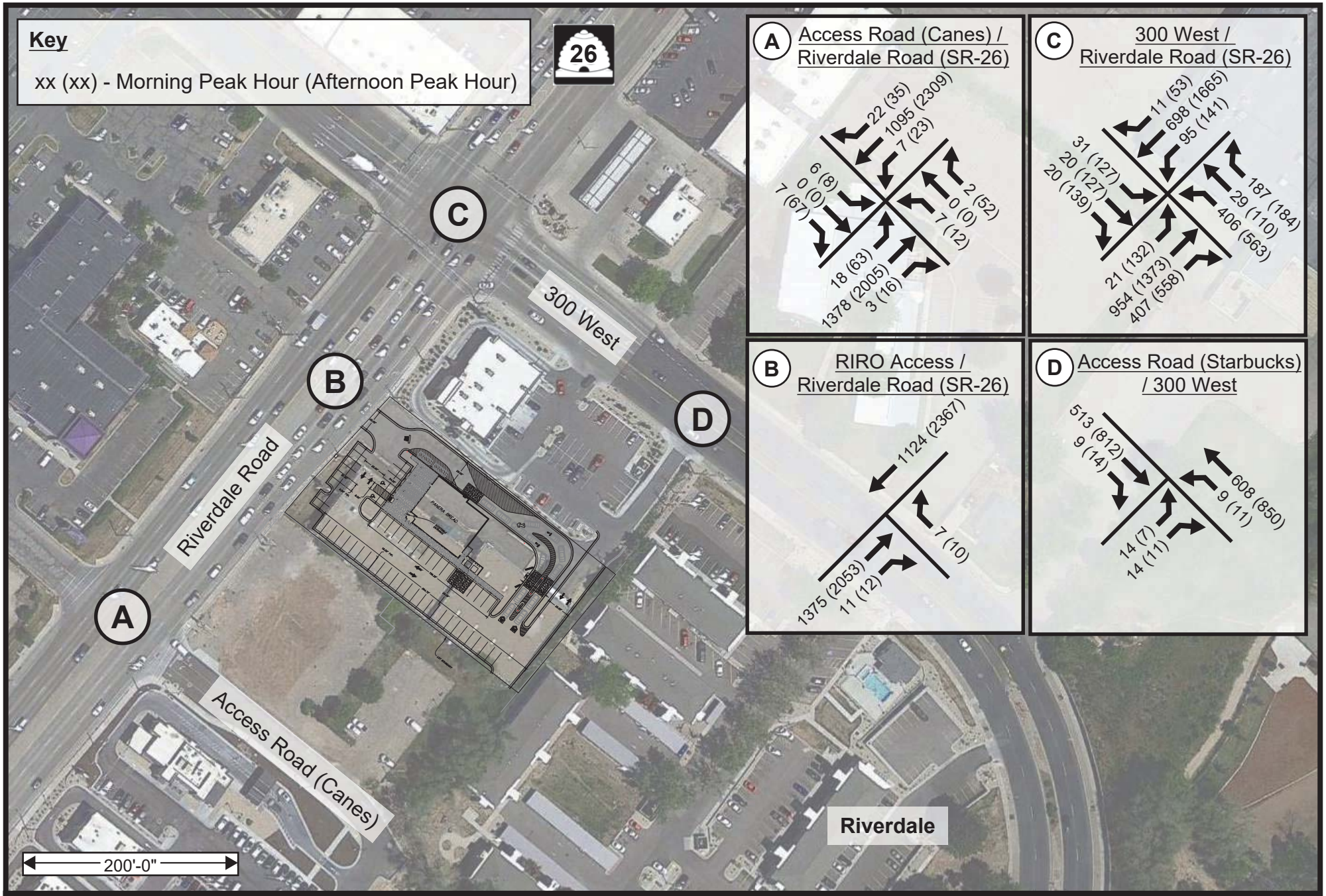
Riverdale Panera TIS

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DATE: 10/24/2023

PROJECT: 23-420

Figure 5



WALL CONSULTANT GROUP

2023 Plus Project Conditions with RIRO Access

Riverdale Panera TIS

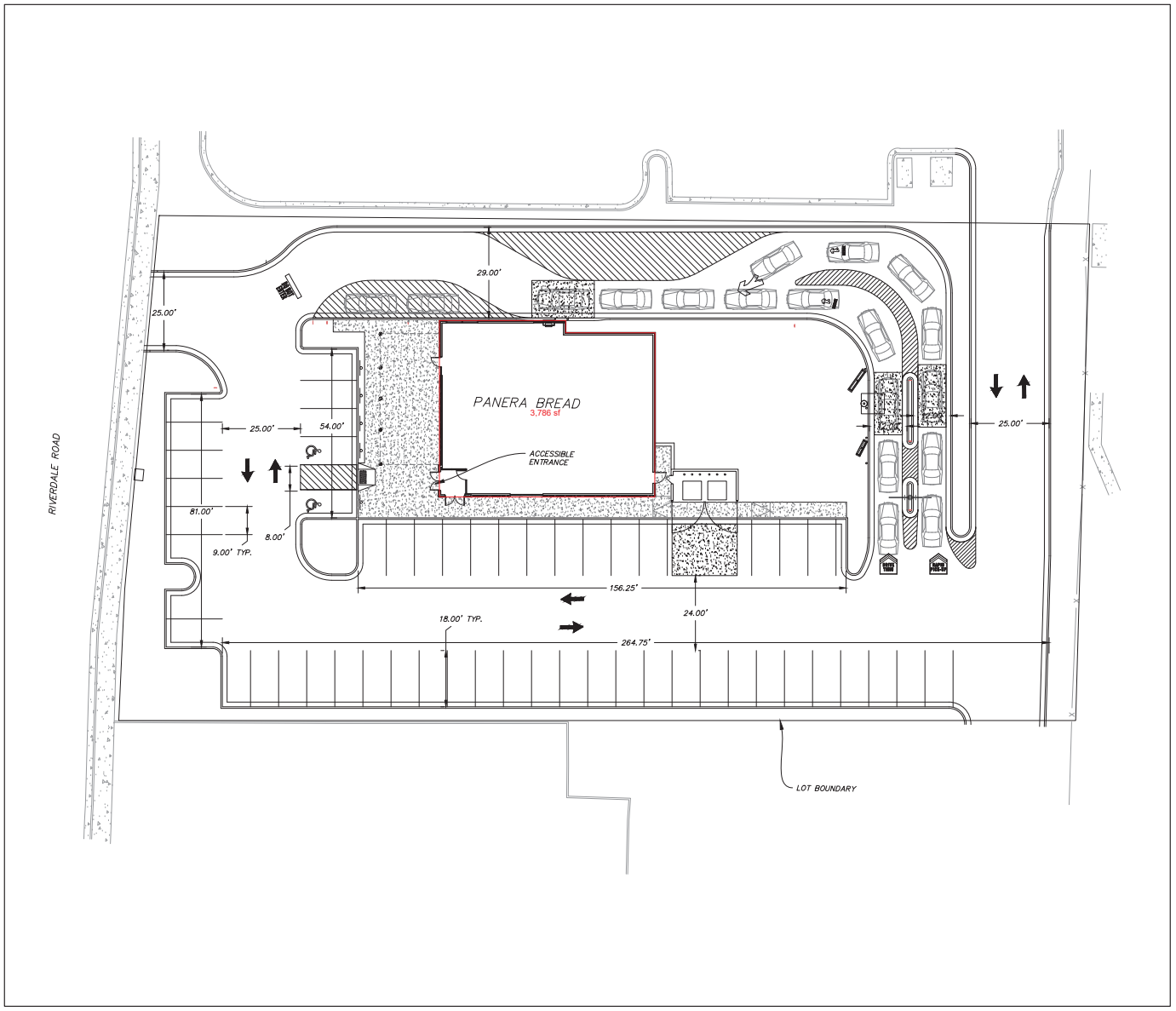
DATE: 10/24/2023

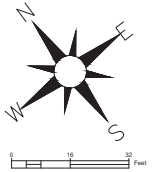
PROJECT: 23-420

Figure 6

V. APPENDICES

APPENDIX A: CONCEPTUAL LAND USE PLAN





PRELIMINARY - NOT FOR CONSTRUCTION

RIVERDALE CITY

CITY ENGINEER DATE

NO.	DESCRIPTION	DATE

DESIGNED BY: RN
DRAWN BY: CTL
CHECKED BY: JTA
SUBMITTED BY:
FILENAME: N:\20000 Panera Riverdale\Civil\P\03 SP01
PLOTTED BY: ANSI D
DATE: AUGUST 2023
ISSUED FOR/NO.
CONTRACT NO. 00637
PLOT DATE: 8/1/2023 8:42:01 AM

RIVERDALE CITY
PANERA BREAD
SITE PLAN

SHEET NUMBER 03
OF 8 SHEETS
DRAWING NAME SP01

PERIGEE
CIVIL & STRUCTURAL ENGINEERING
8989 SOUTH 1300 WEST, SUITE 100
WEST JORDAN, UT 84088
801.990.8980 TEL 801.990.8981 FAX
WWW.PERIGEEUT.COM

CALL BEFORE YOU DIG!
BLUE STAKES 1 800 662 4111

8/1/2023 8:42:01 AM

APPENDIX B: TRAFFIC COUNTS

Canes Access & Riverdale Rd
Riverdale UT
10/18/2023
3rd Wednesday

Source: WCG

	Canes Access Eastbound Approach			Canes Access Westbound Approach			Riverdale Road Northbound Approach			Riverdale Road Southbound Approach			Pedestrians (Crossing Approach)					
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right	EB	WB	NB	SB	15 Min	Hour
7:00 AM	0	0	1	0	0	0	1	0	1	0	0	4	0	0	0	0	7	7
7:15 AM	1	0	2	0	0	2	4	0	0	0	0	2	0	0	0	0	12	19
7:30 AM	1	0	0	0	0	0	3	0	1	0	0	6	0	0	0	0	12	31
7:45 AM	3	0	1	0	0	0	7	0	1	2	0	4	0	0	0	0	19	50
8:00 AM	1	0	0	0	0	2	5	0	0	0	0	5	0	0	0	0	13	56
8:15 AM	1	0	6	0	0	0	3	0	0	1	0	7	0	0	0	0	18	62
8:30 AM	3	0	2	0	0	1	6	0	1	3	0	10	1	1	0	0	26	76
8:45 AM	1	0	4	1	0	1	5	0	0	0	0	13	0	0	0	0	25	82
4:00 PM	0	0	8	0	0	3	9	0	3	12	0	9	0	0	0	0	44	44
4:15 PM	2	0	17	5	0	10	11	0	7	5	0	7	0	0	0	0	64	108
4:30 PM	2	0	17	3	0	11	12	0	8	3	0	12	0	1	0	0	69	177
4:45 PM	1	0	17	1	0	15	16	1	2	8	0	7	1	1	1	0	68	245
5:00 PM	1	0	15	1	0	17	14	0	5	8	0	13	1	0	0	0	75	276
5:15 PM	2	0	20	0	0	11	13	0	2	5	0	3	0	0	0	0	57	269
5:30 PM	4	0	15	1	0	9	20	0	6	0	0	12	0	0	0	0	67	267
5:45 PM	4	1	10	3	0	15	11	0	3	12	0	14	0	0	0	0	73	272

Riverdale Rd & 300 West
Riverdale UT
10/18/2023
3rd Wednesday

Source: WCG

	300 West Eastbound Approach			300 West Westbound Approach			Riverdale Road Northbound Approach			Riverdale Road Southbound Approach			Pedestrians (Crossing Approach)					
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right	EB	WB	NB	SB	15 Min	Hour
7:00 AM	6	3	2	65	3	22	2	131	75	13	117	2	0	0	0	0	449	449
7:15 AM	6	5	1	84	6	27	4	182	138	15	118	0	0	0	0	0	596	1045
7:30 AM	4	2	2	125	8	45	4	194	140	22	149	2	0	0	0	1	705	1750
7:45 AM	7	1	5	119	10	68	3	244	94	24	180	4	0	0	0	0	767	2517
8:00 AM	11	11	9	83	4	33	5	264	75	23	186	2	1	0	0	1	718	2786
8:15 AM	9	5	4	77	7	40	8	246	98	19	179	3	0	0	0	0	706	2896
8:30 AM	11	8	9	104	13	42	8	216	90	17	158	5	1	1	0	2	689	2880
8:45 AM	10	16	5	94	13	37	12	251	100	19	206	5	0	0	1	0	783	2896
4:00 PM	30	18	38	106	23	32	29	349	120	34	397	9	2	1	1	2	1196	1196
4:15 PM	27	41	17	124	13	48	28	335	126	33	418	10	0	1	1	0	1233	2429
4:30 PM	18	34	20	110	23	50	34	319	154	30	370	15	0	1	2	0	1185	3614
4:45 PM	29	34	29	143	19	55	30	335	145	42	421	13	0	0	0	1	1302	4916
5:00 PM	33	33	34	129	28	49	38	333	137	24	419	15	0	1	1	0	1277	4997
5:15 PM	41	31	44	147	34	40	36	345	133	37	429	16	0	0	0	0	1340	5104
5:30 PM	24	28	32	141	29	38	27	351	143	29	394	9	0	1	0	0	1251	5170
5:45 PM	25	26	21	119	26	45	35	291	123	44	383	6	0	0	0	1	1151	5019

Starbucks Access & 300 West
Riverdale UT
10/18/2023
3rd Wednesday

Source: WCG

	300 West Eastbound Approach			300 West Westbound Approach			Starbucks Access Northbound Approach			- Southbound Approach			Pedestrians (Crossing Approach)					
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right	EB	WB	NB	SB	15 Min	Hour
7:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1
7:15 AM	0	0	0	1	0	0	2	0	2	0	0	0	0	0	0	0	5	6
7:30 AM	0	0	0	2	0	0	3	0	5	0	0	0	0	0	0	0	10	16
7:45 AM	0	0	0	1	0	0	2	0	3	0	0	0	0	0	0	0	6	22
8:00 AM	0	0	1	0	0	0	2	0	1	0	0	0	0	0	0	0	4	25
8:15 AM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4	24
8:30 AM	0	0	0	0	0	0	4	0	1	0	0	0	0	0	0	0	5	19
8:45 AM	0	0	1	1	0	0	1	0	3	0	0	0	0	0	1	0	6	19
4:00 PM	0	0	0	0	0	0	4	0	1	0	0	0	0	0	1	0	5	5
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	6
4:30 PM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	8
4:45 PM	0	0	1	0	0	0	0	0	2	0	0	0	0	0	1	0	3	11
5:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7
5:15 PM	0	0	2	3	0	0	1	0	0	0	0	0	0	0	0	0	6	12
5:30 PM	0	0	0	1	0	0	1	0	3	0	0	0	0	0	2	0	5	15
5:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	13

APPENDIX C: SIMTRAFFIC LOS AND QUEUEING REPORTS

1: Riverdale Rd & Canes Access Rd Performance by movement

Movement	EBL	EBR	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.3	0.1	0.1	2.1	0.2	0.5	0.0	0.0	0.0	0.1
Total Del/Veh (s)	71.2	3.9	9.7	8.5	0.2	0.3	12.6	1.5	1.2	1.0

2: Riverdale Rd & 300 W Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.2	0.3	4.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.1	0.1
Total Del/Veh (s)	40.1	46.7	5.8	36.1	28.7	7.4	44.9	15.0	4.9	39.1	10.9	4.6

2: Riverdale Rd & 300 W Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	16.5

3: Starbucks Access Rd & 300 W Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	3.1	0.3	0.1	0.1	0.2
Total Del/Veh (s)	0.6	0.4	3.8	0.3	20.1	4.6	0.6

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	18.3

Intersection: 1: Riverdale Rd & Canes Access Rd

Movement	EB	EB	WB	NB	SB	SB
Directions Served	L	R	R	L	L	TR
Maximum Queue (ft)	41	31	25	40	27	2
Average Queue (ft)	7	6	2	11	1	0
95th Queue (ft)	29	25	15	35	11	2
Link Distance (ft)		265	302			453
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50			100	100	
Storage Blk Time (%)	1	0	0			
Queuing Penalty (veh)	0	0	0			

Intersection: 2: Riverdale Rd & 300 W

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	TR	L	L	T	R	L	L	T	T	T
Maximum Queue (ft)	66	51	42	203	239	234	81	24	56	248	222	162
Average Queue (ft)	25	17	17	123	162	37	37	2	18	158	123	63
95th Queue (ft)	57	46	41	205	230	146	67	13	46	227	199	145
Link Distance (ft)		397				249	249			453	453	453
Upstream Blk Time (%)					0	0						
Queuing Penalty (veh)					0	1						
Storage Bay Dist (ft)	100		100	165	165			150	150			
Storage Blk Time (%)	0			1	10	0				8		1
Queuing Penalty (veh)	0			0	3	0				2		4

Intersection: 2: Riverdale Rd & 300 W

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	T	T	TR
Maximum Queue (ft)	157	136	235	183	117
Average Queue (ft)	68	64	113	73	26
95th Queue (ft)	116	116	194	155	77
Link Distance (ft)			666	666	666
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	100	290			
Storage Blk Time (%)	1		0		
Queuing Penalty (veh)	4		0		

Intersection: 3: Starbucks Access Rd & 300 W

Movement	WB	WB	NB
Directions Served	L	T	LR
Maximum Queue (ft)	25	19	48
Average Queue (ft)	2	1	15
95th Queue (ft)	12	12	41
Link Distance (ft)		347	223
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Network Summary

Network wide Queuing Penalty: 15

1: Riverdale Rd & Canes Access Rd Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	56.4	114.2	4.3	0.2	1.9	0.3	0.5	0.0	0.0	0.0	2.0
Total Del/Veh (s)	967.5	98.6	513.6	20.1	24.6	0.7	0.7	34.6	3.7	2.8	6.8

2: Riverdale Rd & 300 W Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	3.6	1.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.2	0.3
Total Del/Veh (s)	45.7	47.5	14.3	79.8	44.9	11.5	54.3	25.4	8.5	50.5	29.6	19.2

2: Riverdale Rd & 300 W Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	33.0

3: Starbucks Access Rd & 300 W Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	21.2	9.0	0.1	0.1	4.6
Total Del/Veh (s)	0.9	0.9	14.3	13.4	222.7	6.1	7.4

Total Network Performance

Denied Del/Veh (s)	3.5
Total Del/Veh (s)	41.1

Intersection: 1: Riverdale Rd & Canes Access Rd

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	R	L	R	L	T	T	TR	L	T	T	TR
Maximum Queue (ft)	72	200	43	94	96	84	20	29	57	50	41	35
Average Queue (ft)	45	95	10	35	36	6	1	1	17	2	2	1
95th Queue (ft)	94	255	37	72	74	44	15	12	48	24	22	19
Link Distance (ft)		265		302		387	387	387		453	453	453
Upstream Blk Time (%)		18										
Queuing Penalty (veh)		0										
Storage Bay Dist (ft)	50		50		100				100			
Storage Blk Time (%)	57	6	10	6	0	0			0	0		
Queuing Penalty (veh)	38	0	5	0	2	0			0	0		

Intersection: 2: Riverdale Rd & 300 W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	R	L	L	T	T
Maximum Queue (ft)	112	167	182	147	205	245	306	111	113	309	406	370
Average Queue (ft)	13	86	88	62	195	231	230	45	42	104	257	226
95th Queue (ft)	72	145	152	117	224	267	381	91	106	220	357	327
Link Distance (ft)			397				249	249			453	453
Upstream Blk Time (%)						15	25				0	
Queuing Penalty (veh)						0	107				0	
Storage Bay Dist (ft)	100	100		100	165	165			150	150		
Storage Blk Time (%)	0	9	9	2	24	59	1		0	0	29	
Queuing Penalty (veh)	0	24	28	3	27	65	3		0	1	38	

Intersection: 2: Riverdale Rd & 300 W

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	TR
Maximum Queue (ft)	297	242	271	486	449	335
Average Queue (ft)	164	103	104	324	288	207
95th Queue (ft)	259	183	204	444	403	312
Link Distance (ft)	453			666	666	666
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		100	290			
Storage Blk Time (%)	14	6		13		
Queuing Penalty (veh)	79	28		17		

Intersection: 3: Starbucks Access Rd & 300 W

Movement	WB	WB	WB	NB
Directions Served	L	T	T	LR
Maximum Queue (ft)	65	341	66	32
Average Queue (ft)	3	149	14	7
95th Queue (ft)	34	391	123	26
Link Distance (ft)		347	347	223
Upstream Blk Time (%)		11	0	
Queuing Penalty (veh)		0	0	
Storage Bay Dist (ft)	100			
Storage Blk Time (%)		20		
Queuing Penalty (veh)		1		

Network Summary

Network wide Queuing Penalty: 467

1: Riverdale Rd & Canes Access Rd Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.1	4.4	0.1	2.3	0.2	0.3	0.0	0.0	0.0	0.2
Total Del/Veh (s)	91.7	4.6	59.4	8.1	8.2	0.3	0.3	9.7	1.4	1.3	1.2

2: Riverdale Rd & 300 W Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.0	0.3	4.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.1	0.1
Total Del/Veh (s)	34.4	38.3	5.0	46.5	26.1	7.5	35.8	13.0	4.7	39.8	8.5	3.1

2: Riverdale Rd & 300 W Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	16.6

3: Starbucks Access Rd & 300 W Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	3.3	0.3	0.1	0.1	0.2
Total Del/Veh (s)	0.7	0.6	3.5	0.3	20.5	5.8	0.9

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	18.6

Intersection: 1: Riverdale Rd & Canes Access Rd

Movement	EB	EB	WB	WB	NB	SB	SB	SB
Directions Served	L	R	L	R	L	L	T	TR
Maximum Queue (ft)	37	33	37	31	47	31	4	2
Average Queue (ft)	7	7	7	4	13	5	0	0
95th Queue (ft)	28	28	29	21	39	22	4	2
Link Distance (ft)		265		302			453	453
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	50		50		100	100		
Storage Blk Time (%)	2	0	1	0				
Queuing Penalty (veh)	0	0	0	0				

Intersection: 2: Riverdale Rd & 300 W

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	TR	L	L	T	R	L	L	T	T	T
Maximum Queue (ft)	65	58	44	202	236	240	84	18	52	261	213	147
Average Queue (ft)	24	19	16	128	164	34	37	1	16	142	108	52
95th Queue (ft)	56	49	40	212	231	137	66	9	43	213	177	125
Link Distance (ft)		397				249	249			453	453	453
Upstream Blk Time (%)					0	0						
Queuing Penalty (veh)					0	1						
Storage Bay Dist (ft)	100		100	165	165			150	150			
Storage Blk Time (%)	0			1	15	0				4		0
Queuing Penalty (veh)	0			0	5	0				1		2

Intersection: 2: Riverdale Rd & 300 W

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	T	T	TR
Maximum Queue (ft)	126	127	194	156	68
Average Queue (ft)	65	63	97	58	19
95th Queue (ft)	103	113	162	121	53
Link Distance (ft)			666	666	666
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	100	290			
Storage Blk Time (%)	1				
Queuing Penalty (veh)	3				

Intersection: 3: Starbucks Access Rd & 300 W

Movement	WB	WB	NB
Directions Served	L	T	LR
Maximum Queue (ft)	31	30	54
Average Queue (ft)	4	1	23
95th Queue (ft)	20	14	50
Link Distance (ft)		347	223
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 12

1: Riverdale Rd & Canes Access Rd Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	154.6	130.6	208.7	194.0	1.9	0.4	0.5	0.0	0.0	0.0	5.2
Total Del/Veh (s)	879.4	94.4	957.0	277.0	29.3	0.9	0.6	43.0	3.7	2.9	11.8

2: Riverdale Rd & 300 W Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	3.6	1.1	3.6	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.2	0.3
Total Del/Veh (s)	53.7	51.3	16.6	53.5	39.5	11.3	64.3	27.7	9.5	66.8	31.8	20.2

2: Riverdale Rd & 300 W Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	32.3

3: Starbucks Access Rd & 300 W Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	2.8	0.5	0.1	0.1	0.3
Total Del/Veh (s)	0.9	0.7	7.2	2.2	73.9	34.4	2.3

Total Network Performance

Denied Del/Veh (s)	4.9
Total Del/Veh (s)	42.9

Intersection: 1: Riverdale Rd & Canes Access Rd

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	R	L	R	L	T	T	TR	L	T	T	TR
Maximum Queue (ft)	72	202	80	250	98	112	26	20	67	61	88	50
Average Queue (ft)	41	86	58	164	38	11	1	1	20	3	4	2
95th Queue (ft)	92	230	105	377	77	63	15	10	54	27	52	26
Link Distance (ft)		265		302		387	387	387		453	453	453
Upstream Blk Time (%)		16		37								
Queuing Penalty (veh)		0		0								
Storage Bay Dist (ft)	50		50		100				100			
Storage Blk Time (%)	53	8	73	7	1	0			1	0		
Queuing Penalty (veh)	36	1	40	1	4	0			6	0		

Intersection: 2: Riverdale Rd & 300 W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	R	L	L	T	T
Maximum Queue (ft)	128	174	232	181	205	245	305	114	131	309	392	353
Average Queue (ft)	12	93	99	70	182	218	174	49	48	113	270	238
95th Queue (ft)	65	151	184	138	228	266	345	92	115	242	369	331
Link Distance (ft)			397				249	249			453	453
Upstream Blk Time (%)			0			4	7				0	
Queuing Penalty (veh)			0			0	28				0	
Storage Bay Dist (ft)	100	100		100	165	165			150	150		
Storage Blk Time (%)	0	14	11	3	7	39	0		0	0	33	
Queuing Penalty (veh)	0	37	36	5	8	43	3		0	2	43	

Intersection: 2: Riverdale Rd & 300 W

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	TR
Maximum Queue (ft)	286	248	392	528	470	408
Average Queue (ft)	176	114	129	347	306	229
95th Queue (ft)	265	204	263	477	433	350
Link Distance (ft)	453			666	666	666
Upstream Blk Time (%)				0		
Queuing Penalty (veh)				0		
Storage Bay Dist (ft)		100	290			
Storage Blk Time (%)	18	9	0	16		
Queuing Penalty (veh)	100	40	1	23		

Intersection: 3: Starbucks Access Rd & 300 W

Movement	WB	WB	WB	NB
Directions Served	L	T	T	LR
Maximum Queue (ft)	30	255	32	70
Average Queue (ft)	6	38	1	23
95th Queue (ft)	27	152	33	63
Link Distance (ft)		347	347	223
Upstream Blk Time (%)		0		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)	100			
Storage Blk Time (%)		2		
Queuing Penalty (veh)		0		

Network Summary

Network wide Queuing Penalty: 456

1: Riverdale Rd & Canes Access Rd Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.3	0.1	4.1	0.1	2.2	0.2	0.5	0.1	0.0	0.0	0.2
Total Del/Veh (s)	90.8	5.2	54.0	10.1	7.0	0.3	0.3	16.7	0.3	0.2	0.7

2: Riverdale Rd & Empty Lot Access Performance by movement

Movement	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0
Total Del/Veh (s)	10.9	1.0	0.2	0.9	1.0

3: Riverdale Rd & 300 W Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.0	0.3	4.1	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.1	0.1
Total Del/Veh (s)	34.3	35.8	5.4	49.5	27.5	7.0	34.6	11.2	3.6	39.7	8.6	3.6

3: Riverdale Rd & 300 W Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	16.2

4: Starbucks Access Rd & 300 W Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	3.0	0.3	0.1	0.1	0.2
Total Del/Veh (s)	0.6	0.5	3.7	0.5	16.3	5.7	0.8

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	18.6

Intersection: 1: Riverdale Rd & Canes Access Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	R	L	R	L	TR	L	TR
Maximum Queue (ft)	40	39	38	31	40	2	33	4
Average Queue (ft)	7	7	8	3	11	0	6	0
95th Queue (ft)	30	30	30	18	35	2	25	5
Link Distance (ft)		265		302		387		256
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	50		50		100		100	
Storage Blk Time (%)	2	0	1	0				
Queuing Penalty (veh)	0	0	0	0				

Intersection: 2: Riverdale Rd & Empty Lot Access

Movement	WB	NB	NB	NB
Directions Served	R	T	T	TR
Maximum Queue (ft)	31	118	79	3
Average Queue (ft)	6	29	6	0
95th Queue (ft)	26	89	42	3
Link Distance (ft)	211	256	256	256
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Riverdale Rd & 300 W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	R	L	L	T	T
Maximum Queue (ft)	13	74	55	37	197	240	240	74	38	29	156	155
Average Queue (ft)	0	23	17	14	131	165	41	33	14	2	128	104
95th Queue (ft)	13	57	45	38	205	232	165	61	37	15	169	157
Link Distance (ft)			397				247	247	139	139	139	139
Upstream Blk Time (%)						1	1				5	1
Queuing Penalty (veh)						0	4				15	3
Storage Bay Dist (ft)	100	100		100	165	165						
Storage Blk Time (%)		0			2	18	0					
Queuing Penalty (veh)		0			1	5	1					

Intersection: 3: Riverdale Rd & 300 W

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	TR
Maximum Queue (ft)	140	123	136	184	149	72
Average Queue (ft)	48	69	62	94	59	21
95th Queue (ft)	117	110	112	161	120	58
Link Distance (ft)	139			666	666	666
Upstream Blk Time (%)	0	0				
Queuing Penalty (veh)	0	0				
Storage Bay Dist (ft)		100	290			
Storage Blk Time (%)	0	2				
Queuing Penalty (veh)	2	6				

Intersection: 4: Starbucks Access Rd & 300 W

Movement	WB	WB	NB
Directions Served	L	T	LR
Maximum Queue (ft)	28	60	56
Average Queue (ft)	3	4	21
95th Queue (ft)	19	40	48
Link Distance (ft)		347	223
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Network Summary

Network wide Queuing Penalty: 37

1: Riverdale Rd & Canes Access Rd Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	218.1	166.2	269.8	315.0	1.9	0.4	0.4	0.0	0.0	0.0	7.2
Total Del/Veh (s)	1286.6	103.6	1275.4	361.8	26.8	1.8	0.8	39.2	1.3	0.8	12.8

2: Riverdale Rd & Empty Lot Access Performance by movement

Movement	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0
Total Del/Veh (s)	55.9	8.8	4.4	2.0	5.3

3: Riverdale Rd & 300 W Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	3.7	1.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.2	0.4
Total Del/Veh (s)	56.1	50.3	16.2	54.5	37.6	11.0	59.3	20.7	7.4	59.2	31.5	20.4

3: Riverdale Rd & 300 W Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	30.0

4: Starbucks Access Rd & 300 W Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	2.8	0.5	0.1	0.1	0.3
Total Del/Veh (s)	0.9	0.8	7.3	2.6	85.1	24.5	2.2

Total Network Performance

Denied Del/Veh (s)	6.6
Total Del/Veh (s)	45.7

Intersection: 1: Riverdale Rd & Canes Access Rd

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	R	L	R	L	T	T	TR	L	T	T	TR
Maximum Queue (ft)	73	185	84	310	99	194	110	94	57	41	64	54
Average Queue (ft)	48	89	70	198	37	38	9	8	21	3	4	3
95th Queue (ft)	92	248	100	397	79	135	67	57	53	27	34	27
Link Distance (ft)		265		302		387	387	387		256	256	256
Upstream Blk Time (%)		19		46								
Queuing Penalty (veh)		0		0								
Storage Bay Dist (ft)	50		50		100				100			
Storage Blk Time (%)	73	7	91	12	0	2				0		
Queuing Penalty (veh)	49	1	47	1	2	1				0		

Intersection: 2: Riverdale Rd & Empty Lot Access

Movement	WB	NB	NB	NB	SB	SB
Directions Served	R	T	T	TR	T	T
Maximum Queue (ft)	40	271	266	249	42	20
Average Queue (ft)	9	202	158	95	1	1
95th Queue (ft)	33	303	278	238	25	10
Link Distance (ft)	211	256	256	256	139	139
Upstream Blk Time (%)		3	1	1	0	
Queuing Penalty (veh)		20	5	6	0	
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Riverdale Rd & 300 W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	R	L	L	T	T
Maximum Queue (ft)	132	161	190	160	205	245	296	103	127	120	163	167
Average Queue (ft)	19	92	93	67	181	218	172	43	64	54	146	145
95th Queue (ft)	90	148	164	126	228	267	343	85	111	104	161	161
Link Distance (ft)			397				247	247	139	139	139	139
Upstream Blk Time (%)						6	7		0	0	34	22
Queuing Penalty (veh)						0	32		2	0	141	90
Storage Bay Dist (ft)	100	100		100	165	165						
Storage Blk Time (%)	0	13	11	2	7	40	1					
Queuing Penalty (veh)	0	34	36	3	8	44	7					

Intersection: 3: Riverdale Rd & 300 W

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	TR
Maximum Queue (ft)	186	139	403	521	472	365
Average Queue (ft)	140	118	128	342	305	224
95th Queue (ft)	175	166	260	468	428	328
Link Distance (ft)	139			666	666	666
Upstream Blk Time (%)	9	3		0		
Queuing Penalty (veh)	37	0		0		
Storage Bay Dist (ft)		100	290			
Storage Blk Time (%)	18	10	0	16		
Queuing Penalty (veh)	103	46	0	22		

Intersection: 4: Starbucks Access Rd & 300 W

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	2	52	256	64
Average Queue (ft)	0	9	46	16
95th Queue (ft)	2	38	179	50
Link Distance (ft)	247		347	223
Upstream Blk Time (%)			0	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)		100		
Storage Blk Time (%)			3	
Queuing Penalty (veh)			0	

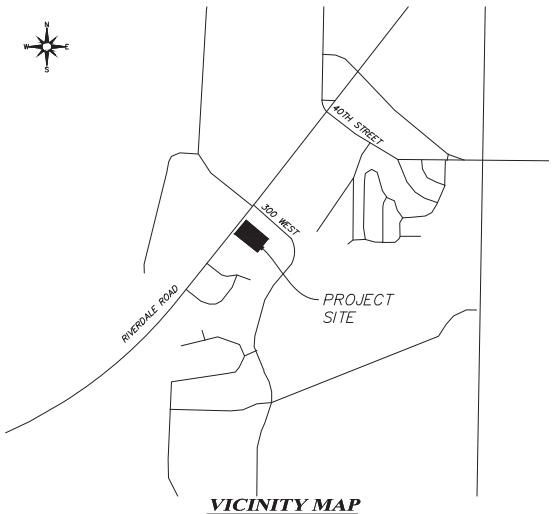
Network Summary

Network wide Queuing Penalty: 737

PANERA BREAD
Commercial Development

4122 Riverdale Road
Riverdale, Utah 84408

NOVEMBER 13, 2023



VICINITY MAP
N.T.S.

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DEVLOPER	APPROVING AGENCY	PUBLIC WORKS
PANERA BREAD PETER STRANG 216.401.0030 PETERS@STRANGCORP.COM	RIVERDALE CITY, 4600 So. WEBER RIVER DRIVE, RIVERDALE, UTAH 84405	RIVERDALE CITY PUBLIC WORKS SHAWN DOUGLAS 801.394.5541 et 1217 SDOUGLAS@RIVERDALECITY.COM

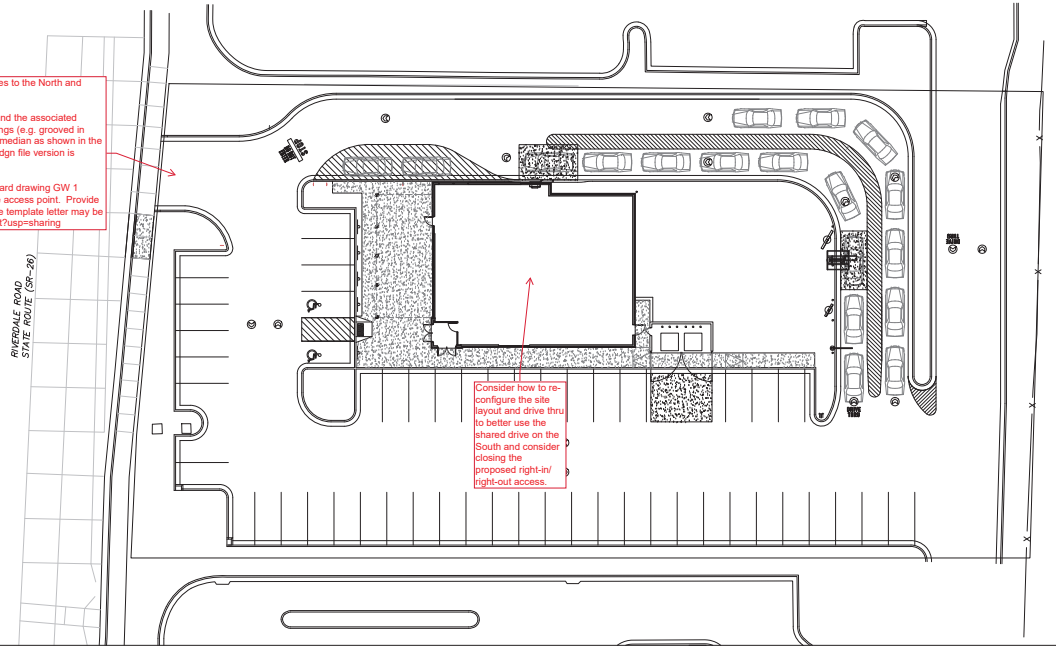
SHEET LIST TABLE

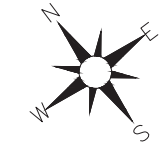
Sheet Number	Sheet Title	Sheet Description
01	TC01	COVER SHEET
02	Alta	McNEIL ENGINEERING ALTA
03	Topo	TOPO
04	DM01	DEMO SHEET
05	SP01	SITE PLAN
06	UT01	UTILITY PLAN
07	GR01	GRADING PLAN
08	DR01	DRAINAGE PLAN
09	PP01	PLAN & PROFILE – STORM DRAIN
10	PP02	PLAN & PROFILE – STORM DRAIN
11	EC01	EROSION CONTROL
12	DT01	DETAILS
13	DT02	DETAILS
14	DT03	DETAILS
15	DT04	DETAIL SHEET
16	LP–101	PLANTING PLAN
17	LP–501	PLANTING DETAILS
18	LI–101	IRRIGATION PLAN
19	LI–501	IRRIGATION DETAILS
20	LI–502	IRRIGATION DETAILS
21	E1.1	PHOTOMETRIC PLAN

Recommended to close this access and change the site circulation to be similiar to the other drive thru stores to the North and South to use the shared drive aisle from Branz Way to 300 W.

Upon review of the TIS and site documents if the right-in/right-out access is still requested, raised median and the associated striping updates (see DM 9.1 and 9.2 drawings) would need to be provided. Match in kind pavement markings (e.g. grooved in paint, epoxy, or Thermoplastic) Place back to back B5 raised median. Use a scupper design in the raised median as shown in the detail at: https://drive.google.com/file/d/13tCIVIIC_MeNSBQahmSLQXLSQIiVDFZt/view?usp=sharingThe .dgn file version is available at: https://drive.google.com/file/d/1B5aEzerfKvowhlzcQAWkVJFUS6ithFMN/view?usp=sharing

Install plowable end sections, signs (OM3-L), and reflectors on the raised median as shown in UDOT standard drawing GW 1 series and SN 6. The raised median is to extend 10 ft from the existing stopbar to at least 100 ft beyond the access point. Provide documentation that notification was provided to all impacted accesses on both sides of the street. A sample template letter may be obtained at: https://docs.google.com/document/d/1Qj8JpitIeicFLLFKpr4r7qsbM66uk7H8i_xCGwgS3wk/edit?usp=sharing





0 30 60 Feet

UDOT GENERAL NOTES:

1. All construction within the UDOT right–of–way shall conform to the most current UDOT standard (including supplemental) drawings and specifications.
2. The contractor is to obtain an encroachment permit from the applicable UDOT Region Permit office prior to commencing work within UDOT right–of–way. Working hour limitations will be listed in the limitations section of the encroachment permit.
3. UDOT reserves the right, at its option, to install a raised median island or restrict the access to a right–in or right–out at any time.
4. Owner, developer, and contractor are responsible for any damages directly or indirectly within the UDOT right–of–way as a result of development activities.
5. Owner, developer, and/or contractor is required to hire an independent company for all testing within the UDOT right–of–way.
6. All signs installed on the UDOT right–of–way must be high intensity grade (Type XI sheeting) with a B3 slip base. Install all signs per UDOT SN series Standard Drawings.
7. Comply with the requirements of Utah Code 17–23–14 (Disturbed Corners – County surveyor to be notified – Coordination with certain state agencies).

PRELIMINARY - NOT FOR CONSTRUCTION

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PERIGEE CONSULTING
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TEL 801.590.6600 FAX 801.590.6601
WWW.PERIGEECIVIL.COM

RIVERDALE CITY

CITY ENGINEER DATE

NO.	DESCRIPTION	DATE

DESIGNED BY: RN
DRAWN BY: CTL
CHECKED BY: JTA
SUBMITTED BY:
FILE NAME: N:\20000 Panera Riverdale\Civil\PLOT TC01
PLOT DATE: 11/15/2023 8:21:15 AM
PLOTTED BY:
SIZE: ANSI D

DATE: NOVEMBER 2023
REVISIONS:
CONTRACT NO: 00809

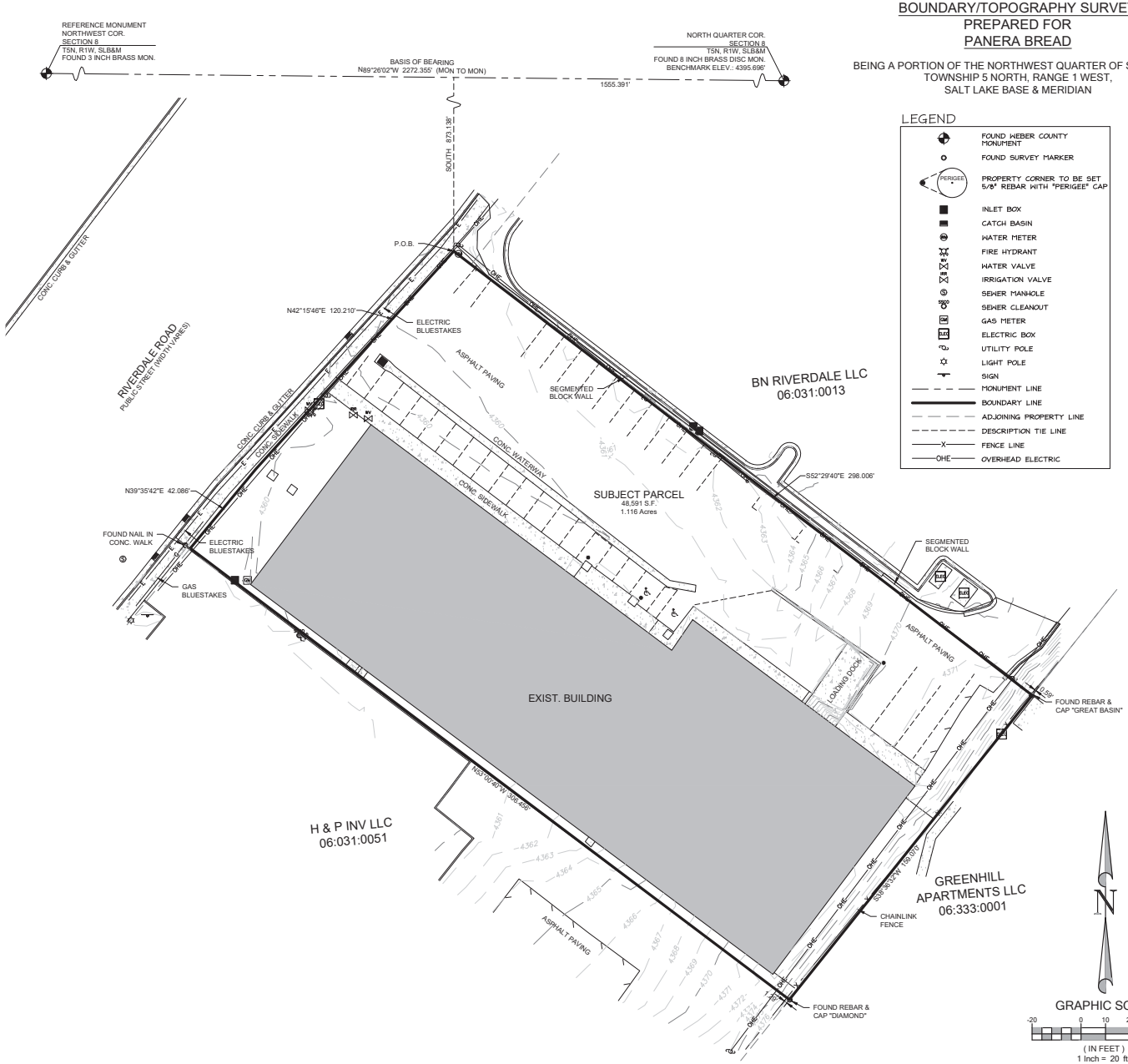
RIVERDALE CITY
PANERA BREAD
COVER SHEET

SHEET NUMBER
01
OF 21 SHEETS
DRAWING NAME
TC01

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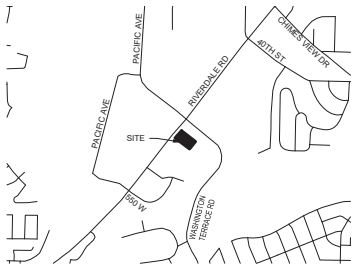
BOUNDARY/TOPOGRAPHY SURVEY
PREPARED FOR
PANERA BREAD

BEING A PORTION OF THE NORTHWEST QUARTER OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 1 WEST, SALT LAKE BASE & MERIDIAN



LEGEND

- FOUND WEBER COUNTY MONUMENT
- FOUND SURVEY MARKER
- PROPERTY CORNER TO BE SET 5/8" REBAR WITH "PERIGEE" CAP
- INLET BOX
- CATCH BASIN
- WATER METER
- FIRE HYDRANT
- WATER VALVE
- IRRIGATION VALVE
- SEWER MANHOLE
- SEWER CLEANOUT
- GAS METER
- ELECTRIC BOX
- UTILITY POLE
- LIGHT POLE
- SIGN
- MONUMENT LINE
- BOUNDARY LINE
- ADJOINING PROPERTY LINE
- DESCRIPTION TIE LINE
- FENCE LINE
- OHE — OVERHEAD ELECTRIC



VICINITY MAP
N.T.S.

AS-PROVIDED DESCRIPTION

A PART OF THE NORTHWEST QUARTER OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN, U.S. SURVEY:

BEGINNING 965.42 FEET (957.54 ORIGINAL DEED) NORTH 89°26'02" WEST (STATE PLANE) ALONG THE SECTION LINE; 1039.34 FEET (1048.52 ORIGINAL DEED) SOUTH 38°24'20" WEST ALONG THE CENTERLINE OF RIVERDALE ROAD; 49.51 FEET (49.52 ORIGINAL DEED) SOUTH 52°29'40" EAST AND 8.00 FEET SOUTH 38°24'20" WEST FROM THE NORTHEAST CORNER OF SAID QUARTER SECTION; AND RUNNING THENCE SOUTH 52°29'40" EAST 325.00 FEET TO A FENCE; THENCE SOUTH 38°36'32" WEST 159.07 FEET ALONG SAID FENCE TO THE LOCATION OF A FENCE IN 1977; THENCE NORTH 53°00'40" WEST 324.50 FEET ALONG SAID FENCE AS LOCATED IN 1977 TO THE EASTERLY LINE OF RIVERDALE ROAD; THENCE NORTH 38°24'20" EAST 162.00 FEET ALONG SAID EASTERLY LINE TO THE POINT OF BEGINNING.

LESS AND EXCEPTING THAT PORTION OF LAND AS SET FORTH IN FINAL ORDER OF CONDEMNATION RECORDED DECEMBER 16, 2016 AS ENTRY NO. 2832539 OF OFFICIAL RECORDS.

A PARCEL OF LAND IN FEE, BEING A PART OF AN ENTIRE TRACT OF PROPERTY, SITUATE IN THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN. THE BOUNDARIES OF SAID PARCEL OF LAND ARE DESCRIBED AS FOLLOWS:

BEGINNING AT THE INTERSECTION OF THE NORTHERLY BOUNDARY LINE OF SAID ENTIRE TRACT AND THE SOUTHEASTERLY RIGHT-OF-WAY LINE OF THE EXISTING HIGHWAY STATE ROUTE 26, SAID INTERSECTION IS 964.45 FEET (965.42 FEET BY RECORD) NORTH 89°26'02" WEST ALONG THE SECTION LINE AND 1042.88 FEET SOUTH 38°26'56" WEST, (1039.34 FEET SOUTH 38°2420" WEST BY RECORD) AND 49.51 FEET SOUTH 52029140" EAST AND 8.00 FEET SOUTH 38°2656" WEST (SOUTH 38°2420" WEST BY RECORD) FROM THE NORTHEAST CORNER OF SAID OUARTER SECTION; SAID INTERSECTION IS ALSO 46.00 FEET PERPENDICULARLY DISTANT SOUTHEASTERLY FROM THE CONTROL LINE OF SAID PROJECT SP-0026(4)0 OPPOSITE APPROXIMATE ENGINEER STATION 151+46.19, AND RUNNING THENCE SOUTH 52°33'08" EAST (SOUTH 52°29'40" EAST BY RECORD) 26.88 FEET ALONG SAID NORTHERLY BOUNDARY LINE TO A POINT 72.87 FEET PERPENDICULARLY DISTANT SOUTHEASTERLY FROM SAID CONTROL LINE; THENCE SOUTH 42°15'46" WEST 120.21 FEET TO A POINT 64.88 FEET PERPENDICULARLY DISTANT SOUTHEASTERLY FROM SAID CONTROL LINE OPPOSITE ENGINEER STATION 150+26.72; THENCE SOUTH 39°35'42" WEST 42.19 FEET TO THE SOUTHERLY BOUNDARY LINE OF SAID ENTIRE TRACT AT A POINT 64.03 FEET PERPENDICULARLY DISTANT SOUTHEASTERLY FROM SAID CONTROL LINE; THENCE NORTH 52°4035" WEST (NORTH 53°00'40" WEST BY RECORD) 18.04 FEET ALONG SAID SOUTHERLY BOUNDARY LINE TO SAID SOUTHEASTERLY RIGHT OF WAY LINE; THENCE NORTH 38°26'56" EAST (NORTH 38°2420" EAST BY RECORD) 162.01 FEET ALONG SAID RIGHT OF WAY LINE TO THE POINT OF BEGINNING.

(NOTE: ROTATE ALL BEARINGS IN THE ABOVE DESCRIPTION 0°0024" COUNTERCLOCKWISE TO OBTAIN HIGHWAY BEARINGS.)

NARRATIVE:

THE PURPOSE OF THIS SURVEY IS TO ESTABLISH ON THE GROUND THE HEREON DESCRIBED TRACT OF LAND FOR FUTURE CONSTRUCTION.

BASIS OF BEARINGS IS NORTH 89°26'02" WEST 2272.355 FEET BETWEEN THE NORTH QUARTER CORNER AND THE REFERENCE MONUMENT TO THE NORTHWEST CORNER OF SECTION 8, T5N, R1W, SALT LAKE BASE & MERIDIAN

SURVEYOR'S CERTIFICATE

I, Eric D. Robins, depose and say that I am a Professional Land Surveyor as prescribed by Utah State Law and that I hold certificate no. 5152671. I further state that the property described above was surveyed under my direct supervision and the results of that survey are depicted hereon.

GRAPHIC SCALE

-20 0 10 20 40

(IN FEET)
1 Inch = 20 ft.

5152671 ERIC D. ROBINS STATE OF UTAH

ERIC D. ROBINS P.L.S. 5152671
STATE OF UTAH
PERIGEE CONSULTING
9089 SOUTH 1300 WEST SUITE 160
WEST JORDAN, UTAH 84088

PERIGEE CONSULTING
CIVIL + ENGINEERING + SURVEY
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WEST JORDAN, UT 84088
TEL: 801.990.1741 FAX:
WWW.PERIGEECONSULTING.COM

CITY ENGINEER DATE

NO.	DATE	DESCRIPTION	BY

DESIGNED BY: MB
DRAWN BY:
CHECKED BY:
SUBMITTED BY:
P.E.'S NAME:
NOS. #
REG'D
DATE:
SIGNATURE/NO.
CONTRACT NO.
PLOT DATE:
PLOTTED BY:

BOUNDARY/TOPOGRAPHY SURVEY PREPARED FOR PANERA BREAD

SHEET NUMBER
1 OF 1

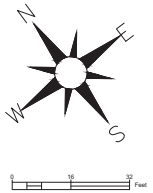
DRAWING NAME
SURVEY

LEGEND

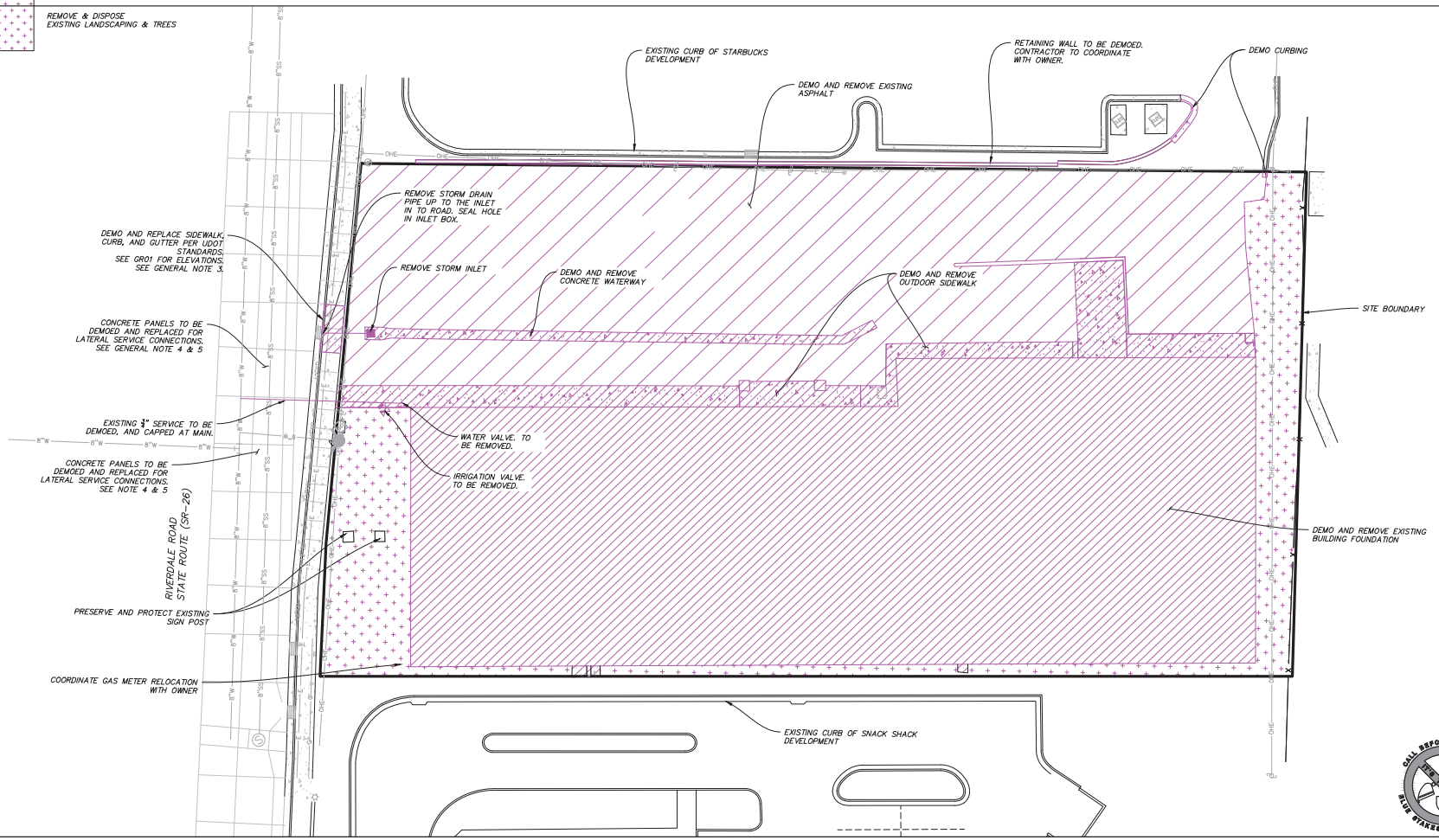
- REMOVE & DISPOSE EXISTING ASPHALT
- REMOVE & DISPOSE EXISTING CURB
- REMOVE & DISPOSE EXISTING SIDEWALK
- REMOVE & DISPOSE EXISTING LANDSCAPING & TREES

GENERAL NOTES:

1. DEMO EXISTING SEWER LATERAL. DISCONNECT LATERAL AT THE MAIN PER RIVERDALE CITY STANDARDS.
2. ALL DETERIORATED, DAMAGED OR MISSING SURFACE IMPROVEMENTS SURROUNDING THE PERIMETER OF THE DEVELOPMENT WILL NEED TO BE REPLACED OR INSTALLED, I.E., CURB AND GUTTER, SIDEWALK, LANDSCAPING PARK STRIP IMPROVEMENTS, STREET LIGHTS, FENCING, ETC
3. CONCRETE WALKS TO BE 4" CONCRETE OVER 4" ROADBASE UNLESS IN DRIVE APPROACH THEN 6" CONCRETE OVER 6" ROADBASE. SEE RIVERDALE CITY CONSTRUCTION & DEVELOPMENT STANDARDS SHEET 3 DETAIL 1.
4. CONCRETE REPLACED TO BE 11" OF RAPID STRENGTH CONCRETE (RCS) FOR ALL PANEL REPLACEMENTS IN TRAVEL LANES ACCORDING TO UDOT SPECIFICATION 03058 RAPID STRENGTH CONCRETE (RSC) AND OTHER RELATED SECTIONS OVER 3 INCHES OF UDOT- APPROVED HOT MIX ASPHALT (HMA), PG-GRADE 64-34 ASPHALT BINDER, 1/2 INCH NOMINAL MAX, 7-75-115 GYRATION PER UDOT STANDARD SPECIFICATION 02741; OVER 6 INCHES UNTREATED BASE COURSE (UTBC) PER UDOT SPECIFICATION 02721; OR MATCH EXISTING (WHICHEVER IS GREATER). PROVIDE DOCUMENTATION OF COMPACTION FROM A UDOT-QUALIFIED LABORATORY.
5. USE TRECHLESS CONSTRUCTION FOR LATERAL WHERE POSSIBLE TO AVOID NEEDING TO REPLACE CONCRETE PANELS IN RIVERDALE ROAD



DEMO PLAN FOR EXISTING SITE



PRELIMINARY - NOT FOR CONSTRUCTION

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RIVERDALE CITY

CITY ENGINEER DATE

NO.	DESCRIPTION	DATE

DESIGNED BY: CTL
DRAWN BY: RN
CHECKED BY: JTA
SUBMITTED BY:
FILE NAME: N:\20000 Panera Riverdale\Civil\Pr\04 DM01
SIZE: ANSI D
PLOTTED BY:
DATE: NOVEMBER 2023
REVISIONS:
CONTRACT NO: 00000
PLOT DATE: 11/15/2023 8:21:34 AM

RIVERDALE CITY
PANERA BREAD
DEMO SHEET

SHEET NUMBER
04
OF 21 SHEETS
DRAWING NAME
DM01

11/15/2023 8:21:34 AM

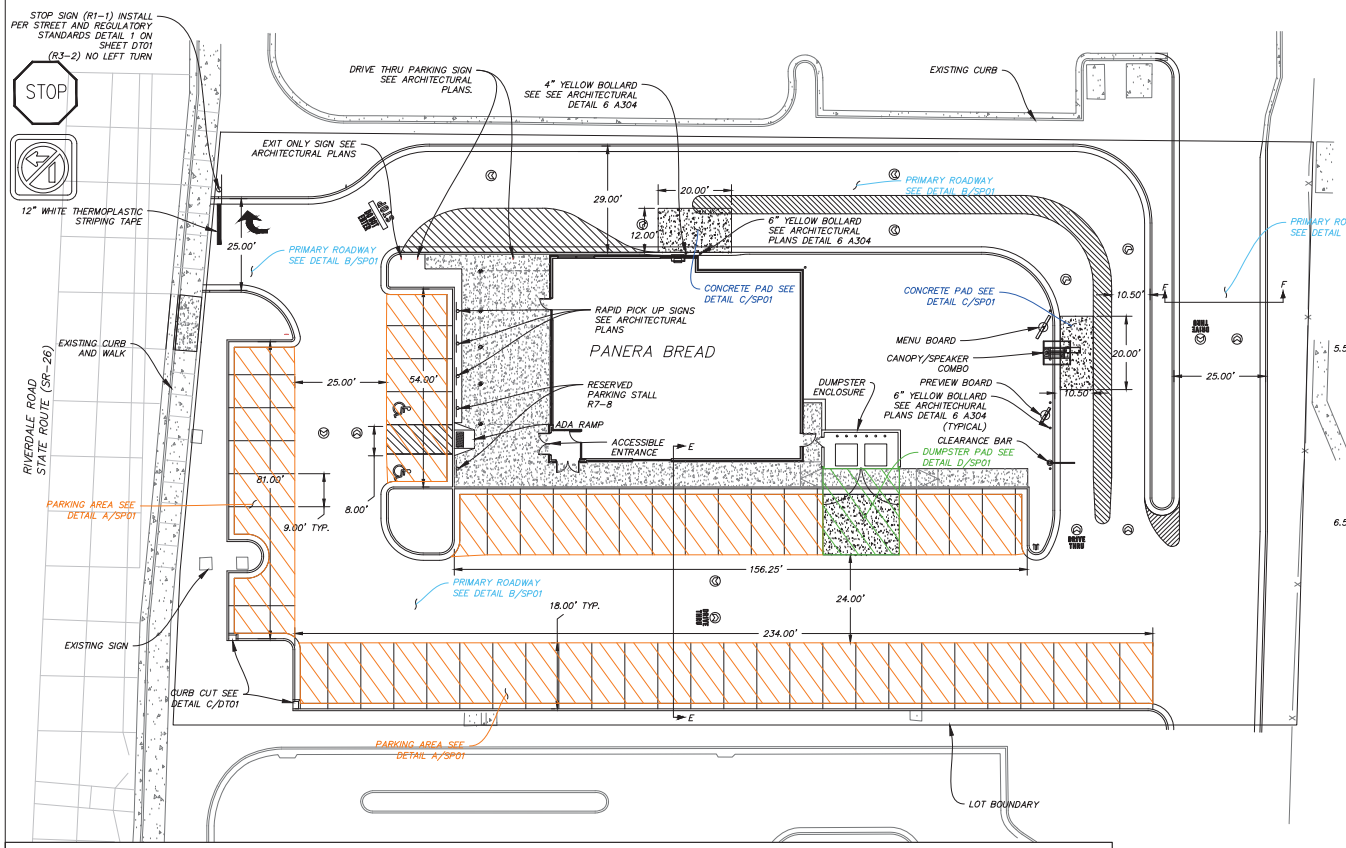
ROADWAY SECTION NOTES:
1. CONTRACTOR TO COMPLY WITH THE RECOMMENDATIONS PROVIDED BY GORDON GEOTECHNICAL REPORT (PROJECT # 748-002-23) FOR THIS PROJECT REGARDING SITE PREPARATION, GRADING, COMPACTION ETC.

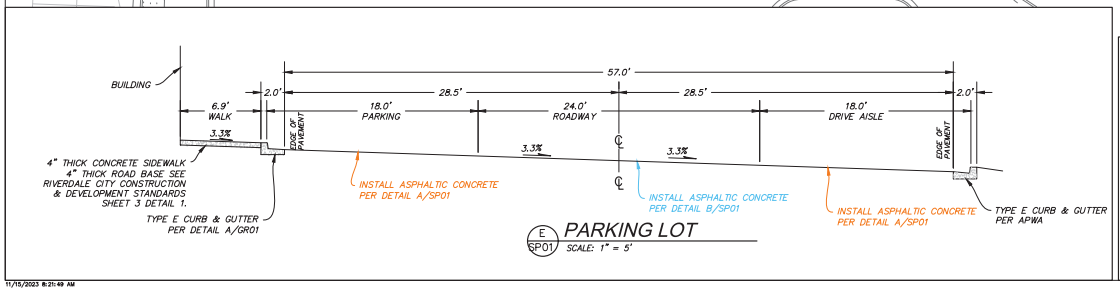
2. SEE GEOTECH REPORT FOR SUBSOIL PREPARATION.

3. ALL DETERIORATED, DAMAGED OR MISSING SURFACE IMPROVEMENTS SURROUNDING THE PERIMETER OF THE DEVELOPMENT WILL NEED TO BE REPLACED OR INSTALLED, I.E., CURB AND GUTTER, SIDEWALK, LANDSCAPING PARK STRIP IMPROVEMENTS, STREET LIGHTS, FENCING, ETC.

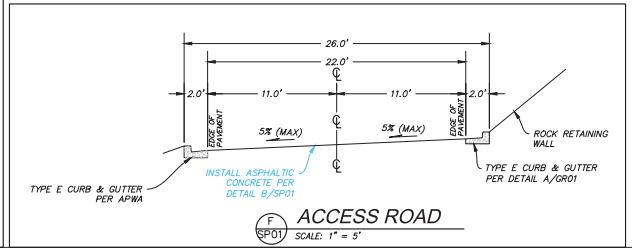
4. ALL CONSTRUCTION AND MATERIAL SHALL MEET RIVERDALE CITY STANDARDS

EXISTING STARBUCKS

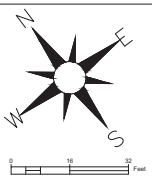


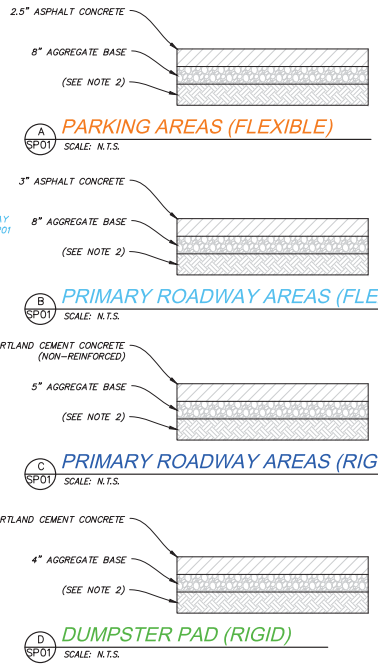


E SP01 PARKING LOT
SCALE: 1" = 5'



F SP01 ACCESS ROAD
SCALE: 1" = 5'





A SP01 PARKING AREAS (FLEXIBLE)
SCALE: N.T.S.

B SP01 PRIMARY ROADWAY AREAS (FLEXIBLE)
SCALE: N.T.S.

C SP01 PRIMARY ROADWAY AREAS (RIGID)
SCALE: N.T.S.

D SP01 DUMPSTER PAD (RIGID)
SCALE: N.T.S.

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CIVIL + STRUCTURAL + HIGHWAY
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WEST JORDAN, UT 84088
TELEPHONE: 801.448.1144
WWW.PERIGEECONSULTING.COM

RIVERDALE CITY
CITY ENGINEER DATE

NO.	DESCRIPTION	DATE

DESIGNED BY: RN	DATE: NOVEMBER 2023	REV:
DRAWN BY: CTL	SUBMITTED BY: JTA	
SUBMITTED BY:	CONTRACT NO: 00809	
FILE NAME: N:\00809 Panera Riverdale\Civil\P\05 SP01	PLOTTED ON: 11/15/2023 8:21:49 AM	
SIZE: ANSI D	PLOTTED BY:	

RIVERDALE CITY
PANERA BREAD
SITE PLAN

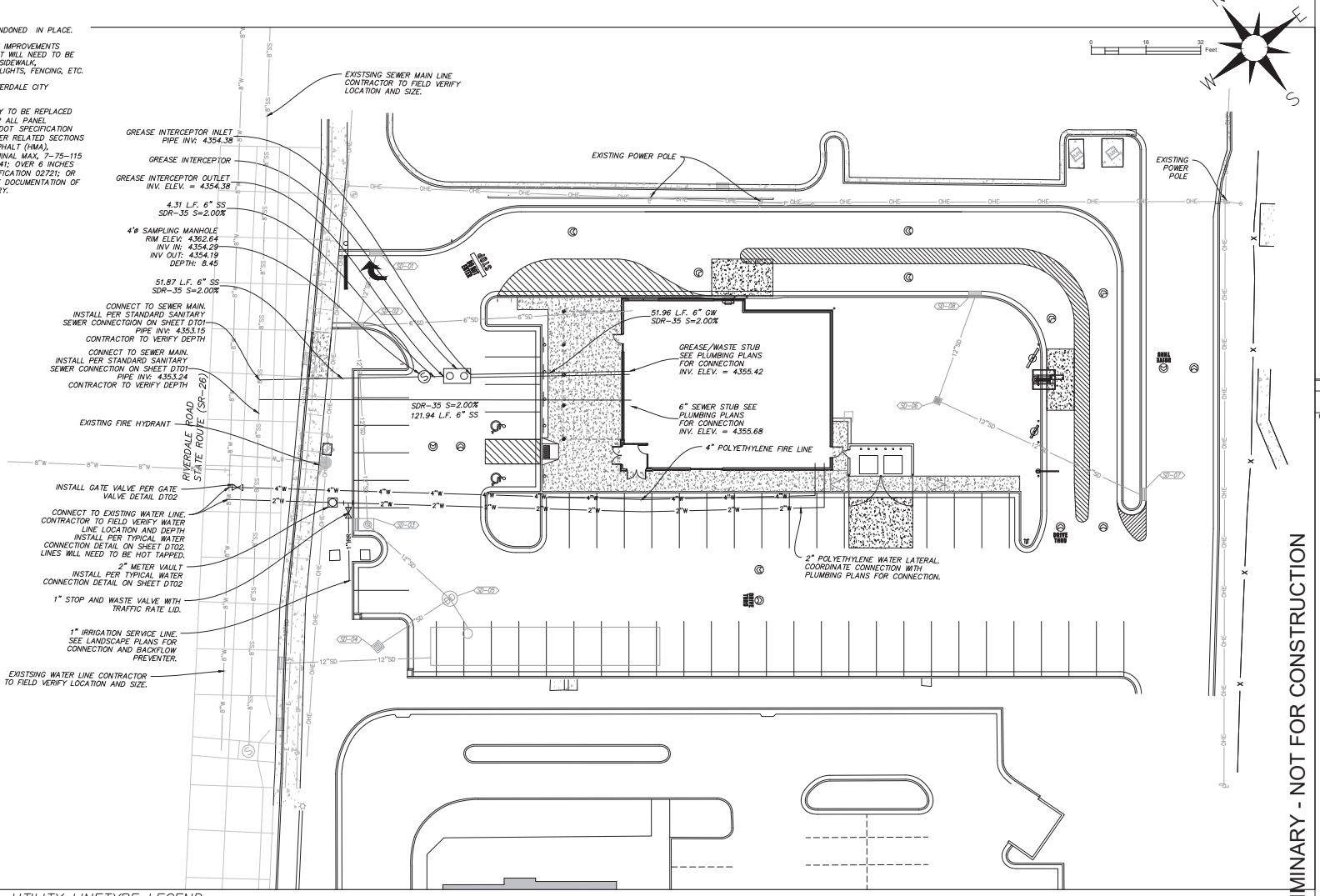
SHEET NUMBER
05
OF 21 SHEETS
DRAWING NAME
SP01

CALL BEFORE YOU DIG!
BLUE STAKES 1 800 662 4111

11/15/2023 8:21:49 AM

GENERAL NOTES:

1. EXISTING SEWER LATERAL TO BE CAPPED AND ABANDONED IN PLACE.
2. ALL DETERIORATED, DAMAGED OR MISSING SURFACE IMPROVEMENTS SURROUNDING THE PERIMETER OF THE DEVELOPMENT WILL NEED TO BE REPLACED OR INSTALLED, I.E., CURB AND GUTTER, SIDEWALK, LANDSCAPING PARK STRIP IMPROVEMENTS, STREET LIGHTS, FENCING, ETC.
3. ALL CONSTRUCTION AND MATERIAL SHALL MEET RIVERDALE CITY STANDARDS
4. FOR ALL CONCRETE PANELS IN UDOT RIGHT OF WAY TO BE REPLACED WITH 11" OF RAPID STRENGTH CONCRETE (RCS) FOR ALL PANEL REPLACEMENTS IN TRAVEL LANES ACCORDING TO UDOT SPECIFICATION 03058 RAPID STRENGTH CONCRETE (RSC) AND OTHER RELATED SECTIONS OVER 3 INCHES OF UDOT– APPROVED HOT MIX ASPHALT (HMA), PG–GRADE 64–34 ASPHALT BINDER, 1/2 INCH NOMINAL MAX, 7–75–115 GYRATION PER UDOT STANDARD SPECIFICATION 02741; OVER 6 INCHES UNTREATED BASE COURSE (UTBC) PER UDOT SPECIFICATION 02721; OR MATCH EXISTING (WHICHEVER IS GREATER). PROVIDE DOCUMENTATION OF COMPACTION FROM A UDOT–QUALIFIED LABORATORY.



UTILITY SYMBOL LEGEND

FIRE HYDRANT	
WATER FITTINGS	
WALK DOME	
SS MANHOLE	
WATER METER	
VALVE	
INLET	
SD MANHOLE	
STOP SIGN	
COMBO BOX	

UTILITY LINETYPE LEGEND

DOMESTIC WATER	8"W
SANITARY SEWER	8"SS
GREASE VENT	8"V
STORM DRAIN	8"SD
EXISTING DOMESTIC WATER	8"W
EXISTING SANITARY SEWER	8"SS
EXISTING STORM DRAIN	8"SD
EASEMENT	

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RIVERDALE CITY

CITY ENGINEER DATE

NO.	DESCRIPTION	DATE

DESIGNED BY: RN
DRAWN BY: CTL
CHECKED BY: JTA
SUBMITTED BY:
FILENAME: N:\20000 Panera Riverdale\Civil\PUB DWG
TEST: ANSI D
REVISED: 11/15/2023 8:21:58 AM
PLOTTED BY:
DATE: NOVEMBER 2023
CONTRACT NO. 00000

RIVERDALE CITY
PANERA BREAD
UTILITY PLAN

SHEET NUMBER 06
OF 21 SHEETS
DRAWING NAME UT01

11/15/2023 8:21:58 AM

LEGEND:

SPILL CURB SEE DETAIL A/DT01

TRANSITION FROM CATCH TO SPILL CURB

100 YEAR OVERFLOW PATH

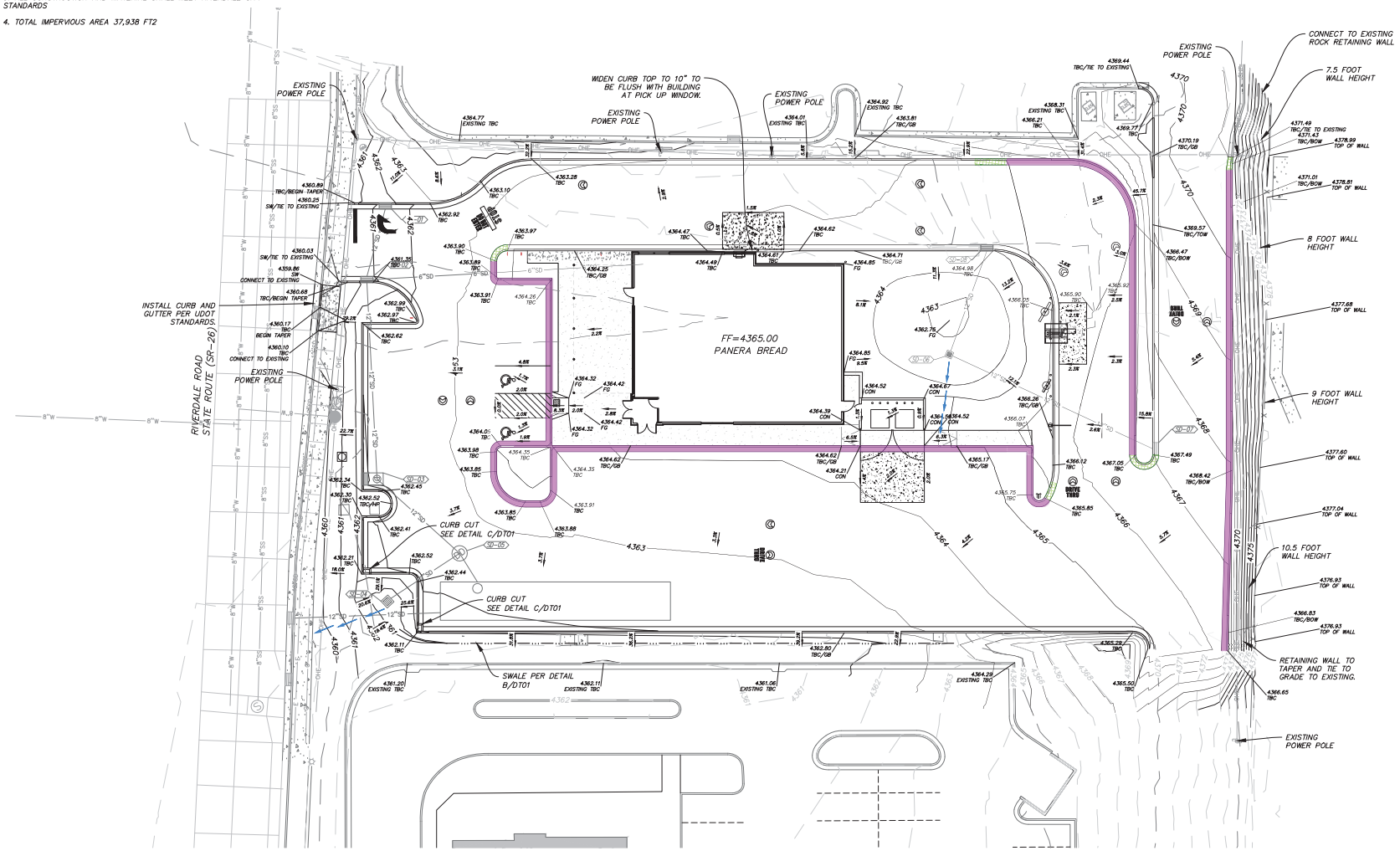
GENERAL NOTES:

1. ALL CURB TO BE APWA TYPE E UNLESS OTHERWISE NOTED SEE DETAIL DT01 FOR DETAIL OF CURB AND GUTTER.

2. ALL DETERIORATED, DAMAGED OR MISSING SURFACE IMPROVEMENTS SURROUNDING THE PERIMETER OF THE DEVELOPMENT WILL NEED TO BE REPLACED OR INSTALLED, I.E., CURB AND GUTTER, SIDEWALK, LANDSCAPING PARK STRIP IMPROVEMENTS, STREET LIGHTS, FENCING, ETC.

3. ALL CONSTRUCTION AND MATERIAL SHALL MEET RIVERDALE CITY STANDARDS

4. TOTAL IMPERVIOUS AREA 37,938 FT2



PRELIMINARY - NOT FOR CONSTRUCTION

RIVERDALE CITY

CITY ENGINEER DATE

PERIGEE CONSULTING

RIVERDALE CITY
PANERA BREAD
GRADING PLAN

SHEET NUMBER 07
OF 21 SHEETS
DRAWING NAME GR01

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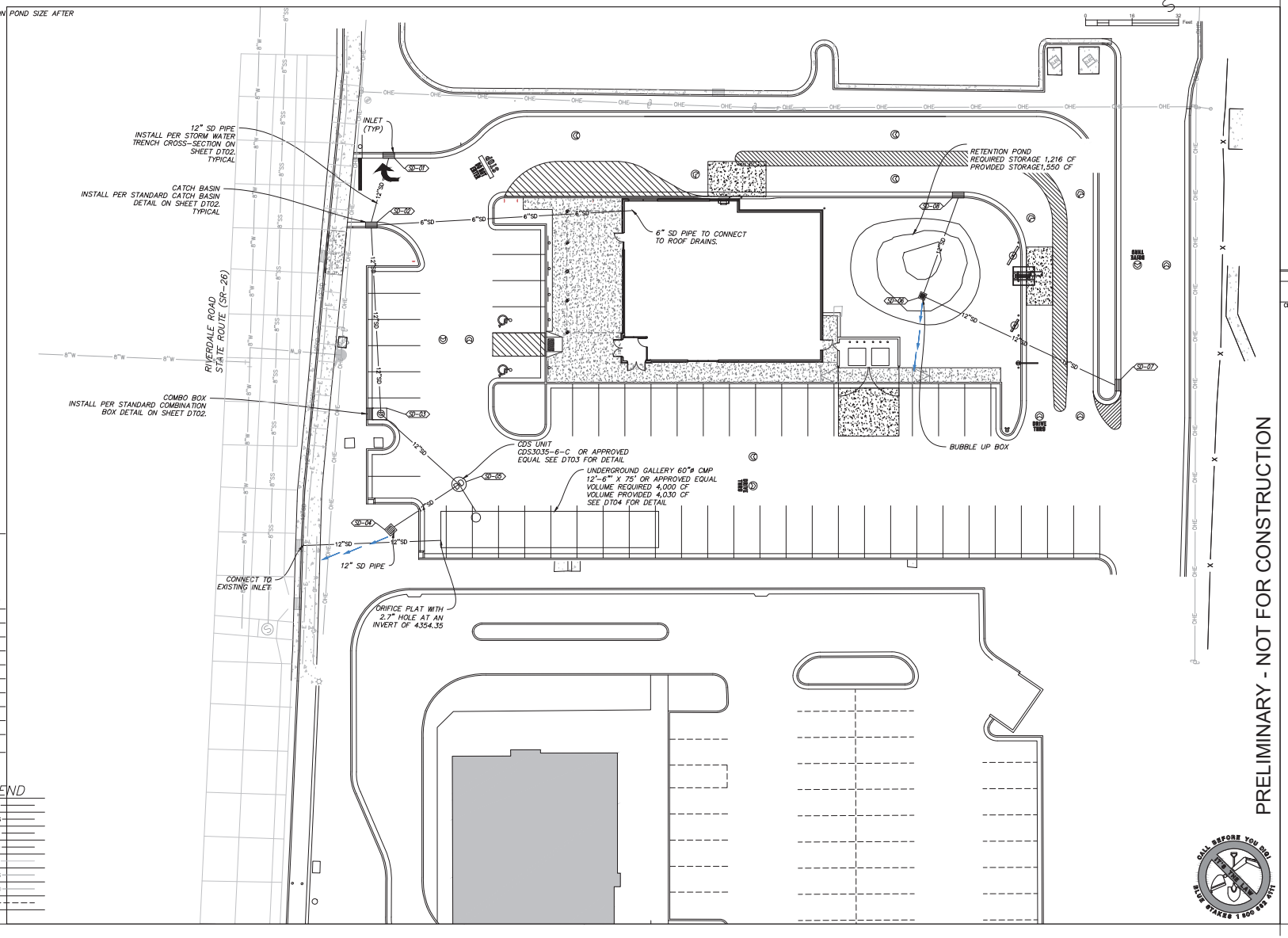
11/15/2023 8:22:08 AM

GENERAL NOTES:

1. EXISTING SEWER LATERAL TO BE CAPPED AND ABANDONED IN PLACE.
2. ALL DETERIORATED, DAMAGED OR MISSING SURFACE IMPROVEMENTS SURROUNDING THE PERIMETER OF THE DEVELOPMENT WILL NEED TO BE REPLACED OR INSTALLED, I.E., CURB AND GUTTER, SIDEWALK, LANDSCAPING PARK STRIP IMPROVEMENTS, STREET LIGHTS, FENCING, ETC.
3. ALL CONSTRUCTION AND MATERIAL SHALL MEET RIVERDALE CITY STANDARDS
4. CERTIFY GALLERY STRUCTURE AND RETENTION POND SIZE AFTER CONSTRUCTION

STORM DRAIN CALCULATIONS

	IMPERVIOUS (%)	50YR 24HR RUNOFF (CF)	STORAGE VOLUME REQUIRED(CF)	STORAGE VOLUME PROVIDED (CF)	WQV CAPTURED (%)	10yr 24hr DISCHARRAGE TO RIVERDALE ROAD
EXISTING CONDITIONS	90	N/A	N/A	0	0	NO RESTRICTION
PANERA DEVELOPMENT	78	8,670 CF	5216	5582	100	RESTRICTED TO 0.2cfs/ac



LEGEND

100 YEAR OVERFLOW PATH	→

UTILITY SYMBOL LEGEND

FIRE HYDRANT	
WATER FITTINGS	
WALK DOME	
SS MANHOLE	SS
WATER METER	
VALVE	
INLET	
SD MANHOLE	SD
STOP SIGN	
COMBO BOX	

UTILITY LINETYPE LEGEND

DOMESTIC WATER	8"W
SANITARY SEWER	8"SS
GREASE VENT	8"V
STORM DRAIN	8"SD
EXISTING DOMESTIC WATER	8"W
EXISTING SANITARY SEWER	8"SS
EXISTING STORM DRAIN	8"SD
EASEMENT	

PRELIMINARY - NOT FOR CONSTRUCTION

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801.810.8844 TEL 801.810.8855 FAX
WWW.PERIGEECONSULTING.COM

RIVERDALE CITY
CITY ENGINEER DATE

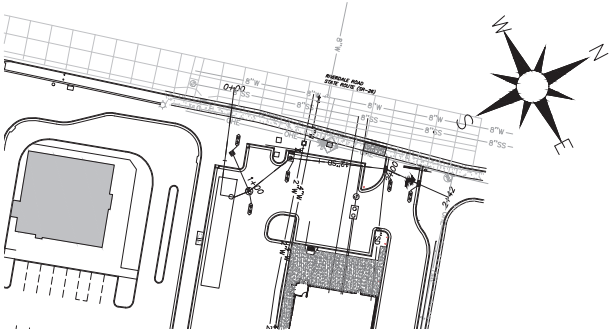
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DRAWN BY: RN
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DATE: NOVEMBER 2023
REVISIONS:
CONTRACT NO: 00839

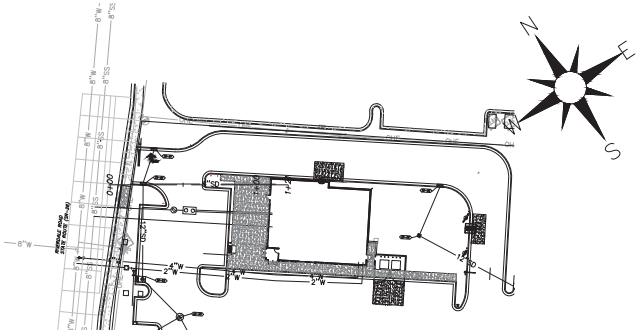
RIVERDALE CITY
PANERA BREAD
DRAINAGE PLAN

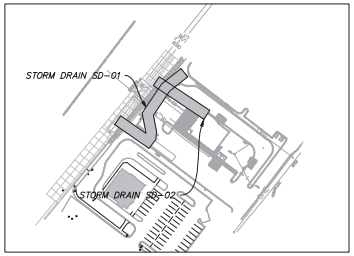
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OF 21 SHEETS
DRAWING NAME DR01

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RIVERDALE ROAD

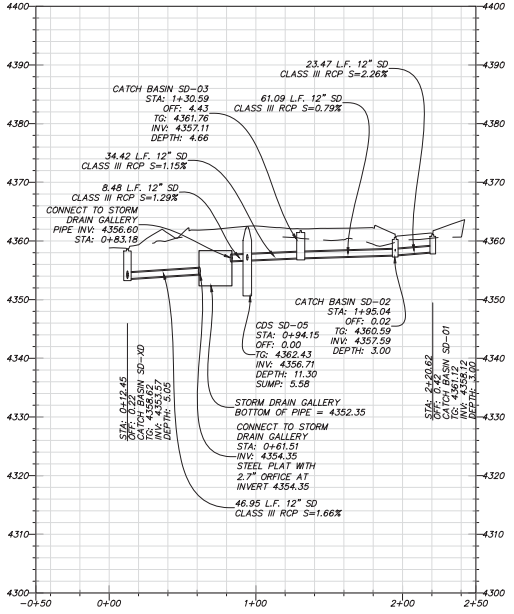




KEY MAP

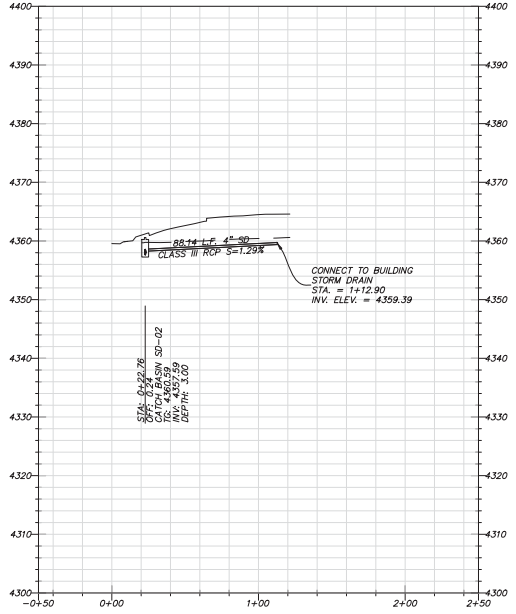
STORM DRAIN SD-01

STA: -0+50 TO 2+50



STORM DRAIN SD-02

STA: -0+50 TO 2+50



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WEST JORDAN, UT 84088
TELEPHONE: 801.501.3490
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RIVERDALE CITY

CITY ENGINEER DATE

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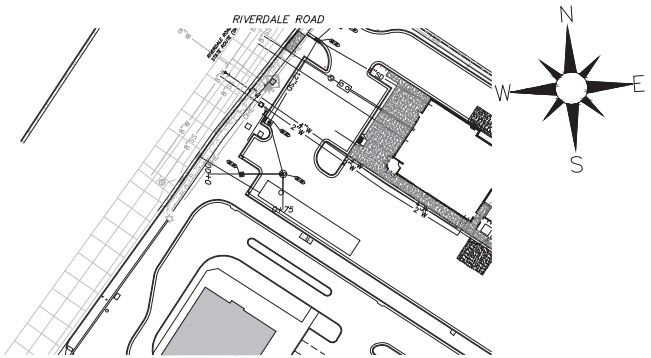
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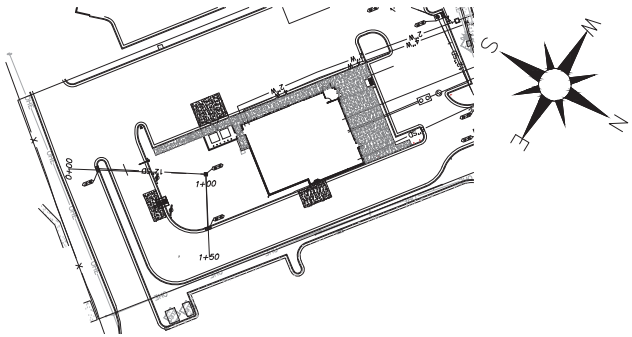
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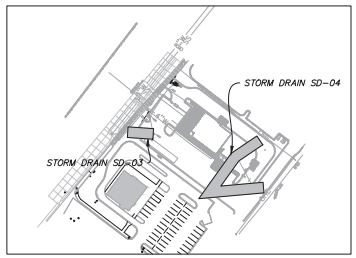
RIVERDALE CITY
PANERA BREAD
PLAN & PROFILE – STORM DRAIN

SHEET NUMBER
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OF 21 SHEETS
DRAWING NAME
PP01

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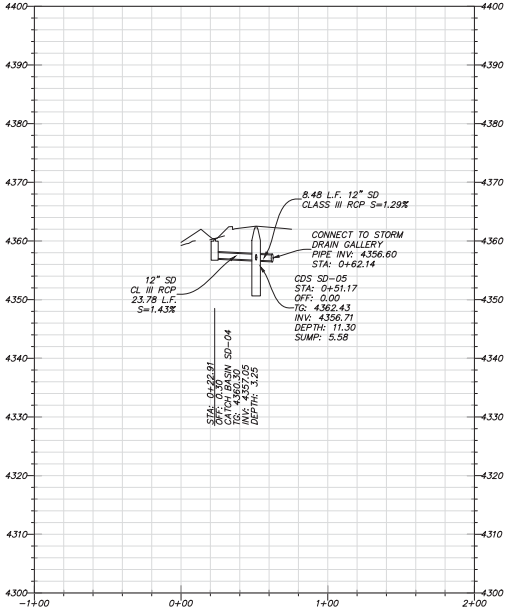


KEY MAP

0 40 80 Feet

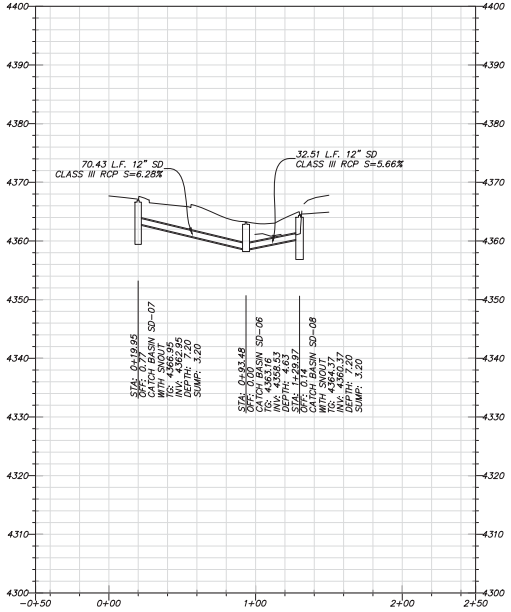
STORM DRAIN SD-03

STA: -1+00 TO 2+00



STORM DRAIN SD-04

STA: -0+50 TO 2+50



PRELIMINARY - NOT FOR CONSTRUCTION

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RIVERDALE CITY

CITY ENGINEER DATE

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SUBMITTED BY:
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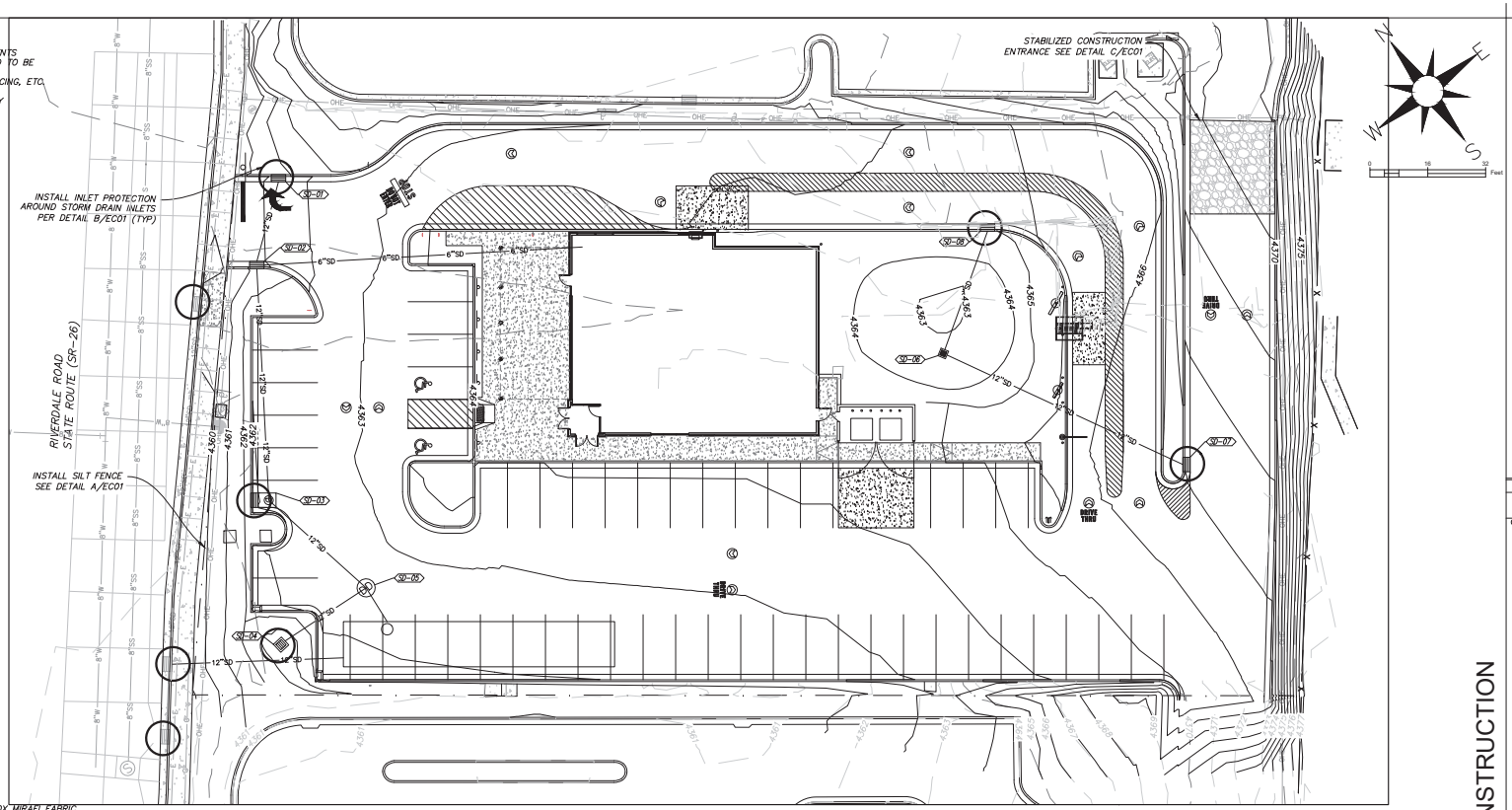
RIVERDALE CITY
PANERA BREAD
PLAN & PROFILE – STORM DRAIN

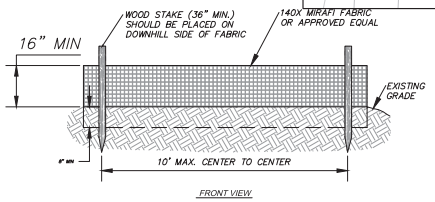
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PP02

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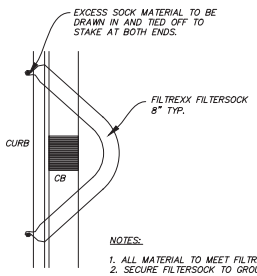
GENERAL NOTES:

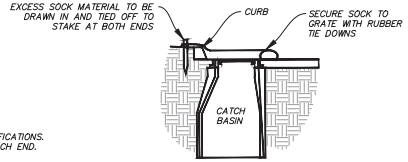
1. ALL DETERIORATED, DAMAGED OR MISSING SURFACE IMPROVEMENTS SURROUNDING THE PERIMETER OF THE DEVELOPMENT WILL NEED TO BE REPLACED OR INSTALLED, I.E., CURB AND GUTTER, SIDEWALK, LANDSCAPING PARK STRIP IMPROVEMENTS, STREET LIGHTS, FENCING, ETC.
2. ALL CONSTRUCTION AND MATERIAL SHALL MEET RIVERDALE CITY STANDARDS



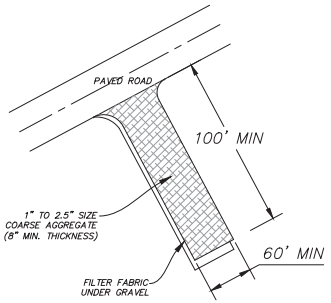


A EC01 **TYPICAL SILT FENCE DETAIL**
NOT TO SCALE





B EC01 **FILTREXX INLET PROTECTION -CURB INLET**
NOT TO SCALE



C EC01 **STABILIZED CONSTRUCTION ENTRANCE**
NOT TO SCALE

PRELIMINARY - NOT FOR CONSTRUCTION

RIVERDALE CITY
CITY ENGINEER DATE

RIVERDALE CITY
PANERA BREAD
EROSION CONTROL

SHEET NUMBER 11
OF 21 SHEETS
DRAWING NAME EC01

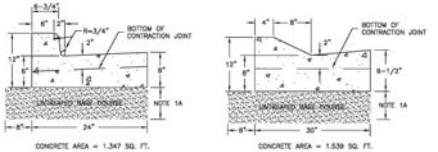
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SUBMITTED BY:
FILENAME: N:\2000s Panera Riverdale\Civil\PV1 EC01
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DATE: NOVEMBER 2023
REVISIONS
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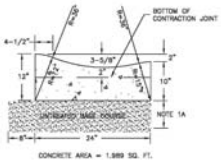
NO.	DESCRIPTION	DATE

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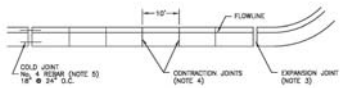
11/15/2023 8:22:47 AM



TYPE E TYPE F



TYPE G



CURB AND GUTTER JOINT DETAIL

Curb and gutter

UNTREATED BASE COURSE: Provide material specified in APWA Section 32 11 23.
A. Do not use gravel as a substitute for untreated base course without ENGINEER's permission.
B. If flow line grade is greater than 0.5 percent (s=0.005), provide 6 inches uncompacted thickness. If less, provide 8 inches uncompacted thickness.
C. Place material per APWA Section 32 05 10.
D. Compact per APWA Section 31 23 26 to a modified proctor density of 95 percent or greater. Maximum lift thickness before compaction is 8 inches when using riding compaction equipment or 6 inches when using hand held compaction equipment.

CONCRETE: Class 4000 per APWA Section 03 30 04.
A. If necessary, provide concrete that achieves design strength in less than 7 days. Caution; concrete crazing (spider cracks) may develop if air temperature exceeds 90 degrees F.
B. Place concrete per APWA Section 03 30 10.
C. Provide 1/2 inch radius on concrete edges exposed to public view.
D. Cure concrete per APWA Section 03 39 00 with type ID Class A or B (clear with fugitive dye) membrane forming compound unless specified otherwise.

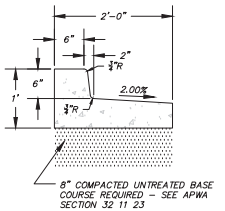
EXPANSION JOINT: Make expansion joints vertical, full depth, 1/2 wide with type F1 joint filler material per APWA Section 32 13 73.
A. Set top of filler flush with surface of concrete.
B. Expansion joints are required at the start or end of a street intersection curb return.
C. Expansion joints are not required in slip form work.

CONTRACTION JOINT: Make contraction joints vertical.
A. 1/8 inch wide and 2 inch deep or 1/4 slab thickness if slab is greater than 8 inches thick.
B. If necessary, match location of contraction joints in portland cement concrete roadway pavements.

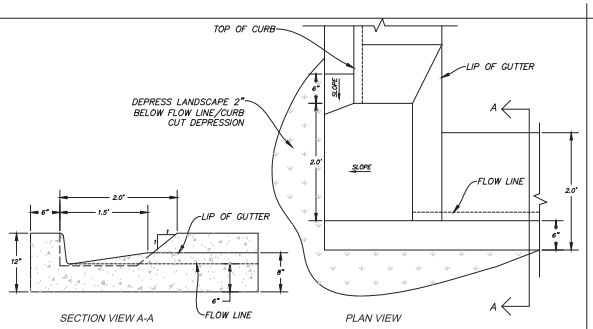
REINFORCEMENT: ASTM A 615, grade 60, galvanized or epoxy coated deformed steel. See APWA Section 03 20 00 requirements.

FINISH: Broomed.

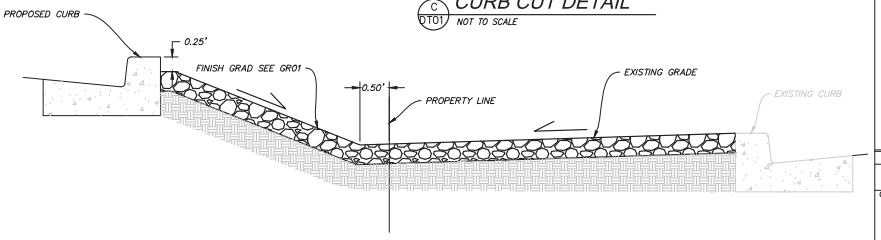
PROTECTION AND REPAIR:
A. Fill flow-line with water. Repair construction that does not drain.
B. Protect concrete from deicing chemicals during cure.



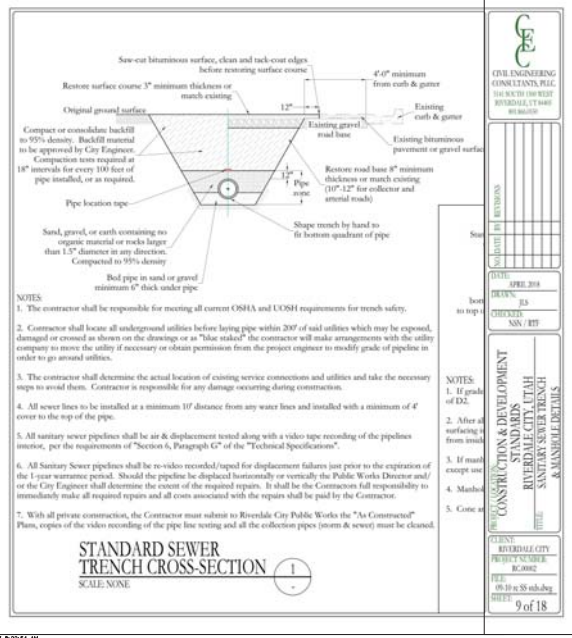
TYPE E CURB & GUTTER MODIFIED
A DT01 N.T.S.



CURB CUT DETAIL
C DT01 NOT TO SCALE



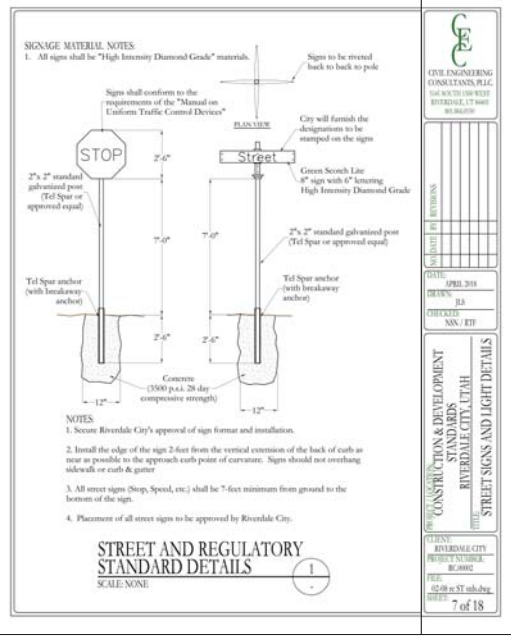
SWALE SECTION DETAIL
B DT01 N.T.S.



NOTES:
1. The contractor shall be responsible for meeting all current OSHA and UOSH requirements for trench safety.
2. Contractor shall locate all underground utilities before laying pipe within 200' 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 project engineer to modify grade of pipeline in order to go around utilities.
3. The contractor shall determine the actual location of existing service connections and utilities and take the necessary steps to avoid them. Contractor is responsible for any damage occurring during construction.
4. All sewer lines to be installed at a minimum 10' distance from any water lines and installed with a minimum of 4' cover to the top of the pipe.
5. All sanitary sewer pipelines shall be air & displacement tested along with a video tape recording of the pipelines interior, per the requirements of "Section 6, Paragraph G" of the "Technical Specifications".
6. All Sanitary Sewer pipelines shall be re-video recorded/taped for displacement failures just prior to the expiration of the 1-year warrantee period. Should the pipeline be displaced horizontally or vertically the Public Works Director and/ or the City Engineer shall determine the extent of the required repairs. It shall be the Contractors full responsibility to immediately make all required repairs and all costs associated with the repairs shall be paid by the Contractor.
7. With all private construction, the Contractor must submit to Riverdale City Public Works the "As Constructed" Plans, copies of the video recording of the pipe line testing and all the collection pipes (storm & sewer) must be cleaned.

STANDARD SEWER TRENCH CROSS-SECTION 1
SCALE: NONE

CIVIL ENGINEERING CONSULTANTS, PLLC
DATE: APRIL 2018
DRAWN: JLS
CHECKED: NSN / RTF
CONSTRUCTION & DEVELOPMENT STANDARDS
RIVERDALE CITY, UTAH
SANITARY SEWER TRENCH & MANHOLE DETAILS
CLIENT: RIVERDALE CITY
PROJECT NUMBER: RC.0002
FILE: 09-10 rc SS mh.dwg
SHEET: 9 of 18



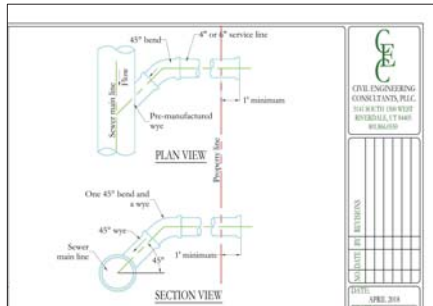
SIGNAGE MATERIAL NOTES:
1. All signs shall be "High Intensity Diamond Grade" materials.

Signs shall conform to the requirements of the "Manual on Uniform Traffic Control Devices"
Signs to be riveted back to back to pole
PLAN VIEW
City will furnish the designations to be stamped on the signs
Green Scotch Lite #7 sign with 6" lettering. High Intensity Diamond Grade
2"x 2" standard galvanized post (Tel Spar or approved equal)

NOTES:
1. Secure Riverdale City's approval of sign format and installation.
2. Install the edge of the sign 2-feet from the vertical extension of the back of curb as near as possible to the approach curb point of curvature. Signs should not overhang sidewalk or curb & gutter
3. All street signs (Stop, Speed, etc.) shall be 7-feet minimum from ground to the bottom of the sign.
4. Placement of all street signs to be approved by Riverdale City.

STREET AND REGULATORY STANDARD DETAILS 1
SCALE: NONE

CIVIL ENGINEERING CONSULTANTS, PLLC
DATE: APRIL 2018
DRAWN: JLS
CHECKED: NSN / RTF
CONSTRUCTION & DEVELOPMENT STANDARDS
RIVERDALE CITY, UTAH
STREET SIGNS AND LIGHT DETAILS
CLIENT: RIVERDALE CITY
PROJECT NUMBER: RC.0002
FILE: 02-08 rc ST mh.dwg
SHEET: 7 of 18



NOTES:
1. All house services shall be 4" diameter. Commercial and public services shall be 6" diameter unless directed otherwise and shall be extended from main lines to property lines. The lateral from the main to the residential/commercial is owned and maintained by the property owner.
2. All sanitary sewer laterals shall not be connected to a manhole unless pre-approved by Riverdale City.
3. Recommended minimum grade shall be 1% for 6" service line and 2% for 4" service line.
4. Contractor shall use a "Inserta Tee" for an existing connection and a "WYE" for a new connection.
5. All 90° bends at connection to main must be constructed with one 45° bend and a wye.
6. 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.
7. Notify city 24 hours in advance of any connection. Every connection to be inspected by City.

STANDARD SANITARY SEWER CONNECTION 3
SCALE: NONE

CIVIL ENGINEERING CONSULTANTS, PLLC
DATE: APRIL 2018
DRAWN: JLS
CHECKED: NSN / RTF
CONSTRUCTION & DEVELOPMENT STANDARDS
RIVERDALE CITY, UTAH
SANITARY SEWER DROP MANHOLE CONCRETE COLLAR & CONNECTION DETAILS
CLIENT: RIVERDALE CITY
PROJECT NUMBER: RC.0002
FILE: 09-10 rc SS mh.dwg
SHEET: 10 of 18

PRELIMINARY - NOT FOR CONSTRUCTION

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CIVIL & STRUCTURAL ENGINEERING
9030 SOUTH 1300 WEST, SUITE 100
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TELEPHONE: 801.501.7555 FAX:
WWW.PERIGEECG.COM

RIVERDALE CITY
CITY ENGINEER DATE

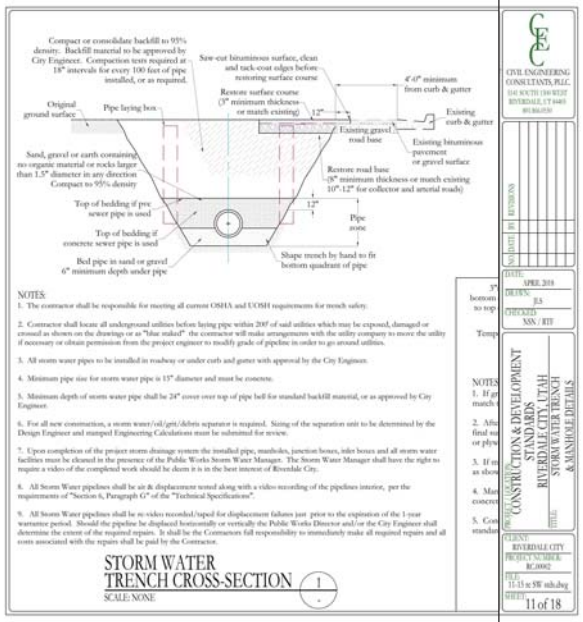
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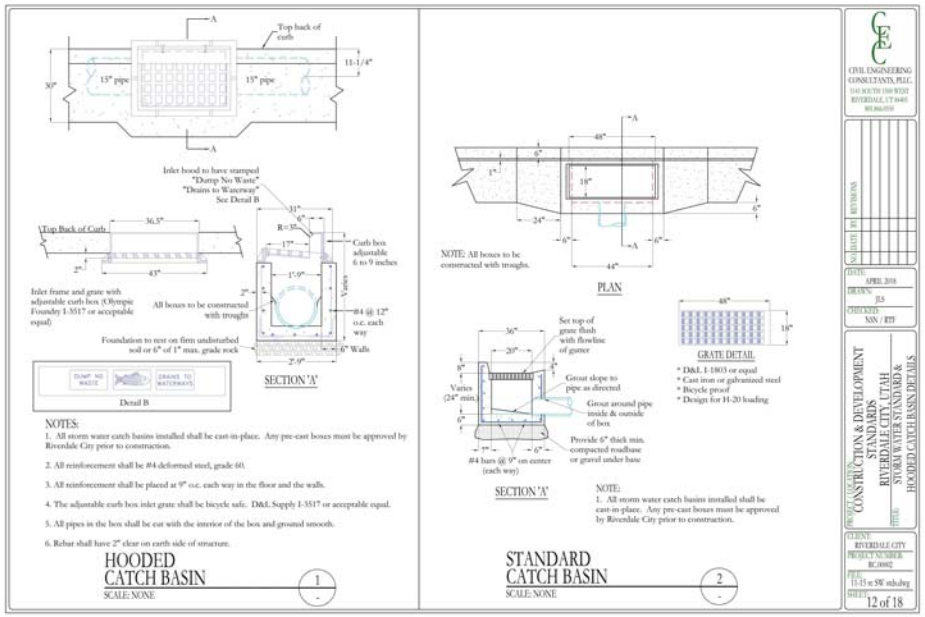
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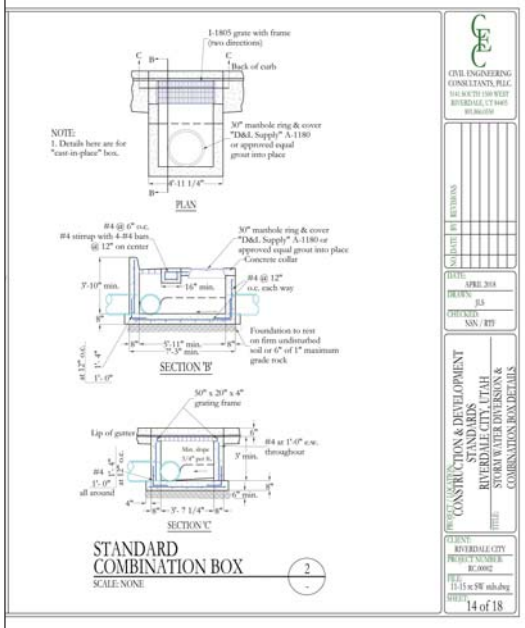
RIVERDALE CITY
PANERA BREAD
DETAILS

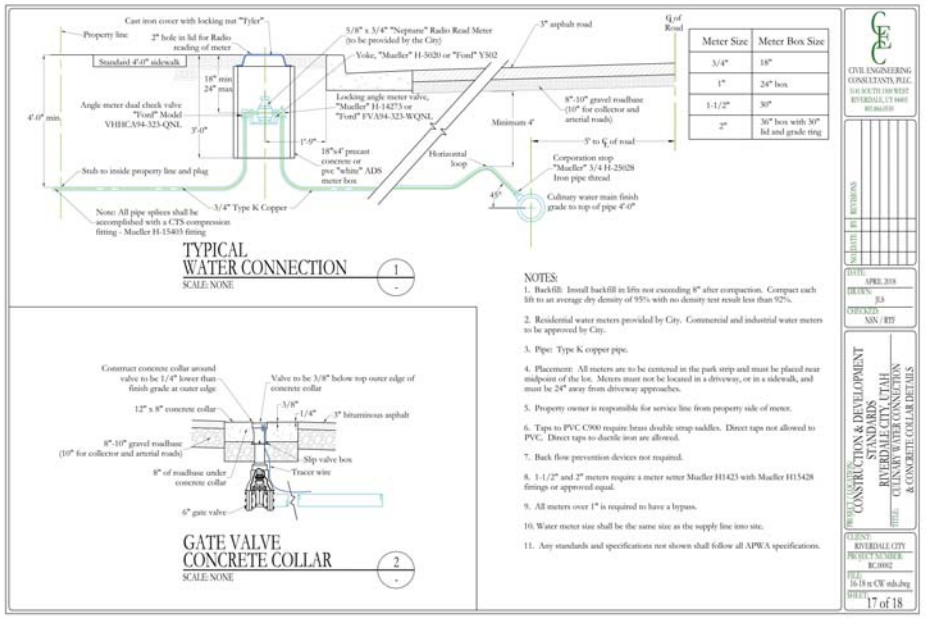
SHEET NUMBER 12
OF 21 SHEETS
DRAWING NAME DT01

BLUE STAKES 1-800-662-4111 CALL BEFORE YOU DIG!









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RIVERDALE, UT 84405
801.866.0550

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civil + structural + survey
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WEST JORDAN, UT 84088
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RIVERDALE CITY

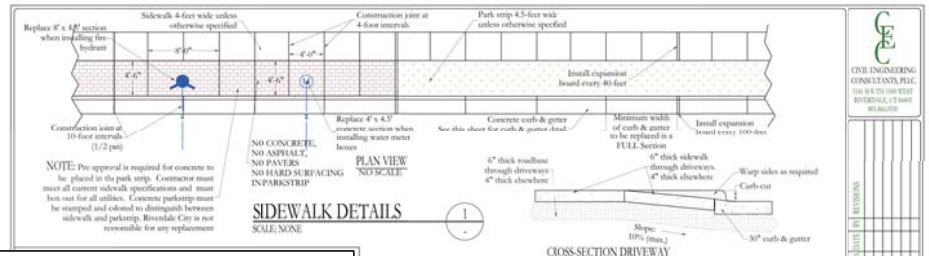
CITY ENGINEER — DATE

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SIZE: ANSI D
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REVISIONS:
CONTRACTOR: 00000
PLOT DATE: 11/15/2023
PLOT TIME: 8:23:00 AM

RIVERDALE CITY
PANERA BREAD
DETAILS

SHEET NUMBER
13
OF 21 SHEETS
DRAWING NAME
DT02



NOTES:

1. A minimum 6-inch depth of roadbase or crushed gravel (¾" minus) material shall be placed to grade & compacted to 95% of maximum dry density under driveway, waterway, and curb & gutter prior to placement of concrete.

2. A minimum 4-inch depth of roadbase material shall be placed to grade and compacted to 95% of maximum dry density under sidewalk prior to placement of concrete.

3. Where construction is adjacent to State Highway Frontage, State Highway Department requirements shall govern.

4. Concrete for sidewalks, curb & gutters, driveway approaches and waterways shall be 3/4-inch maximum aggregate class B concrete, 6 bags per yard, with a minimum compressive strength of 3,500 PSI at 28 days.

5. Expansion joints shall be constructed by placing an approved material, (typically bituminous impregnated fiberboard), the full depth of the concrete. Expansion material **shall be installed prior o the placement of the concrete** and set flush with the finish level of the sidewalk. **Concrete shall not be installed below the expansion joint**.

6. Construction joint is made by inserting 1/8-inch Steel plate into the concrete; finish with 1/2-inch radius edging tool or other method approve by Engineer.

7. Slope sidewalk to roadway at 2% grade.

8. Locate all inlet grates 2-feet minimum away from the pedestrian crosswalk, with all drainage intercepted before it gets to the pedestrian crosswalk area.

9. Minimum temperature for placement of concrete without protection is 40°F. (See Technical Specifications)

10. Below 40° F, all concrete to be protected for 10 days. (Portable heater may be required, as directed - See Technical Specifications)

11. All roadbase shall meet UDOT standards and specifications. Recycled concrete will NOT be permitted to use as a roadbase substitute.

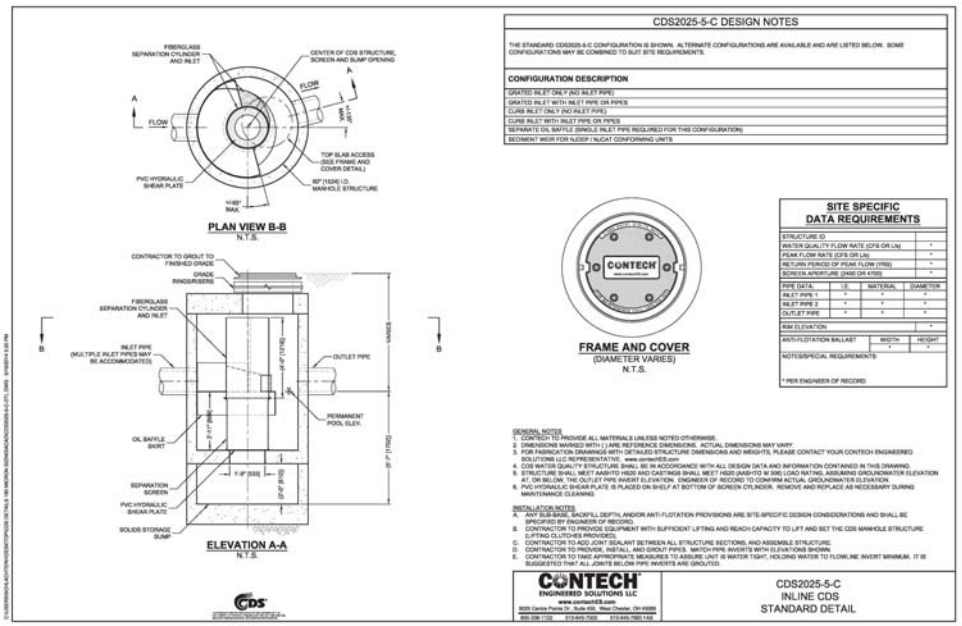
CIVIL ENGINEERING CONSULTANTS, PLLC
154 SOUTH 1500 WEST
RIVERDALE, UT 84405
801.866.0550

NO.	DATE	BY	REVISIONS

DATE: APRIL 2018
DESIGN: EJ
CHECKED: NSN / RTF

PROJECT: CONSTRUCTION & DEVELOPMENT STANDARDS RIVERDALE CITY, UTAH
TITLE: SIDEWALK AND WATERWAY DETAILS

CLIENT: RIVERDALE CITY
PROJECT NUMBER: RC.0002
FILE: 02.08 st ST stds.dwg
SHEET: 3 of 18



CDS2025-5-C DESIGN NOTES

THE STANDARD CDS2025-5-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

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.contech-cpi.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 H20 AND CASTINGS SHALL MEET H20 (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.

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800.338.1122 513.645.7000 513.645.7993 FAX

CDS2025-5-C
INLINE CDS
STANDARD DETAIL

11/15/2023 8:23:05 AM

PERIGEE CONSULTING
civil + geotechnical + highway
909 SOUTH 1300 WEST, SUITE 100
WEST JORDAN, UT 84088
801.990.1742 TEL 801.990.1744 FAX
WWW.PERIGEECG.COM

RIVERDALE CITY

CITY ENGINEER DATE

NO.	DESCRIPTION	DATE	APPR.

PRELIMINARY - NOT FOR CONSTRUCTION

DESIGNED BY: RN
DRAWN BY: CTL
CHECKED BY: JTA
SUBMITTED BY:
FILE NAME: N:\20000 Panera Riverdale\Civil\PV12.DTM
SIZE: ANSI D
PLOT SCALE: 1:1
PLOT DATE: 11/15/2023 8:23:05 AM

DATE: NOVEMBER 2023
ADJUSTMENT NO.
CONTRACT NO: 20000

RIVERDALE CITY
PANERA BREAD
DETAILS

SHEET NUMBER
14
OF 21 SHEETS
DRAWING NAME
DT03

BLUE STAKES 1 800 662 4111 CALL BEFORE YOU DIG!

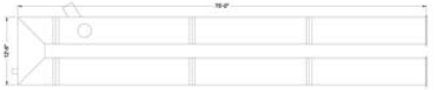
PROJECT SUMMARY

CALCULATION DETAILS
- LOADING = HS20+HS25
- APPROX. LINEAR FOOTAGE = 153 LF

STORAGE SUMMARY
- STORAGE VOLUME REQUIRED = 4,000 CF
- PIPE STORAGE VOLUME = 2,984 CF
- BACKFILL STORAGE VOLUME = 1,206 CF
- TOTAL STORAGE PROVIDED = 4,200 CF

PIPE DETAILS
- DIAMETER = 60"
- CORRUGATION = 5x1
- GAGE = 16
- COATING = ALT2
- WALL TYPE = PERFORATED
- BARREL SPACING = 30"

BACKFILL DETAILS
- WIDTH AT ENDS = 12'
- ABOVE PIPE = 2'
- WIDTH AT SIDES = 12'
- BELOW PIPE = 2'



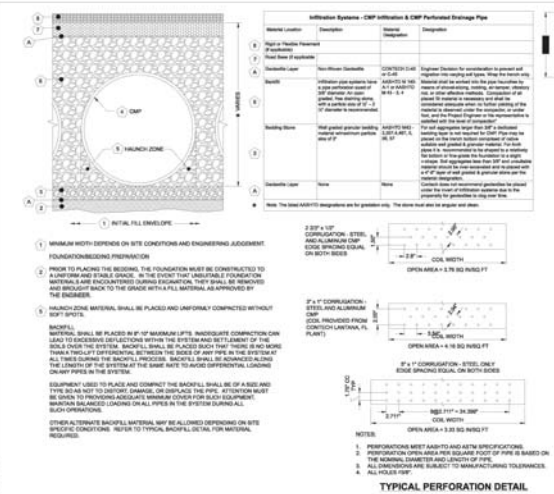
NOTES
- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE. ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998.
- ALL RISERS AND STUBS ARE $2\frac{2}{3} \times \frac{1}{2}$" CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- BAND TYPE TO BE DETERMINED UPON FINAL DESIGN.
- THE PROJECT SUMMARY IS REFLECTIVE OF THE DYOD® DESIGN. QUANTITIES ARE APPROX. AND SHOULD BE VERIFIED UPON FINAL DESIGN AND APPROVAL. FOR EXAMPLE, TOTAL EXCAVATION DOES NOT INCLUDE ANY ADDITIONAL AREAS SUCH AS SHORING AND ONLY ACCOUNTS FOR MATERIAL WITHIN THE ESTIMATED EXCAVATION FOOTPRINT.
- THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND DO NOT REFLECT ANY LOCAL PREFERENCES OR REGULATIONS. PLEASE CONTACT YOUR LOCAL CONTECH REP FOR MODIFICATIONS.

ASSEMBLY
SCALE: 1" = 10'

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CONTECH CMP DETENTION SYSTEMS
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Ogden, UT
DETENTION SYSTEM



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CONSTRUCTION LOADS

FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT-OF-COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT MCGS/STATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, INCHES	AXLE LOADS (kips)			
	16-32	32-75	75-110	110-150
	MINIMUM COVER (FT)			
12-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-120	3.0	3.5	4.0	4.0
126-144	3.5	4.0	4.5	4.5

*MINIMUM COVER MAY VARY, DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MANNED CONSTRUCTION ROADWAY SURFACE.

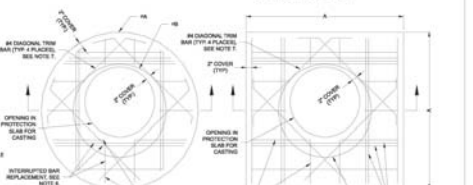
CONSTRUCTION LOADING DIAGRAM
SCALE: N.T.S.



SECTION VIEW

REINFORCING TABLE				
# CMP RISER	A	# B	REINFORCING	**BEARING PRESSURE (PSF)
24"	1'-6" 4'-6"	28"	#5 @ 12" OCEW #5 @ 12" OCEW	2,410 1,760
30"	1'-6" 4'-6" 4'-6"	32"	#5 @ 12" OCEW #5 @ 12" OCEW	2,120 1,530
36"	1'-6" 3' 4'-6"	36"	#5 @ 12" OCEW #5 @ 12" OCEW	1,890 1,350
42"	1'-6" 3'-0" 4'-6"	44"	#5 @ 12" OCEW #5 @ 9" OCEW	1,720 1,210
48"	1'-6" 4' 4'-6"	52"	#5 @ 9" OCEW #5 @ 6" OCEW	1,600 1,150

**ASSUMED SOIL BEARING CAPACITY



ROUND OPTION PLAN VIEW



SQUARE OPTION PLAN VIEW

NOTES:
1. DESIGN IN ACCORDANCE WITH AASHTO, 17TH EDITION.
2. DESIGN LOAD HS25.
3. EARTH COVER = 1' MAX.
4. CONCRETE STRENGTH = 3,000 psi
5. REINFORCING STEEL = ASTM A615, GRADE 60.
6. PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.
7. TRIM OPENING WITH DIAGONAL #4 BARS, EXTEND BARS A MINIMUM OF 12" BEYOND OPENING. BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.
8. PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
9. DETAIL DESIGN BY DELTA ENGINEERING, BINGHAMTON, NY.

MANHOLE CAP DETAIL
SCALE: N.T.S.

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CMP DETENTION INSTALLATION GUIDE

PROPER INSTALLATION OF A FLEXIBLE UNDERGROUND DETENTION SYSTEM WILL ENSURE LONG-TERM PERFORMANCE. THE CONFIGURATION OF THESE SYSTEMS OFTEN REQUIRES SPECIAL CONSTRUCTION PRACTICES THAT DIFFER FROM CONVENTIONAL, FLEXIBLE PIPE CONSTRUCTION. CONTECH ENGINEERED SOLUTIONS STRONGLY SUGGESTS SCHEDULING A PRE-CONSTRUCTION MEETING WITH YOUR LOCAL SALES ENGINEER TO DETERMINE IF ADDITIONAL MEASURES, NOT COVERED IN THIS GUIDE, ARE APPROPRIATE FOR YOUR SITE.

FOUNDATION

CONSTRUCT A FOUNDATION THAT CAN SUPPORT THE DESIGN LOADING APPLIED BY THE PIPE AND ADJACENT BACKFILL WEIGHT AS WELL AS MAINTAIN ITS INTEGRITY DURING CONSTRUCTION.

IF SOFT OR UNSUITABLE SOILS ARE ENCOUNTERED, REMOVE THE POOR SOILS DOWN TO A SUITABLE DEPTH AND THEN BUILD UP TO THE APPROPRIATE ELEVATION WITH A COMPETENT BACKFILL MATERIAL. THE STRUCTURAL FILL MATERIAL SHALL BE PLACED IN LIFTS AND COMPACTED AS NEEDED, WHICH CAN CAUSE SETTLEMENT OF THE DETENTION SYSTEM OR PAVEMENT ABOVE. IF THE STRUCTURAL FILL MATERIAL IS NOT COMPATIBLE WITH THE UNDERLYING SOILS AN ENGINEERING FABRIC SHOULD BE USED AS A SEPARATOR. IN SOME CASES, USING A STIFF REINFORCING GEOGRID REDUCES OVER EXCAVATION AND REPLACEMENT FILL QUANTITIES.



GRADE THE FOUNDATION SUBGRADE TO A UNIFORM OR SLIGHTLY SLOPING GRADE. IF THE SUBGRADE IS CLAY OR RELATIVELY NON-POROUS AND THE CONSTRUCTION SEQUENCE WILL LAST FOR AN EXTENDED PERIOD OF TIME, IT IS BEST TO SLOPE THE GRADE TO ONE END OF THE SYSTEM. THIS WILL ALLOW ENDERS WATER TO DRAIN QUICKLY, PREVENTING SATURATION OF THE SUBGRADE.

GEOMEMBRANE BARRIER

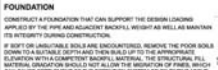
A SITE'S SUSCEPTIBILITY MAY CHANGE OVER TIME WHEN VARIOUS TYPES OF SALTING AGENTS ARE USED, SUCH AS ROAD SALTS FOR DEICING AGENTS. IF SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE, A GEOMEMBRANE BARRIER IS RECOMMENDED WITH THE SYSTEM. THE GEOMEMBRANE LINER IS INTENDED TO HELP PROTECT THE SYSTEM FROM THE POTENTIAL ADVERSE EFFECTS THAT MAY RESULT FROM THE USE OF SUCH AGENTS INCLUDING PREMATURE CORROSION AND REDUCED ACTUAL SERVICE LIFE.

THE PROJECT'S ENGINEER OF RECORD IS TO EVALUATE WHETHER SALTING AGENTS WILL BE USED ON OR NEAR THE PROJECT SITE, AND USE HIS/HER BEST JUDGEMENT TO DETERMINE IF ANY ADDITIONAL PROTECTIVE MEASURES ARE REQUIRED. SEE DETAIL A TYPICAL DETAIL SHOWING THE PLACEMENT OF A GEOMEMBRANE BARRIER FOR PROJECTS WHERE SALTING AGENTS ARE USED ON OR NEAR THE PROJECT SITE.

IN-SITU TRENCH WALL

IF EXCAVATION IS REQUIRED, THE TRENCH WALL NEEDS TO BE CAPABLE OF SUPPORTING THE LOAD THAT THE PIPE SHEDS AS THE SYSTEM IS LOADED. IF SOILS ARE NOT CAPABLE OF SUPPORTING THESE LOADS, THE PIPE CAN DEFLECT PERFORM A SIMPLE SOIL PRESSURE CHECK USING THE APPLIED LOADS TO DETERMINE THE LIMITS OF EXCAVATION BEYOND THE SPRING LINE OF THE OUTER-MOST PIPES.

IN MOST CASES THE REQUIREMENTS FOR A SAFE WORK ENVIRONMENT AND PROPER BACKFILL PLACEMENT AND COMPACTION TAKE CARE OF THIS CONCERN.



BACKFILL PLACEMENT

MATERIAL SHALL BE WORKED INTO THE PIPE HAUNCHES BY MEANS OF SHOVEL-SLICING, RODDING, AND TAMPER, VIBRATORY ROD, OR OTHER EFFECTIVE METHODS.

IF SUITABLE IN-SITU SOILS ARE NOT ENCOUNTERED, REMOVE THE POOR SOILS DOWN TO A SUITABLE DEPTH AND THEN BUILD UP TO THE APPROPRIATE ELEVATION WITH A COMPETENT BACKFILL MATERIAL. THE STRUCTURAL FILL MATERIAL SHALL BE PLACED IN LIFTS AND COMPACTED AS NEEDED, WHICH CAN CAUSE SETTLEMENT OF THE DETENTION SYSTEM OR PAVEMENT ABOVE. IF THE STRUCTURAL FILL MATERIAL IS NOT COMPATIBLE WITH THE UNDERLYING SOILS AN ENGINEERING FABRIC SHOULD BE USED AS A SEPARATOR. IN SOME CASES, USING A STIFF REINFORCING GEOGRID REDUCES OVER EXCAVATION AND REPLACEMENT FILL QUANTITIES.

IF AASHTO TRI PROCEDURES ARE DETERMINED INFEASIBLE BY THE GEOTECHNICAL ENGINEER OF RECORD, COMPACTION IS CONSIDERED ADEQUATE WHEN NO FURTHER YIELDING OF THE MATERIAL IS OBSERVED UNDER THE COMPACTOR, OR UNDER FOOT, AND THE GEOTECHNICAL ENGINEER OF RECORD (OR REPRESENTATIVE THEREOF) IS SATISFIED WITH THE LEVEL OF COMPACTION.

FOR LARGE SYSTEMS, CONVEYOR SYSTEMS, BACKHOES WITH LONG REACHES OR DRAGLINES WITH EXTRA BUCKETS MAY BE USED TO PLACE BACKFILL. ONCE MINIMUM COVER FOR CONSTRUCTION LOADING ACROSS THE ENTIRE WIDTH OF THE SYSTEM IS REACHED, ADVANCE THE EQUIPMENT TO THE END OF THE RECENTLY PLACED FILL, AND BEGIN THE SEQUENCE AGAIN UNTIL THE SYSTEM IS COMPLETELY BACKFILLED. THIS TYPE OF CONSTRUCTION SEQUENCE PROVIDES ROOM FOR STOCKPILED BACKFILL DIRECTLY BEHIND THE BACKHOE, AS WELL AS THE MOVEMENT OF CONSTRUCTION TRAFFIC. MATERIAL STOCKPILES ON TOP OF THE SYSTEM SHOULD BE AVOIDED UNLESS THE SYSTEM IS DESIGNED TO ACCEPT HIGH AND MUST PROVIDE BALANCED LOADING ACROSS ALL BARREL S. TO DETERMINE THE PROPER COVER OVER THE PIPES TO ALLOW THE MOVEMENT OF CONSTRUCTION EQUIPMENT SEE TABLE 1, OR CONTACT YOUR LOCAL CONTECH SALES ENGINEER.

WHEN FLOWABLE FILL IS USED, YOU MUST PREVENT PIPE FLOATATION. TYPICALLY, LIFTS ARE PLACED BETWEEN THE PIPES AND THEN ALLOWED TO SET-UP PRIOR TO THE PLACEMENT OF THE NEXT LIFT. THE ALLOWABLE THICKNESS OF THE CLSM LIFT IS A FUNCTION OF A PROPER BALANCE BETWEEN THE UPLIFT FORCE OF THE CLSM, THE OPPOSING WEIGHT OF THE PIPE, AND THE EFFECT OF OTHER RESTRAINING MEASURES. THE PIPE CAN CARRY LIMITED FLUID PRESSURE WITHOUT PIPE DISTORTION OR DISPLACEMENT, WHICH ALSO AFFECTS THE CLSM LIFT THICKNESS. YOUR LOCAL CONTECH SALES ENGINEER CAN HELP DETERMINE THE PROPER LIFT THICKNESS.



CONSTRUCTION LOADING

TYPICALLY, THE MINIMUM COVER SPECIFIED FOR A PROJECT ASSUMES H-20 LIVE LOAD. BECAUSE CONSTRUCTION LOADS OFTEN EXCEED DESIGN LIVE LOADS, INCREASED TEMPORARY MINIMUM COVER REQUIREMENTS ARE NECESSARY. THE ACTUAL CONSTRUCTION EQUIPMENT VARIES FROM JOB TO JOB. IT IS BEST TO ADDRESS EQUIPMENT SPECIFIC MINIMUM COVER REQUIREMENTS WITH YOUR LOCAL CONTECH SALES ENGINEER DURING YOUR PRE-CONSTRUCTION MEETING.

ADDITIONAL CONSIDERATIONS

BECAUSE MOST SYSTEMS ARE CONSTRUCTED BELOW-GRADE, RAINFALL CAN RAPIDLY FILL THE EXCAVATION, POTENTIALLY CAUSING FLOATATION AND MOVEMENT OF THE PREVIOUSLY PLACED PIPES. TO HELP MITIGATE POTENTIAL PROBLEMS, IT IS BEST TO START THE INSTALLATION AT THE DOWNSTREAM END WITH THE OUTLET ALREADY CONSTRUCTED TO ALLOW A ROUTE FOR THE WATER TO ESCAPE. TEMPORARY DIVERSION MEASURES MAY BE REQUIRED FOR HIGH FLOWS DUE TO THE RESTRICTED NATURE OF THE OUTLET PIPE.



CMP DETENTION SYSTEM INSPECTION AND MAINTENANCE

UNDERGROUND STORMWATER DETENTION AND INFILTRATION SYSTEMS MUST BE INSPECTED AND MAINTAINED AT REGULAR INTERVALS FOR PURPOSES OF PERFORMANCE AND LONGEVITY.

INSPECTION

INSPECTION IS THE KEY TO EFFECTIVE MAINTENANCE OF CMP DETENTION SYSTEMS AND IS EASILY PERFORMED. CONTECH RECOMMENDS ONGOING, ANNUAL INSPECTIONS. SITES WITH HIGH TRASH LOAD OR SMALL OUTLET CONTROL ORIFICES MAY NEED MORE FREQUENT INSPECTIONS. THE RATE AT WHICH THE SYSTEM COLLECTS POLLUTANTS WILL DEPEND MORE ON SITE SPECIFIC ACTIVITIES RATHER THAN THE SIZE OR CONFIGURATION OF THE SYSTEM.

INSPECTIONS SHOULD BE PERFORMED MORE OFTEN IN EQUIPMENT WASH-DOWN AREAS, IN CLIMATES WHERE SANDING AND/OR SALTING OPERATIONS TAKE PLACE, AND IN OTHER VARIOUS INSTANCES IN WHICH ONE WOULD EXPECT HIGHER ACCUMULATIONS OF SEDIMENT OR ABRASIVE/CORROSIVE CONDITIONS. A RECORD OF EACH INSPECTION IS TO BE MAINTAINED FOR THE LIFE OF THE SYSTEM.

MAINTENANCE

CMP DETENTION SYSTEMS SHOULD BE CLEANED WHEN AN INSPECTION REVEALS ACCUMULATED SEDIMENT OR TRASH IS CLOGGING THE DISCHARGE ORIFICE.

ACCUMULATED SEDIMENT AND TRASH CAN TYPICALLY BE EVACUATED THROUGH THE MANHOLE OVER THE OUTLET ORIFICE. IF MAINTENANCE IS NOT PERFORMED AS RECOMMENDED, SEDIMENT AND TRASH MAY ACCUMULATE IN FRONT OF THE OUTLET ORIFICE. MANHOLE COVERS SHOULD BE SECURELY SEATED TO ALLOW OCCASIONAL ACCESS. INSPECTION SUGGESTS THAT ALL PERSONNEL ENTERING CONFINED SPACES SHOULD BE PROPERLY TRAINED AT OSHA'S CONFINED SPACE ENTRY STANDARDS. IT MAY BE NECESSARY TO GET INSIDE THE SYSTEM TO PERFORM MAINTENANCE ACTIVITIES ALL APPROPRIATE PRECAUTIONS REGARDING CONFINED SPACE ENTRY AND OSHA REGULATIONS SHOULD BE FOLLOWED.

ANNUAL INSPECTIONS ARE BEST PRACTICE FOR ALL UNDERGROUND SYSTEMS. DURING THIS INSPECTION, IF EVIDENCE OF SALTING/DE-ICING AGENTS IS OBSERVED WITHIN THE SYSTEM, IT IS BEST PRACTICE FOR THE SYSTEM TO BE RINSED, INCLUDING ABOVE THE SPRING LINE SOON AFTER THE SPRING THAW AS PART OF THE MAINTENANCE PROGRAM FOR THE SYSTEM.

MAINTAINING AN UNDERGROUND DETENTION OR INFILTRATION SYSTEM IS EASIEST WHEN THERE IS NO FLOW ENTERING THE SYSTEM. FOR THIS REASON, IT IS A GOOD IDEA TO SCHEDULE THE CLEANOUT DURING DRY WEATHER.

THE FOREGOING INSPECTION AND MAINTENANCE EFFORTS HELP ENSURE UNDERGROUND PIPE SYSTEMS USED FOR STORMWATER STORAGE CONTINUE TO FUNCTION AS INTENDED BY IDENTIFYING RECOMMENDED REGULAR INSPECTION AND MAINTENANCE PRACTICES. INSPECTION AND MAINTENANCE RELATED TO THE STRUCTURAL INTEGRITY OF THE PIPE OR THE SOUNDNESS OF PIPE JOINT CONNECTIONS IS BEYOND THE SCOPE OF THIS GUIDE.

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civil + structural + survey
9019 SOUTH 1300 WEST, SUITE 100
WEST JORDAN, UT 84088
CONTACT: TEL: 801.917.1477

RIVERDALE CITY

CITY ENGINEER ____ DATE ____

NO.	DESCRIPTION	DATE	APPR.

DESIGNED BY: RN
DRAWN BY: CTL
CHECKED BY: JTA
SUBMITTED BY:
FILE NAME: N:\DO\DOD Panera Riverdale\Cad\PV12.DTM
DATE: NOVEMBER 2023
REVISIONS:
CONTRACTOR: ODOT
11/15/2023 8:23:10 AM
SCALE: AS SHOWN
PLOT TED BY:

RIVERDALE CITY
PANERA BREAD
DETAIL SHEET

SHEET NUMBER
15
OF 21 SHEETS
DRAWING NAME
DT04

UDOT Keeping Utah Moving
ACCESS MANAGEMENT PROGRAM

Variance Request Form

INTERNAL UDOT USE ONLY			
OLP Application ID No:		**Project Name:**	

Access-related variances are governed by Utah Administrative Code R930-6-9. A variance may be considered for any design standard of this rule that is not applicable or feasible given the proposed physical and operational characteristics of the site. Applicants seeking a variance for these design standards must submit a thoroughly detailed variance request using this form.

The applicant must clearly demonstrate the variance request meets minimum acceptable engineering, operation, and safety standards. The applicant must also clearly demonstrate the variance is not detrimental to the health, welfare, and safety of the public.

INSTRUCTIONS: Complete all fields below and submit with a complete application. Additional sheets may be attached, however a summary of your responses must be included in the spaces provided below. Simply stating "see attached" is considered insufficient information.

PROPERTY OWNER INFORMATION		APPLICANT INFORMATION	
Name:	Williamsen Riverdale II, LLC	Name:	Russell Haight
Mailing Address:	154 East Myrtle Ave Suite 303	Mailing Address:	9089 S 1300 W #160
City, State, Zip:	Murray, UT 84107	City, State, Zip:	West Jordan, Utah, 84088
Email:	Jay@Chasebrookco.com	Email:	russell@perigeecivil.com
Phone:	801.364.2602	Phone:	801-651-9687

PROPOSED ACCESS INFORMATION

Physical Address:	~~4130~~ 4122 Riverdale Road, Riverdale, Utah 84005	Parcel Number:	06-031-0012
State Route ID:	State Route 26	Milepost Marker:	2.65
Latitude (decimal degrees)	41.188003	Longitude (decimal degrees)	111.983575
Access Width:	25'	Access Use Type:	Commercial

PRE-APPLICATION COORDINATION MEETING INFORMATION

Has a pre-application coordination meeting been held with the appropriate Region?

Yes: ☑ Meeting Date: 8/15/2023 No: ☐

VARIANCE REQUEST OVERVIEW

Describe why this variance is being requested:

This is an existing full access on to State Route 26. It is proposed this full access be reduce to a right-in-right-out access per the recommendations of the TIS. This direct customer access is critical to the success of the proposed business. With out this access the parcel only has limited rear access making the site less business friendly. Keeping the access open will remove dependence on parcel owners to the southwest and northeast in allowing access across their sites.

VARIANCE JUSTIFICATION (1)

Describe how the applicant has considered all other feasible alternatives to provide reasonable alternative access to the property or development and demonstrate that better alternatives in terms of highway operations are not feasible or do not exist:

A Route through the adjoining rear parcel (southeast) is not feasible as it's an existing apartment complex at a significant grade difference. Parcel owner to the southwest has not granted access through their property. If this front access is closed the only reaming access is through the adjoining parcel to the northeast.

VARIANCE JUSTIFICATION (2)

Describe how the applicant has considered access through a shared use driveway or access point with an adjacent land use and such a shared use access is not feasible:

The parcel to the North and South have no existing access to State Route 26, so a shared driveway/ access is not possible.

VARIANCE JUSTIFICATION (3)

Describe how the applicant is voluntarily providing on-site or off-site mitigation efforts that might offset the negative impacts of approving an access that does not meet the provisions of the rule. Examples, may include, but are not limited to: installing acceleration/deceleration or turn lanes, installing raised median barriers, or other devices that physically restrict turning movements, or the consolidation of existing access connections.

To mitigate negative impacts of the access It is proposed to reduce the full access to a right-in-right-out. There will be a right arrow painted into the pavement at the access. A not left turn sign posted below the stop sign at the access. The width of the access is being decreased from 35' to 25'.

VARIANCE JUSTIFICATION (4)

Describe how the applicant has considered and demonstrated trip reduction strategies that allow the access to properly function without creating a negative impact to the highway:

Trip reduction at this access has been reduce by modifying the access to RIRO.

VARIANCE JUSTIFICATION (5)

Describe the traffic engineering or other studies the applicant has provided to determine the access will not degrade the efficient flow of traffic on the highway in terms of safety, capacity, travel speed, and other functional features of the highway.

Traffic study analyzed how reducing the full access to a RIRO would impact the LOS of the two nearest intersections on State Route 26. The study found both intersections would still operate at an acceptable LOS during morning peak hour and through most of the day. See Riverdale - Panera Bread Traffic Impact Study.

LIST OF ATTACHED DOCUMENTS

In the spaces provided below please list each document being attached in support of this variance request.

#	Description	#	Description	#	Description
1	Traffic Study	5		9	
2	Civil Improvement Plans	6		10	
3		7		11	
4		8		12	

APPLICANT/OWNER CERTIFICATION AND ACKNOWLEDGEMENT

The applicant and owner declare under the penalty of perjury, and any other applicable state or federal law, that all information provided on this form and submitted attachments are true, factual, and accurate. The applicant and owner also hereby acknowledge any false or misleading information contained herein is grounds for variance denial and/or permit revocation.

Owner Name (Printed):	Williamsen Riverdale II LLC	**Sign Name:**		**Date:**	11/8/23
Applicant Name (Printed):	Russell Haight	**Sign Name:**	Russell J. Haight	**Date:**	11/08/2023

INTERNAL UDOT USE ONLY

Pursuant to Utah Administrative Code R930-6-9(2)(b), the Department shall not approve variances that, in the Department's determination, pose hazards to public mobility, health, safety, and welfare. The Department shall not approve variances for procedural requirements. The department shall review the variance request for consistency with the purposes of this rule.

Pursuant to Utah Administrative Code R930-6-9(2)(d), the Department shall include in its files documentation of reasons for approving or denying a variance request. This form is established, in part, to fulfill this legal requirement.

Pursuant to Utah Administrative Code R930-6-9(2)(e), an approved access or encroachment permit may stipulate conditions and terms for the expiration of the permit when the necessity for the variance no longer exists. It may also require the permittee to improve, modify, eliminate, or correct the condition responsible for the variance when it is evident that the justification for the variance is no longer valid. Such stipulations and requirements shall be stated in the approved permit.

REGION PERMITTING OPERATIONS OFFICE RECOMMENDATION

Basis for recommendation:

RECOMMENDED FOR: **APPROVAL** ☐ **DENIAL** ☐

Name (Printed):		**Sign Name:**		**Date:**	

REGION ENGINEER FINAL DETERMINATION

APPROVED ☐ **DENIED** ☐

Name (Printed):		**Sign Name:**		**Date:**	

Document not needed as we are looking to keep the entrance and reduce it from a full access to RIRO.

State of Utah
Department of Transportation

Cross Access Easement

This Cross Access Easement ("Agreement"), by and between Williamsen Riverdale LLC c/o Chasebrook Company ("Property Owner") and H & P INV. LLC ("Adjacent Property") describes the terms and conditions of access connections in the Utah Department of Transportation ("Department") Right-of-Way.

RECITALS

WHEREAS, Property Owner has received access approval to improve its property identified as Panera Bread, located at 4122 Riverdale Road in City of Riverdale, County of Weber, State of Utah, and described in the attached Exhibit; and

WHEREAS, as a condition of this access approval, Property Owner is required to enter into an agreement to create a cross access easement on its property to allow for ingress and egress between its property and the adjacent property located at 4142 Riverdale Road, Riverdale; and

WHEREAS, the purpose of the easement is to allow traffic flow between the properties in one access and onto SR-26 so as to relieve congestion and to create less traffic hazards; and

WHEREAS, at this time, the Adjacent Property is not seeking access approval, and the owner of that property is willing to grant a mutual cross access easement at this time to connect the two properties. As required by the Department, the Parties agree to grant an easement as set forth in this Agreement; and

WHEREAS, the attached Exhibit describes the approximate location of the cross access easement.

AGREEMENT

The Parties agree to the following:

(1) In fulfillment of the requirements imposed as a condition of access approval, the Property Owner agrees, to grant a cross access easement provided that the Adjacent Property likewise grants a similar cross access easement over its property.

(2) The Property Owner agrees to grant the cross access easement and to execute all necessary documents to create the cross access easement.

(3) The easements to be created shall burden and benefit the parcels. The easements shall run with the land and shall be binding on and shall insure to the benefit of the Property Owner, their respective heirs, successors or assigns and the Adjacent Property, their respective heirs, successors or assigns.

(4) The easements to be created shall continue until expressly terminated by written agreement between the parties, the successors, or the assigns. Any agreement to terminate or modify the easements to be created shall be approved in writing by the Department.

(5) The Property Owner agrees to make the necessary improvements to its property to allow the ingress and egress as set forth herein within a reasonable time after the creation of the cross access easements.

(6) The Property Owner agrees to maintain the easement area that will be located within its property in a reasonable manner and at its sole expense.

(7) The Adjacent Property agrees to maintain the easement area that will be located within its property in a reasonable manner and at its sole expense.

(8) Any violation or breach of this Agreement shall be considered a breach of the access permit, and the Department shall have the authority to enforce this Agreement in any manner permitted by law.

(9) This Agreement to create a cross access easement shall be recorded with the County Recorder's office by the Property Owner.

(10) **MISCELLANEOUS**

a) Each party agrees to undertake and perform all further acts that are reasonably necessary to carry out the intent and purpose of the Agreement at the request of the other party.

b) This Agreement does not create any type of agency relationship, joint venture, or partnership between the Department and the Property Owner.

c) The failure of either party to insist upon strict compliance of any of the terms and conditions, or failure or delay by either party to exercise any rights or remedies provided in this Agreement, or by law, will not release either party from any obligations arising under this Agreement.

d) This Agreement shall be deemed to be made under and shall be governed by the laws of the State of Utah in all respects. Each person signing this Agreement warrants that the person has full legal capacity, power and authority to execute this Agreement for and on behalf of the respective party and to bind such party.

e) If any portion of this Agreement is held to be invalid or unenforceable for any reason by a court of competent jurisdiction, such invalidity or unenforceability shall not affect any other provision, and this Agreement shall be construed as if such invalid or unenforceable provision had never been included.

f) The effective date of this Agreement is the date signed by the last party.

****

IN WITNESS WHEREOF, the parties hereto have caused this Cross Access Easement Agreement to be executed by its duly authorized officers.

Applicant Property Owner Signature: _____

Date: _____ Print Name: _____

ACKNOWLEDGMENT

County of _____

On this _____ day of _____, in the year 20_____, before me,

_____ a notary public, personally appeared

_____, proved on the basis of satisfactory evidence to be the

person whose name is subscribed to this instrument, and acknowledged (he/she) executed the same.

Witness my hand and official seal.

_____

Adjacent Property Owner **Signature:** _____

Date: _____ **Print Name:** _____

ACKNOWLEDGMENT

County of _____

On this _____ day of _____, in the year 20_____, before me,

_____ a notary public, personally appeared

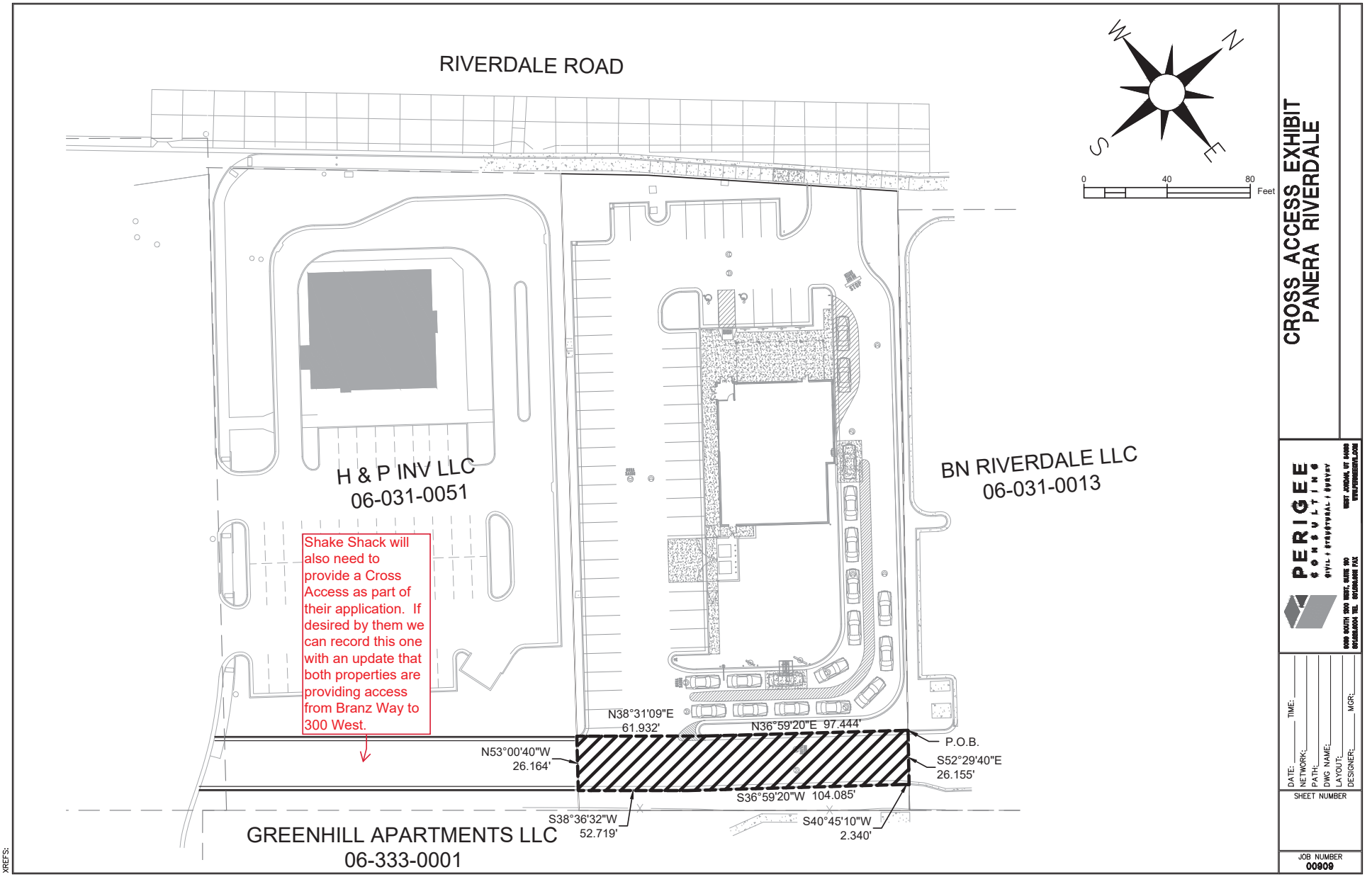
_____, proved on the basis of satisfactory evidence to be the

person whose name is subscribed to this instrument, and acknowledged (he/she) executed the same.

Witness my hand and official seal.

_____

EXHIBIT



CROSS ACCESS EXHIBIT
PANERA RIVERDALE

PERIGEE CONSULTING

DATE:
TIME:
NETWORK:
PATH:
DWG NAME:
LAYOUT:
DESIGNER:
MGR:

SHEET NUMBER

JOB NUMBER
00909

XREFS:

N:\00909 Panera Riverdale\Documents\Cross Access Agreement\Panera Cross Access Agreement Exhbit.dwg, 11/14/2023 4:23:07 PM, DWG To PDF.pc3

Beginning at a point that lies North 89°26'02" West 1349.53 feet and and South 1029.09 feet (Basis of bearings is North 89°26'02" West 2272.355 feet between North Quarter Corner of Section 8, T5N, R1W, SLB&M and a Reference Monument to the Northwest Corner of said Section 8) from said North Quarter Corner of Section 8, Township 5 North, Range 1 West, Salt Lake Base and Meridian and running thence South 52°29'40" East 26.15 feet; thence South 40°45'10" West 2.34 feet; thence South 36°59'20" West 104.08 feet; thence South 38°36'32" West 52.72 feet; thence North 53°00'40" West 26.16 feet; thence North 38°31'09" East 61.93 feet; thence North 36°59'20" East 97.44 feet to the point of beginning.

Property contains 0.095 acres, 4152 square feet.

Keeping Utah Moving

Contract # **Tracking #**

SINGLE-PARCEL DRAINAGE AGREEMENT
Between
UTAH DEPARTMENT OF TRANSPORTATION
And
American Bread Company, LLC

County Tax ID No. 06-031-0012

This Single-Parcel Drainage Agreement ("Agreement"), by and between **Utah Department of Transportation** ("Department") and **American Bread Company, LLC** ("Permittee") describes the terms and conditions of offsite drainage connections in the Department Right of Way.

RECITALS

WHEREAS, the Permittee owns the property described in Exhibits; and

WHEREAS, the Permittee, its successors and assigns, desires to construct drainage facilities in accordance with the plans permitted by the Department, to collect and convey stormwater from their property and discharge into the Department's drainage facilities, more particularly shown in Exhibits; and

WHEREAS, the Permittee shall be responsible to comply with the required stormwater permits, applicable laws and regulations.

AGREEMENT

The Parties agree to the following:

(1) DRAINAGE CONNECTION IMPACT

a) The Department may perform inspection of Permittee's drainage facility to monitor compliance with the Permit and with state and federal statutes, regulations, and rules. Permittee grants the Department access to the Permittee's property for inspection or to perform any repairs to prevent damage to the Department's Right of Way. The Department's inspection does not relieve the Permittee of its responsibilities. The Permittee is responsible for the Department's inspection costs.

b) Permittee shall comply with applicable stormwater permits, laws, regulations, and rules.

c) The Permittee is responsible for repairing and restoring any portion of the Department Right of Way and drainage features located therein that may be damaged as a result of making the drainage connection or as the result of any subsequent drainage originating from the Permittee's property. A bonded contractor must apply for the required permit to install drainage facilities in the Department Right of Way prior to the commencement of any such work.

d) The Permittee must not increase the stormwater discharge into the Department's drainage facilities without the written permission of the Department.

e) The Permittee is responsible for all liability resulting from the discharge of pollutants into the Department's drainage facility from its property or drainage facility, including the failure to comply with applicable stormwater permits, laws, regulations and rules.

f) The Permittee accepts all risks associated with the connection to the Department's drainage facility.

(2) **LONG TERM OPERATION AND MAINTENANCE**

a) The Permittee's drainage facilities shall be maintained and operational to prevent or reduce the discharge of pollutants.

b) The Department may notify the Permittee of any maintenance requirements if the Permittee fails to maintain the drainage facilities. The Department reserves the right, without relieving the Permittee of its obligations, to reconstruct or make repairs to the drainage connection as necessary. The Permittee must reimburse the Department for its cost if the Permittee fails to comply with the Department's written notification.

c) The Permittee's drainage facilities shall be maintained without access from any interstate highway or ramp.

(3) FUTURE IMPACTS

a) The Department has the right to change its drainage facilities for any future transportation project. If the Department's drainage facilities are reconstructed or modified, the Department reserves the right to hold the Permittee responsible for the cost to reconnect to the Department's drainage facilities. The Department is not responsible for any costs the Permittee incurs due to the drainage facilities being reconstructed or modified.

(4) LIABILITY

a) Pursuant to R930-7-6(2)(b), the Permittee is required to guarantee satisfactory performance under this Permit.

b) The Department may proceed against Permittee to recover all expenses incurred by the Department, its employees, or contractors in repairing the sections of roadway damaged by the Permittee or its drainage facility, including the failure to restore the Right of Way to Department standards.

c) The Permittee will be liable for all costs the Department incurs under this agreement.

d) The Permittee waives any claims against the Department for damages resulting from any back-up or flow into the Permittee's drainage facilities or property.

e) The Permittee will indemnify, defend, and hold harmless the Department, its employees, and the State of Utah for any and all damages, accidents, causalities, occurrences, or claims which might arise or be asserted against the Department from failure of the Permittee to comply with its obligations under this agreement relating to the drainage connection.

(5) REMOVAL OF CONNECTION

a) Non-compliance with this Agreement may result in the Department removing the drainage

connection and restoring the highway and Right of Way at the sole expense of the Permittee.

b) The Department will notify the Permittee in writing prior to any removal, setting forth the violations, and will provide the Permittee a reasonable time to correct the violations to the satisfaction of the Department. The Department may order the removal of any drainage connections subject to this Agreement if the violations are not corrected.

(6) SUCCESSORS AND ASSIGNS

a) All covenants, obligations and agreements will be binding upon the parties, their successors and assigns and run with the land as described in Exhibit A until the drainage connection is removed from the Department Right of Way.

(7) MISCELLANEOUS

a) Each party agrees to undertake and perform all further acts that are reasonably necessary to carry out the intent and purpose of the Agreement at the request of the other party.

b) This Agreement does not create any type of agency relationship, joint venture, or partnership between the Department and Permittee.

c) The failure of either party to insist upon strict compliance of any of the terms and conditions, or failure or delay by either party to exercise any rights or remedies provided in this Agreement, or by law, will not release either party from any obligations arising under this Agreement.

d) This Agreement shall be deemed to be made under and shall be governed by the laws of the State of Utah in all respects. Each person signing this Agreement warrants that the person has full legal capacity, power and authority to execute this Agreement for and on behalf of the respective party and to bind such party.

e) If any portion of this Agreement is held to be invalid or unenforceable for any reason by a court of competent jurisdiction, such invalidity or unenforceability shall not affect any other provision, and this Agreement shall be construed as if such invalid or unenforceable provision had never been included.

f) The effective date of this Agreement is the date signed by the last party.

****

UDOT
Keeping Utah Moving

IN WITNESS WEREOF, the parties hereto have caused this Drainage Agreement to be executed by its duly authorized officers.

Application Property Owner

Company: American Bread Company, LLC

Signature: _____ Title: Owner

Printed Name: Peter Strang Date: 11/13/23

ACKNOWLEDGMENT

County of Cuyahoga

On this 13th day of November, in the year 2023, before me, Amber J. Nash a notary public, personally appeared Peter W. Strang, proved on the basis of satisfactory evidence to be the person whose name is subscribed to this instrument, and acknowledged (he/she) executed the same.

Witness my hand and official seal.

_____

NOTARY PUBLIC STATE OF OHIO

AMBER J NASH
Notary Public
State of Ohio
My Comm. Expires
June 8, 2026

Send a recorded copy of this agreement
to the UDOT Region Storm Water Coordinator.

Utah Department of Transportation Permits Department

Title: Region Permit Officer

Signature: _____

Date: _____

Print Name: _____

ACKNOWLEDGMENT

County of _____

On this _____ day of _____, in the year 20_____, before me,

_____ a notary public, personally appeared

_____, proved on the basis of satisfactory evidence to be the person whose name is subscribed to this instrument, and acknowledged (he/she) executed the same.

Witness my hand and official seal.

_____

Title: Region Director

Signature: _____

Date: _____

Print Name: _____

ACKNOWLEDGMENT

County of _____

On this _____ day of _____, in the year 20_____, before me,

_____ a notary public, personally appeared

_____, proved on the basis of satisfactory evidence to be the person whose name is subscribed to this instrument, and acknowledged (he/she) executed the same.

Witness my hand and official seal.

_____

Keeping Utah Moving

Exhibits

Exhibit A (Legal Description of Permittee's Property)

A PART OF THE NORTHWEST QUARTER OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN, U.S. SURVEY:

BEGINNING 965.42 FEET (957.54 ORIGINAL DEED) NORTH 89°26'02" WEST (STATE PLANE) ALONG THE SECTION LINE; 1039.34 FEET (1048.52 ORIGINAL DEED) SOUTH 38°24'20" WEST ALONG THE CENTERLINE OF RIVERDALE ROAD; 49.51 FEET (49.52 ORIGINAL DEED) SOUTH 52°29'40" EAST AND 8.00 FEET SOUTH 38°24'20" WEST FROM THE NORTHEAST CORNER OF SAID QUARTER SECTION; AND RUNNING THENCE SOUTH 52°29'40" EAST 325.00 FEET TO A FENCE; THENCE SOUTH 38°36'32" WEST 159.07 FEET ALONG SAID FENCE TO THE LOCATION OF A FENCE IN 1977; THENCE NORTH 53°00'40" WEST 324.50 FEET ALONG SAID FENCE AS LOCATED IN 1977 TO THE EASTERLY LINE OF RIVERDALE ROAD; THENCE NORTH 38°2420" EAST 162.00 FEET ALONG SAID EASTERLY LINE TO THE POINT OF BEGINNING.

LESS AND EXCEPTING THAT PORTION OF LAND AS SET FORTH IN FINAL ORDER OF CONDEMNATION RECORDED DECEMBER 16, 2016 AS ENTRY NO. 2832539 OF OFFICIAL RECORDS.

A PARCEL OF LAND IN FEE, BEING A PART OF AN ENTIRE TRACT OF PROPERTY, SITUATE IN THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN. THE BOUNDARIES OF SAID PARCEL OF LAND ARE DESCRIBED AS FOLLOWS:

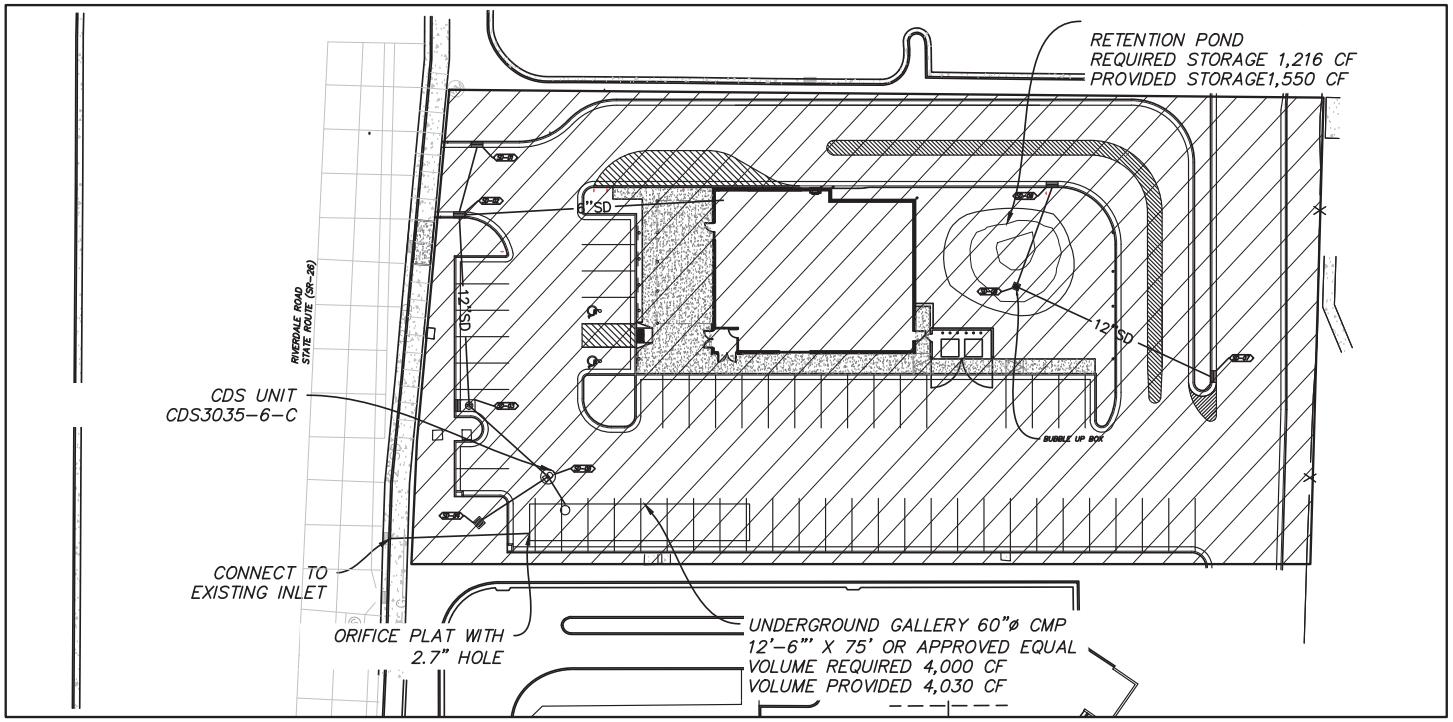
BEGINNING AT THE INTERSECTION OF THE NORTHERLY BOUNDARY LINE OF SAID ENTIRE TRACT AND THE SOUTHEASTERLY RIGHT OF WAY LINE OF THE EXISTING HIGHWAY STATE ROUTE 26, SAID INTERSECTION IS 964.45 FEET (965.42 FEET BY RECORD) NORTH 89°26'02" WEST ALONG THE SECTION LINE AND 1042.88 FEET SOUTH 38°26'56" WEST, (1039.34 FEET SOUTH 38°2420" WEST BY RECORD) AND 49.51 FEET SOUTH 52029140" EAST AND 8.00 FEET SOUTH 38°2656" WEST (SOUTH 38°2420" WEST BY RECORD) FROM THE NORTHEAST CORNER OF SAID QUARTER SECTION, SAID INTERSECTION IS ALSO 46.00 FEET PERPENDICULARLY DISTANT SOUTHEASTERLY FROM THE CONTROL LINE OF SAID PROJECT SP-0026(4)0 OPPOSITE APPROXIMATE ENGINEER STATION 151+46.19, AND RUNNING THENCE SOUTH 52°33'08" EAST (SOUTH 52°29'40" EAST BY RECORD) 26.88 FEET ALONG SAID NORTHERLY BOUNDARY LINE TO A POINT 72.87 FEET PERPENDICULARLY DISTANT SOUTHEASTERLY FROM SAID CONTROL LINE; THENCE SOUTH 42°15'46" WEST 120.21 FEET TO A POINT 64.88 FEET PERPENDICULARLY DISTANT SOUTHEASTERLY FROM SAID CONTROL LINE OPPOSITE ENGINEER STATION 150+26.72; THENCE SOUTH 39°35'42" WEST 42.19 FEET TO THE SOUTHERLY BOUNDARY LINE OF SAID ENTIRE TRACT AT A POINT 64.03 FEET PERPENDICULARLY DISTANT SOUTHEASTERLY FROM SAID CONTROL LINE; THENCE NORTH 52°4035" WEST (NORTH 53°00'40" WEST BY RECORD) 18.04 FEET ALONG SAID SOUTHERLY BOUNDARY LINE TO SAID SOUTHEASTERLY RIGHT OF WAY LINE; THENCE NORTH 38°26'56' EAST (NORTH 38°2420" EAST BY RECORD) 162.01 FEET ALONG SAID RIGHT OF WAY LINE TO THE POINT OF BEGINNING.

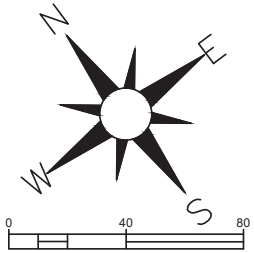
(NOTE: ROTATE ALL BEARINGS IN THE ABOVE DESCRIPTION 0°0024" COUNTERCLOCKWISE TO OBTAIN HIGHWAY BEARINGS.)

LEGEND

PROPOSED DRAINAGE AGREEMENT AREA

UTILITY SYMBOL LEGEND	
INLET	
SD MANHOLE	SD
COMBO BOX	CB





STORM DRAIN CALCULATIONS

	IMPERVIOUS (%)	50YR 24YR RUNOFF (CF)	STORAGE VOLUME REQUIRED(CF)	STORAGE VOLUME PROVIDED (CF)	WQV CAPTURED (%)	10yr 24hr DISCHARAGE TO RIVERDALE ROAD
EXISTING CONDITIONS	90	N/A	N/A	0	0	NO RESTRICTION
PANERA DEVELOPMENT	78	8,670 CF	5216	5582	100	RESTRICTED TO 0.2cfs/ac

PANERA BREAK
DRAINAGE AGREEMENT EXHIBIT

PERIGEE CONSULTING
CIVIL / PROFESSIONAL / SURVEY
8999 SOUTH 3000 WEST, SUITE 100
WEST JORDAN, UT 84088
801.656.4834 TEL. 801.656.4836 FAX
WWW.PERIGEECONSULTING.COM

DATE:
TIME:
NETWORK:
PATH:
DWG NAME:
LAYOUT:
DESIGNER:
MGR:

SHEET NUMBER

JOB NUMBER
00564

XREFS:

October 31, 2023

Riverdale City
4600 South Weber River Drive
Riverdale, Utah 84405

To Whom it May Concern,

The purpose of this letter is to provide you with information concerning the storm drain calculations and design as it relates to the construction of the Panera Bread restaurant at 4130 Riverdale Road.

We used the SCS method to determine the runoff from the 1.12-acre site. We used the 50 year, 24-hour storm depth from the NOAA Atlas 14. The 50-year rainfall depth is 2.87 inches. The weighted curve number was calculated to be 92 for the watershed. Autodesk's Storm and Sanitary Analysis was used to estimate the runoff from the site in the 50-year design storm and the required detention volume with the allowed release rate of 0.2 cfs/acre for the 10yr 24hr storm event, or 0.22 cfs.

The total runoff volume from the watershed was estimated to be 8,670 cubic feet in the 50-year storm. The detention volume required was calculated to be 5,216 cubic feet. 75 linear feet two barrels wide of 60" CMP pipe is sufficient to detain the 4,000 cubic feet and a retention pond in the landscaped area retains 1216 cubic feet. Discharge from the pipe will be though a 2.7" orifice that acts as the discharge control for the detention Gallery. Orifice invert is to be at 4355.85. This is 2' above the floor of the gallery ensuring that

The Water Quality Report is attached to this letter, detailing how 100% of the 80th percentile volume is retained on-site. With WQR report is an exhibit of how stormwater exceeding the 50yr 24hr event is safely conveyed to an acceptable location Riverdale Road. The orifice of the gallery is to be placed 2 feet above the floor of the gallery to provide the required retention volume from CDA 2 of 1,458 cubic feet.

If you have any questions regarding this, please let me know.

Best Regards,

Tyler White, PE

Panera Bread - Storm Water Quality Report

Date: 10/31/2023

Project Name: Panera Bread

Project ID: _____

Design Engineer: Russell Haight

Is the project within a watershed that is 303(d) listed? No

If yes:

Name of receiving water(s): _____

Listed Impairment(s): _____

Does the watershed that has an approved TMDL? _____

If yes:

Approved TMDL(s): _____

I have reviewed the storm water quality design and find this report to be complete, accurate, and current.

_____

[name], Project Manager

_____

[name], Designate Storm Water Coordinator

_____

[name], Head of Maintenance

[stamp required at final design phase]

_____

[name], Landscape Architect or Equivalent

Project Information

80th Percentile Storm Depth (in): 0.6

New Development

Area of Land Disturbance (ac): 1.1155

Project Impervious Area (ac): 0.87

Project Imperviousness (%): 78

Project Volumetric Runoff Coefficient, R_V: .689

80th Percentile Volume (cf): 1,675

Predevelopment Hydrologic Condition (cf): 2,161

Project Volume Retention Goal, V_{goal} (cf): 1,675

Redevelopment

Existing Project Impervious Area (ac): _____

Proposed Project Impervious Area (ac): _____

Change in Impervious Area (%): _____

If change in impervious area > 10%:

Existing Project Conditions

Imperviousness (%): _____

Volumetric Runoff Coefficient, R_V: _____

80th Percentile Volume, V_1 (cf): _____

Proposed Project Conditions

Imperviousness (%): _____

Volumetric Runoff Coefficient, R_V: _____

80th Percentile Volume, V_2 (cf): _____

$V_{goal} = V_2 - V_1$ = _____

Subsurface Information

Groundwater

Depth to Groundwater (ft): 17.7

Historical High Depth to Groundwater if known (ft): _____

Source: Geotoech Report

Groundwater Contamination at Site: None

Soil Information

Infiltration Rate (in/hr): _____

Hydrologic Soil Group: _____

Source: _____

Soil Contamination at Site: _____

Drinking Water

Within Drinking Water Source Area Protection: __No_____

Additional Relevant Site Information

_____

_____

_____

LID Drainage Areas

Add additional rows as needed.

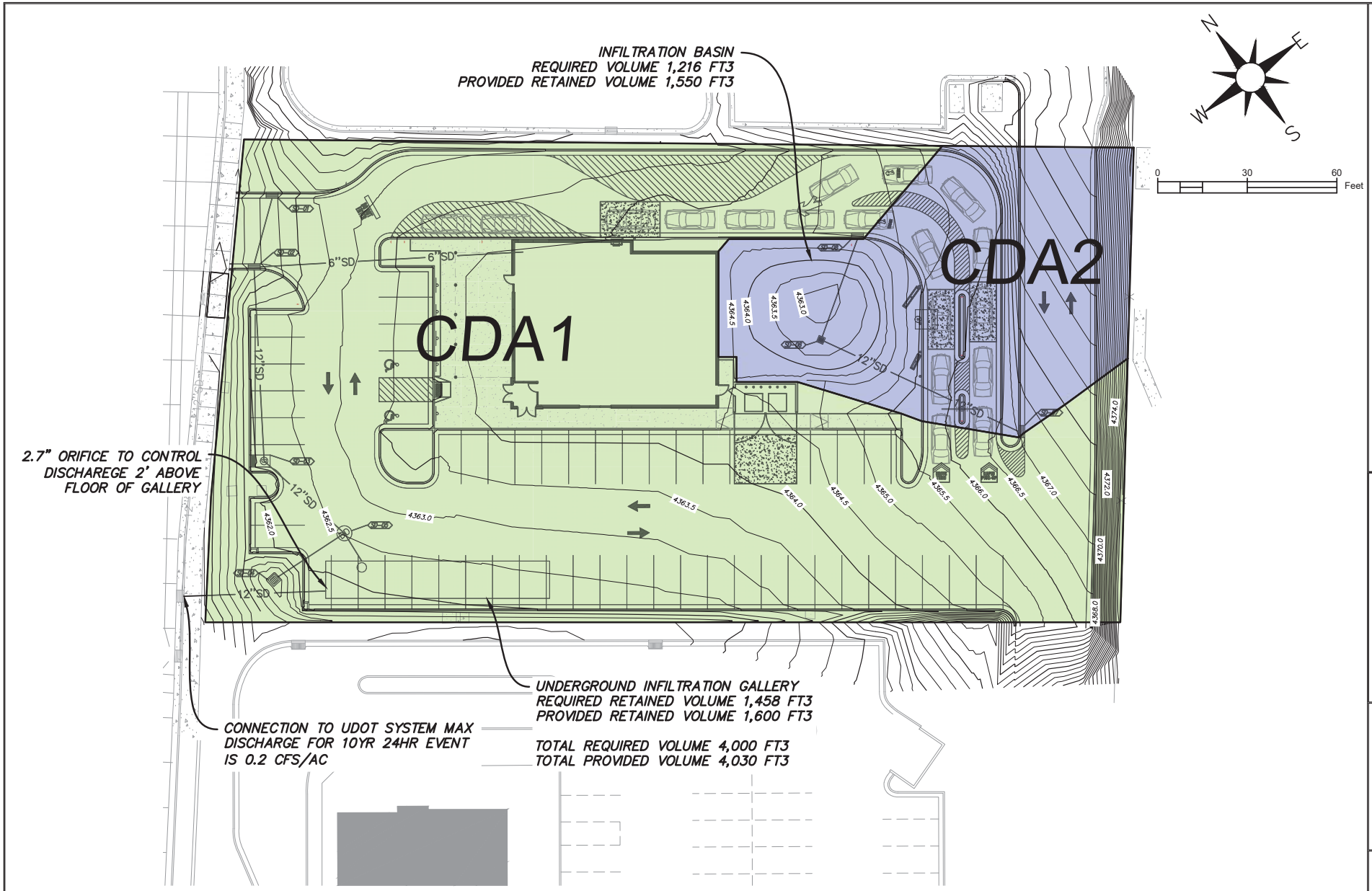
Contributing Drainage Area	Area (ac)	Impervious Area (ac)	Imperviousness (%)	Volumetric Runoff Coefficient, R_V	Water Quality Volume, WQV (cf)
CDA 1	0.23	0.115	50	0.43	217
CDA 2	0.89	0.755	85	0.75	1,458
CDA 3					
CDA 4					
				Total WQV (cf)	1,675

LID BMP Design

Add additional rows as needed.

Contributing Drainage Area	LID BMP Type	Water Quality Volume, WQV (cf)	Runoff Retained (cf)	Percent of Runoff Captured (%)
CDA1	Infiltration Basin	943	217	100
CDA 2	Underground Infiltration Gallery	1,600	1,458	100
CDA 3				
CDA 4				
		Total Volume Retained (cf)	1,675	100

Percent of V_{goal} captured by LID BMPs: __100__%



PANERA RIVERDALE
STORM DRAIN EXHIBIT

PERIGEE CONSULTING
CIVIL • GROUNDWATER • SURVEY
6988 SOUTH 900 WEST, SUITE 100
MIDVALE, UTAH 84047
801.566.5599 TEL. 801.566.5581 FAX
WWW.PERIGEECIVIL.COM

DATE:
TIME:
NETWORK:
PATH:
DWG NAME:
LAYOUT:
DESIGNER:
MGR:

SHEET NUMBER
01

JOB NUMBER
00909

XREFS:

This management plan is to direct the owner, operator, and their employees on proper procedures to maintain the on-site storm drain system and comply with Riverdale City stormwater ordinances. This plan is to be implemented upon completion of construction activities.

A copy of this plan shall be provided to the operator and employees responsible for maintaining the site. The owner, operator, and employees shall adhere to the following plan. Should the use of the site change this plan shall be updated for the correct use.

Building and Grounds Maintenance

The parking lot shall be swept monthly to collect all waste debris. All wash water, sweepings, and sediments shall be properly disposed of and not washed down the storm drain system. Refer to the attachment in Appendix B labeled "Parking Lot Sweeping/Vacuuming".

The owner shall have the storm drain lines cleaned as necessary. The system shall be jetted and vacuumed when necessary to remove all silt, sediment, oil, and debris. The system should be inspected before and after any large storm events. Catch basins should be inspected monthly and cleaned on a bi-annual basis. Refer to the attachments labeled "Storm Drain Flushing and Catch Basin Cleaning".

Landscape Maintenance

The landscaping shall be maintained weekly. All grass clippings and other landscape debris shall be swept up and disposed of in a waste container. Any fertilizers and pesticides used shall be applied per the manufacturer's recommendations. Refer to the attachment labeled "Landscape maintenance".

Snow and Ice Removal Management

Properly manage Snow and ice removal to ensure our salt impact will not increase in the local water resources. Refer to the attachment labeled “Snow and Ice Removal Management”.

Oil/Water Separators and Water Quality Inlets

Stormwater from the development is treated before entering the public system. Storm water will be treated via Water Quality Treatment Manhole. Disposal of removed debris and silts is to be in an approved offsite facility.

Underground Detention Chambers

Stormwater is detained on site for some time in underground detention chambers. Inlets and inspection ports shall be checked regularly for debris and sediment buildup. Refer to the inspection Schedule for details.

Stormwater detention is provided by an underground Contech Corrugated Metal pipe 60" in diameter and shall be inspected semi-annually and cleaned as necessary if sediments begin to build within the system. Two inspection ports are provided and should be inspected semi-annually or after large rainfall events. To ensure water is draining from the system. Refer to the attachment labeled "CDS Inspection and Maintenance Guide" for Water Quality Treatment Manhole.

Above-ground retention Pond

Stormwater from the development is treated before entering the public system. Storm water will be treated via Snouts in catch basin that discharge into the pond. Disposal of removed debris and silts is to be in an approved offsite facility. Refer to the attachment labeled "Best Management Products".

Waste management and disposal

There is one dumpster location provided for the Building on the site. Trash will be collected weekly by a waste management company.

Any grease waste will be stored in an approved container inside the dumpster enclosure. The container will be collected and disposed of by a 3rd party licensed for disposal.

Employee Training

The owner and operator shall implement the necessary training of their employees who will be responsible for site maintenance. The training should promote an understanding of the management plan and required BMPs. It should identify activities with the potential to pollute stormwater and implementation of BMPs to mitigate such activity. In addition to the listed BMP, the training shall also address the proper use, handling, storage, and disposal of products, spill prevention, and clean-up.

Records of Maintenance, Inspection, and Training

Records shall be kept for all inspections and cleaning of the on-site stormwater system. The owner or operator shall keep a copy of the records. These records shall be made available to the city as needed. An inspection of the site will be conducted by the city on an annual basis.

Landscape Maintenance

Description:

Maintain landscaped areas to prevent excess build-up of organic debris or chemical pollution that could clog, pollute, or adversely affect downstream stormwater facilities.

Approach:

1. Keep lawns, shrubs, and trees properly pruned to prevent debris from building up at storm drain inlet locations.
2. Dispose of organic waste properly at an off-site location.
3. If bark, mulch, rock, or any type of Xeriscaping is used, inspect parking areas frequently and return any excess material to the landscape area as needed.
4. Use caution when applying fertilizer, weed control, or any other type of chemical to landscaped areas to prevent overspray from entering any private/public storm drain facility.

Limitations:

1. There are no major limitations to this BMP.

Maintenance:

1. Acquisition and maintenance of equipment are generally handled by the company hired to perform the landscape maintenance.

Storm Drain Flushing

Description:

A storm drain is "flushed" with water to suspend and remove deposited materials. Flushing is particularly beneficial for storm drainpipes with grades too flat to be self-cleansing. Flushing helps ensure pipes convey design flow and remove pollutants from the storm drain system.

Approach:

1. Locate reaches of storm drains with deposit problems and develop a flushing schedule that keeps the pipe clear of excessive buildup.
2. Whenever possible, flushed effluent should be collected, decanted, evaporated, and disposed of in a landfill.

Limitations:

1. Most effective in small diameter pipes (36-inch diameter pipes or less, depending on water supply and sediment collection capacity).
2. Water sources must be available.
3. May have difficulty finding downstream areas to collect sediments.
4. Requires liquid/sediment disposal.

Catch Basin Cleaning

Description:

Maintain catch basin and stormwater inlets regularly to remove pollutants, reduce high pollutant concentrations during the first flush of storms, prevent clogging of the downstream conveyance system, and restore the catch basin's sediment trapping capacity. A catch basin is distinguished from a stormwater inlet by having at its base a sediment sump designed to catch and retain sediments below the overflow point. This BMP focuses on the cleaning of accumulated sediments from catch basins.

Approach:

Regular maintenance of catch basins and inlets is necessary to ensure their proper functioning. Clogged catch basins are not only useless but may act as a source of sediments and pollutants. In general, the keys to effective catch basins are:

1. At least an annual inspection, though Riverdale City requires monthly inspections with a maximum cleaning interval of 6 months.
2. Prioritize maintenance to clean catch basins or inlets in areas with the highest pollutant loading.
3. Clean catch basins in high pollutant areas in September to remove sediments and debris accumulated during the summer.
4. Keep accurate logs of the number of catch basins cleaned.
5. Record the amount of waste collected.

Limitations:

1. There are no major limitations to this BMP.

Maintenance:

Regular maintenance of public and private catch basins and inlets is necessary to ensure their proper functioning.

1. Annual/monthly inspection of private facilities to ensure structural integrity, a clean sump, and stenciling of catch basins and inlets.
2. Keep logs of the number of catch basins cleaned.
3. Record the amount of waste collected.

Sweeping/Vacuuming

Description:

Reduce the discharge of pollutants to the stormwater from parking lot surfaces by conducting pavement cleaning regularly.

Approach:

1. Restrict parking before and during sweeping.
2. Establish frequency of sweeping based on anticipated need and observations of debris or sediment accumulation.
3. Increase sweeping frequency just before any rainy season.
4. Lots that generate greater amounts of debris or sediment must be swept more frequently. These include lots associated with or adjacent to recreational, commercial, or industrial areas of high vehicle or pedestrian traffic.
5. Manually remove debris from corners or other areas of the parking lot that equipment cannot reach.
6. Keep accurate operation logs to track programs.
7. Equipment selection can be key for this particular BMP. There are two types used, mechanical broom sweepers (more effective at picking up large debris and cleaning wet streets), and vacuum sweepers (more effective at removing fine particles and associated heavy metals). It may be useful to have the ability to use both kinds.

Limitations:

1. Conventional sweepers are not able to remove oil and grease.
2. Mechanical sweepers are not effective at removing finer sediments.
3. Effectiveness may also be limited by parking lot conditions, the presence of parked vehicles, and presence of construction projects, climatic conditions, and conditions of curbs.

Maintenance:

1. Acquisition and maintenance of equipment is generally handled by the company hired to perform the sweeping/vacuuming.

Snow and Ice Removal Management

Description:

Reduce the discharge of salt by

Approach:

1. Do not store or allow salt or equivalent to be stored on outside paved surfaces.
2. Minimize salt use by varying salt amounts relative to hazard potential.
3. Sweep excessive piles left by the spreader.
4. Watch the forecast and adjust salt amounts when warmer temperatures are expected on the same day.

Limitations:

1. The company contracted to perform snow and ice removal may have different standard operating procedures.

Maintenance:

1. Acquisition and maintenance of equipment is generally handled by the company hired to perform the snow and ice removal

Maintenance Requirements/Inspection Report - Annual and Periodic

MAINTENANCE/INSPECTION SCHEDULE

Frequency	Site Infrastructure.
	Replace text with the infrastructure / system that must be maintained; repeat

Inspection Frequency Key: A=annual, Q=Quarterly, M=monthly, W=weekly, S=following appreciable storm event, U=Unique infrastructure specific (specify)

RECORD INSPECTIONS IN THE MAINTENANCE LOG

Inspection Means: Either; Traditional walk through, Awareness/Observation, and during regular maintenance operations while noting efficiencies/inefficiencies/concerns found, etc.

MAINTENANCE LOG

Date	Maintenance Performed/Spill Events. Perform Maintenance per SOPs	Observation Notes, including but not limited to; Inspection results, Observations, System Performance (effectiveness/inefficiencies), SOP Usefulness, Concerns, Necessary Changes…	Initials

LONG-TERM STORMWATER MANAGMENT AGREEMENT

This Long-Term Stormwater Management Agreement ("Agreement") is made and entered into this ____ day of _____, 2023 by and between Riverdale City, a Utah municipal corporation ("City"), and _____("Owner").

RECITALS

WHEREAS, the City is authorized and required to regulate and control the disposition of storm and surface waters within the City, pursuant to the Utah Water Quality Act; and

WHEREAS, the Owner hereby represents and acknowledges that it is the owner in fee simple of certain real property more particularly described in Exhibit "A", attached hereto and incorporated herein by this reference ("Property"); and

WHEREAS, the Owner desires to build or develop the Property and/or to conduct certain regulated construction activities on the Property which will alter existing storm and surface water conditions on the Property and/or adjacent lands; and

WHEREAS, in order to accommodate and regulate these anticipated changes in existing storm and surface water flow conditions, the Owner is required to build and maintain at Owner's expense a storm and surface water management facility or improvements ("Stormwater Facilities")

STORMWATER FACILITIES MAINENTANCE AGREEMENT

SO AGREED this _____ day of _____ 2023.

PROPERTY OWNER

By: _____ Title: _____

By: _____ Title: _____

STATE OF UTAH)

:SS.

COUNTY OF SALT LAKE)

The above instrument was acknowledged before me by _____, this _____ day of _____, 20_____.

_____

Notary Public

Residing in: _____

My commission expires: _____

Maintenance Considerations for SNOUT® Stormwater Quality Systems

Background:

The SNOUT system from Best Management Products, Inc. (BMP, Inc.) is based on a vented hood that can reduce floatable trash and debris, free oils, and other solids from stormwater discharges. In its most basic application, a SNOUT hood is installed over the outlet pipe of a catch basin or other stormwater quality structure with a deep sump (see Installation Drawing). The SNOUT forms a baffle that traps floatable debris and free oils on the surface, while permitting heavier solids and sediment to sink to the bottom of the sump. The clarified intermediate layer is forced out of the structure through the open bottom of the SNOUT by displacement from incoming flow. The resultant discharge contains considerably less unsightly trash and other gross pollutants, and can also offer reductions of free-oils and finer solids. To increase pollutant removal capabilities of the SNOUT system, various accessories are available. The most popular options include: the Bio-Skirt® for higher hydrocarbon capture and retention, the Stainless TrashScreen™ for Full Trash Capture and the Turbo Plate® for turbulence reduction and higher sediment capture.

Maintenance Recommendations:

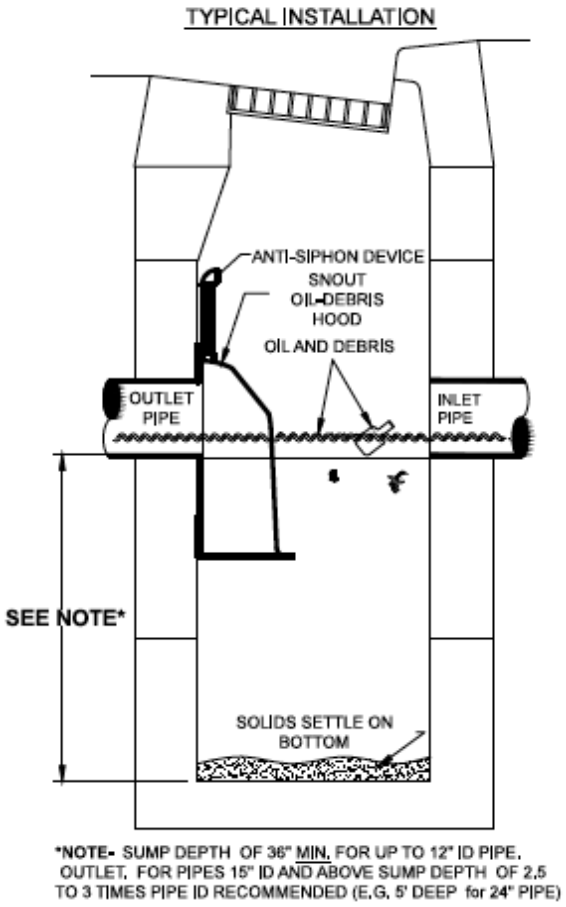
- Monthly monitoring for the first year of a new installation after the site has been stabilized is a recommended practice.
- Measurements should be taken after each rain event of .5 inches or more, or monthly, as determined by local weather conditions.
- Checking sediment depth and noting the surface pollutants in the structure will be helpful in planning maintenance.
- The pollutants collected in SNOUT equipped structures will consist of floatable debris and oils on the surface of the captured water, and grit and sediment on the bottom of the structure.
- It is best to schedule maintenance based on the solids collected in the sump.
- Optimally, the structure should be cleaned when the sump is half full (e.g. when 2 feet of material collects in a 4 foot sump, clean it out).
- Structures should also be cleaned if a spill or other incident causes a larger than normal accumulation of pollutants in a structure.
- Maintenance is best done with a vacuum truck.
- If Bio-Skirts are being used in the structure to enhance hydrocarbon capture, they should be checked on a monthly basis for the first year, and serviced or replaced when more than 2/3 of the boom is submerged, indicating a nearly saturated state. Assuming a typical pollutant-loading environment exists, Bio-Skirts should be serviced* annually or replaced as necessary.
- In the case of an oil spill, the structure should be checked and serviced and

Bio-Skirts (if present) replaced or serviced immediately.

- All collected wastes must be handled and disposed of according to local environmental requirements.
- To maintain the SNOUT hoods, an annual inspection of the anti-siphon vent and access hatch are recommended. A simple flushing of the vent, or a gentle rodding with a flexible wire are all that's typically needed to maintain the anti-siphon properties. Opening and closing the access hatch once a year ensures a lifetime of trouble-free service.

*To extend the service life of a Bio-Skirt, the unit may be "wrung out" to remove oils and washed in an industrial washing machine with warm water. The Bio-Skirt may then be re-deployed if the material maintains it's structural integrity. A maintained Bio-Skirt can last for several years. Each Bio-Skirt can hold about on gallon of oils.

SNOUT INSTALLATION:



BIO-SKIRT INSTALLATION:

CONTECH®
ENGINEERED SOLUTIONS

CDS® Inspection and Maintenance Guide



CDS TECHNOLOGIES

Maintenance

The CDS system should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects pollutants will depend more heavily on site activities than the size of the unit. For example, unstable soils or heavy winter sanding will cause the grit chamber to fill more quickly but regular sweeping of paved surfaces will slow accumulation.

Inspection

Inspection is the key to effective maintenance and is easily performed. Pollutant transport and deposition may vary from year to year and regular inspections will help ensure that the system is cleaned out at the appropriate time. At a minimum, inspections should be performed twice per year (e.g. spring and fall) however more frequent inspections may be necessary in climates where winter sanding operations may lead to rapid accumulations, or in equipment washdown areas. Installations should also be inspected more frequently where excessive amounts of trash are expected.

The visual inspection should ascertain that the system components are in working order and that there are no blockages or obstructions in the inlet and separation screen. The inspection should also quantify the accumulation of hydrocarbons, trash, and sediment in the system. Measuring pollutant accumulation can be done with a calibrated dipstick, tape measure or other measuring instrument. If absorbent material is used for enhanced removal of hydrocarbons, the level of discoloration of the sorbent material should also be identified during inspection. It is useful and often required as part of an operating permit to keep a record of each inspection. A simple form for doing so is provided.

Access to the CDS unit is typically achieved through two manhole access covers. One opening allows for inspection and cleanout of the separation chamber (cylinder and screen) and isolated sump. The other allows for inspection and cleanout of sediment captured and retained outside the screen. For deep units, a single manhole access point would allows both sump cleanout and access outside the screen.

The CDS system should be cleaned when the level of sediment has reached 75% of capacity in the isolated sump or when an appreciable level of hydrocarbons and trash has accumulated. If absorbent material is used, it should be replaced when significant discoloration has occurred. Performance will not be impacted until 100% of the sump capacity is exceeded however it is recommended that the system be cleaned prior to that for easier removal of sediment. The level of sediment is easily determined by measuring from finished grade down to the top of the sediment pile. To avoid underestimating the level of sediment in the chamber, the measuring device must be lowered to the top of the sediment pile carefully. Particles at the top of the pile typically offer less resistance to the end of the rod than consolidated particles toward the bottom of the pile. Once this measurement is recorded, it should be compared to the as-built drawing for the unit to determine weather the height of the sediment pile off the bottom of the sump floor exceeds 75% of the total height of isolated sump.

Cleaning

Cleaning of a CDS systems should be done during dry weather conditions when no flow is entering the system. The use of a vacuum truck is generally the most effective and convenient method of removing pollutants from the system. Simply remove the manhole covers and insert the vacuum hose into the sump. The system should be completely drained down and the sump fully evacuated of sediment. The area outside the screen should also be cleaned out if pollutant build-up exists in this area.

In installations where the risk of petroleum spills is small, liquid contaminants may not accumulate as quickly as sediment. However, the system should be cleaned out immediately in the event of an oil or gasoline spill should be cleaned out immediately. Motor oil and other hydrocarbons that accumulate on a more routine basis should be removed when an appreciable layer has been captured. To remove these pollutants, it may be preferable to use absorbent pads since they are usually less expensive to dispose than the oil/water emulsion that may be created by vacuuming the oily layer. Trash and debris can be netted out to separate it from the other pollutants. The screen should be power washed to ensure it is free of trash and debris.

Manhole covers should be securely seated following cleaning activities to prevent leakage of runoff into the system from above and also to ensure that proper safety precautions have been followed. Confined space entry procedures need to be followed if physical access is required. Disposal of all material removed from the CDS system should be done in accordance with local regulations. In many jurisdictions, disposal of the sediments may be handled in the same manner as the disposal of sediments removed from catch basins or deep sump manholes.



CDS Model	Diameter		Distance from Water Surface to Top of Sediment Pile		Sediment Storage Capacity	
	ft	m	ft	m	y^3	m^3
CDS1515	3	0.9	3.0	0.9	0.5	0.4
CDS2015	4	1.2	3.0	0.9	0.9	0.7
CDS2015	5	1.3	3.0	0.9	1.3	1.0
CDS2020	5	1.3	3.5	1.1	1.3	1.0
CDS2025	5	1.3	4.0	1.2	1.3	1.0
CDS3020	6	1.8	4.0	1.2	2.1	1.6
CDS3025	6	1.8	4.0	1.2	2.1	1.6
CDS3030	6	1.8	4.6	1.4	2.1	1.6
CDS3035	6	1.8	5.0	1.5	2.1	1.6
CDS4030	8	2.4	4.6	1.4	5.6	4.3
CDS4040	8	2.4	5.7	1.7	5.6	4.3
CDS4045	8	2.4	6.2	1.9	5.6	4.3
CDS5640	10	3.0	6.3	1.9	8.7	6.7
CDS5653	10	3.0	7.7	2.3	8.7	6.7
CDS5668	10	3.0	9.3	2.8	8.7	6.7
CDS5678	10	3.0	10.3	3.1	8.7	6.7

Table 1: CDS Maintenance Indicators and Sediment Storage Capacities



Support

- Drawings and specifications are available at www.contechstormwater.com.
- Site-specific design support is available from our engineers.

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Contech Engineered Solutions LLC provides site solutions for the civil engineering industry. Contech's portfolio includes bridges, drainage, sanitary sewer, stormwater, earth stabilization and wastewater treament products. For information, visit www.ContechES.com or call 800.338.1122

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The product(s) described may be protected by one or more of the following US patents: 5,322,629; 5,624,576; 5,707,527; 5,759,415; 5,788,848; 5,985,157; 6,027,639; 6,350,374; 6,406,218; 6,641,720; 6,511,595; 6,649,048; 6,991,114; 6,998,038; 7,186,058; 7,296,692; 7,297,266; 7,517,450 related foreign patents or other patents pending.

CONTECH®
ENGINEERED SOLUTIONS
800.925.5240
www.ContechES.com

CDS Inspection & Maintenance Log

CDS Model: _____ Location: _____

Date	Water depth to sediment[1]	Floatable Layer Thickness[2]	Describe Maintenance Performed	Maintenance Personnel	Comments

1. The water depth to sediment is determined by taking two measurements with a stadia rod: one measurement from the manhole opening to the top of the sediment pile and the other from the manhole opening to the water surface. If the difference between these measurements is less than the values listed in table 1 the system should be cleaned out. **Note: to avoid underestimating the volume of sediment in the chamber, the measuring device must be carefully lowered to the top of the sediment pile.**

2. For optimum performance, the system should be cleaned out when the floating hydrocarbon layer accumulates to an appreciable thickness. In the event of an oil spill, the system should be cleaned immediately.

Inventory Review Fee Payment Method:	Utah Underground Injection Control (UIC) Inventory Information	Well Subclass: _____
❒ Online Order #		Facility ID: UTU- _____
❒ Check Check #		Date Entered: _____ By: _____ (For DWQ use only)

Storm Water Drainage Wells

Owners / operators of existing and new Class V injection wells authorized-by-rule shall submit inventory information (UAC R317-7-6). This form is designed to assist the regulated community in complying with this requirement. Please complete all fields.

FACILITY LOCATION

Facility Name:		Date: October 31, 2023	
Physical Address:	4130 Riverdale Road	Riverdale (City)	
Mailing Address:	4130 Riverdale Road	Riverdale (City)	84405 (Zip Code)
Geographic Location:	Select a method described in the Instructions at the end of this form to acquire a map showing the location of your UIC facility. Submit the map along with this form.		
County:	Weber County		

FACILITY CONTACT

Contact Name:	**Peter Strang**	Phone:216.401.0030	Email:peters@strangcorp.com		
Contact Type: (check all that apply)	❒ Owner/Operator	❒ Owner	❒ Operator	❒ Facility Manager	X Developer
	❒ Legal Representative	❒ Official Representative	❒ Contractor	❒ DEQ District Engineer / Project Manager	
	❒ Other _____				
Title:	Franchise Owner	Organization:	American Break Company LLC		
Mailing Address:	8905 Lake Avenue	Cleveland (City)	44102 (Zip Code)		

Contact Name:		Phone:	Email:		
Contact Type: (check all that apply)	❒ Owner/Operator	❒ Owner	❒ Operator	❒ Facility Manager	❒ Developer
	❒ Legal Representative	❒ Official Representative	❒ Contractor	❒ DEQ District Engineer / Project Manager	
	❒ Other _____				
Title:		Organization:			
Mailing Address:		(City)	(Zip Code)		

DWQ Use Only for Date Received Stamp and eDocs Number:	SWPZ? ❒ Yes ❒ No System Name: Contact Information:

LAND OWNERSHIP AT FACILITY

X Private – For Profit	❒ Private – Not for Profit	❒ Private - Farm	❒ Private - Other
❒ Govt – Federal	❒ Govt – State	❒ Govt – Local	❒ Other

FACILITY DESCRIPTION (see Instructions)

6-Digit NAICS Code:		Corresponding NAICS Title:	

Describe the primary business activity conducted at the facility: Restaurant

STORM WATER DRAINAGE WELL OPERATING STATUS (indicate number of wells in appropriate category)

Proposed	Under Construction / Modification	Active	Temporarily Abandoned	Permanently Abandoned
1				

STORM WATER DRAINAGE WELL CONSTRUCTION AND SUBSURFACE DETAILS (see Instructions)

60” CMP Underground Gallery. 12’-6” x 75’ foot print.

STORM WATER CHARACTERIZATION (see Instructions)

Water collected from a parking lot and roof drains of a restaurant. CDS unit is upstream of the gallery to remove pollutants.
50yr 24hr event there is 7,200 cf runoff. 1,600 cf will be retained in the gallery to infiltrate.

HYDROGEOLOGIC CHARACTERIZATION (see Instructions)

Depth to ground water is 17’

COMMENTS

Gallery is in the west corner of the parking lot.

SIGNATURE OF OWNER / OPERATOR or LEGAL REPRESENTATIVE

Peter Strang Name & Title (print or type)	216-401-0030 Phone Number
Signature	Date Signed

Online Credit Card Payment of UIC Inventory Review Fee

To pay the UIC Inventory Review Fee online:

1. Go to this website: https://secure.utah.gov/cart/dwq_cart/products.html , the Products page.
2. Click on 'Payment for UIC Inventory Review Fee' under the UIC Inventory Review heading.
3. On the Product Detail page, enter the number of facilities (**not** the number of injection wells) for which you are submitting the UIC Inventory Review Fee. Click on the 'Add to cart' button.
4. On the Your Cart page, confirm the quantity and amount then click on the Checkout button.
5. On the Enter Your Shipping Address page, enter the contact information for the owner / operator of the UIC facility listed on the first page of the UIC Inventory Information Form in the Please Enter Shipping Info block even though nothing will be shipped out.
6. In the Additional Information block at the bottom of the page, enter the UIC Facility Name from the first page of the UIC Inventory Information Form.
7. Click on 'Proceed to Payment' button and complete the credit card information then click on the 'Continue' button.

Electronic Submittal of UIC Inventory Information Form

To submit the UIC Inventory Information Form using DWQ's Electronic Submissions web service:

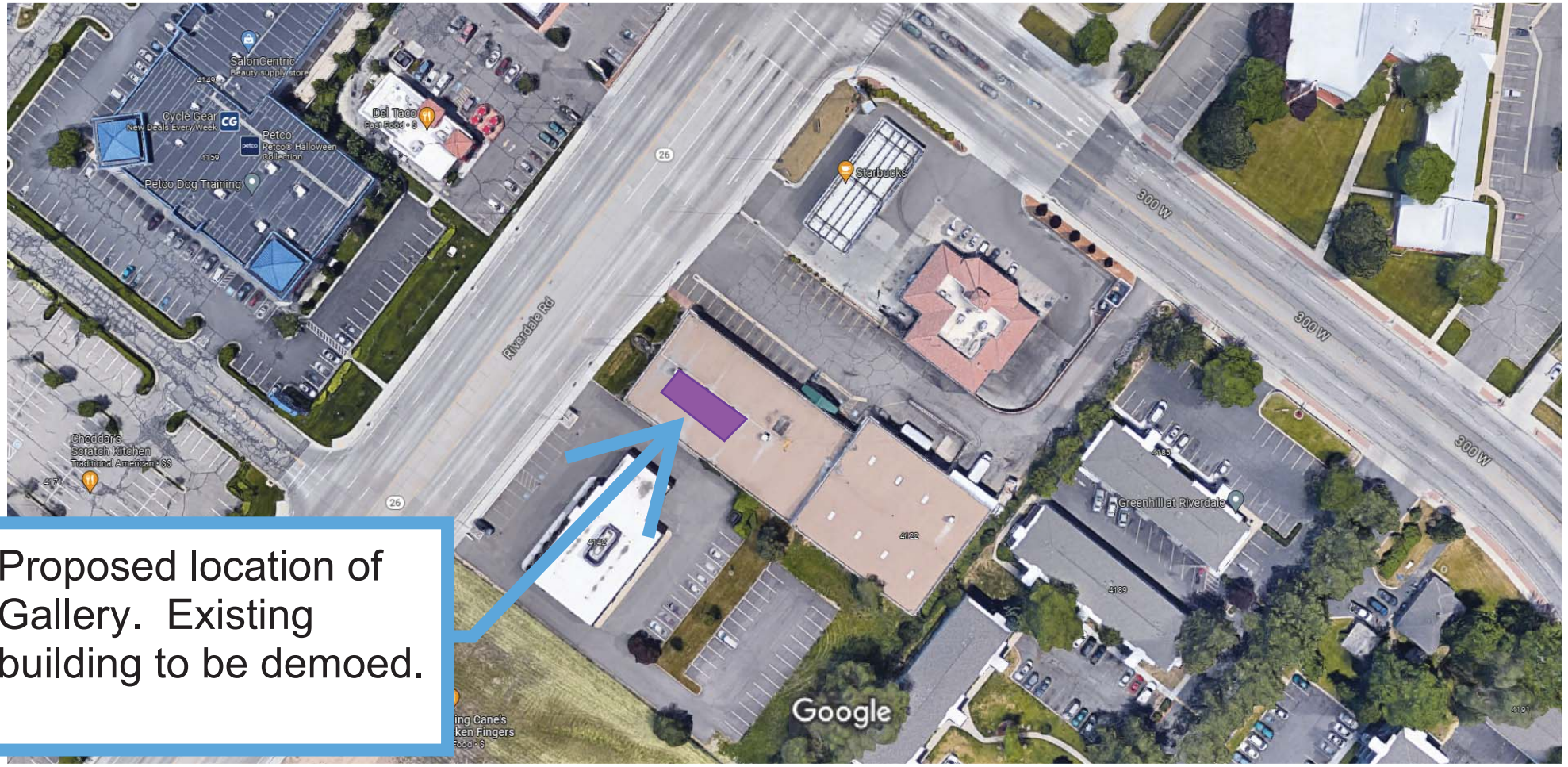
1. Scan your completed, signed, and dated UIC Inventory Information Form and save as a .pdf document on your computer.
2. Go to this website: https://deq.utah.gov/ProgramsServices/services/submissions/index.htm
3. Enter 'UIC Inventory Information Form' in the 'Purpose of Submission' box.
4. Complete the 'Submitted By' section.
5. Select the file you created in Step 1, and hit the 'Click here to submit' button.

Submit UIC Inventory Review Fee and Inventory Information Form by Mail

To submit both the form and fee by mail, send your completed, signed and dated form along with a check made payable to **Utah Division of Water Quality** to:

Utah Department of Environmental Quality
Division of Water Quality, ATTN: UIC
P.O. Box 144870
Salt Lake City, Utah 84114-4870

Google Maps Under Ground Gallery Location



Proposed location of Gallery. Existing building to be demoed.

Imagery ©2023 Google, Imagery ©2023 Maxar Technologies, State of Utah, U.S. Geological Survey, Map data ©2023 Google 50 ft

February 7, 2024
Job No. 748-003-24

Perigee Consulting
9089 South 1300 West, Suite 160
West Jordan, Utah 84088

Attention: Mr. Russel Haight

Ladies and Gentlemen:

Re: Letter Report
Retaining Wall Recommendations
Proposed Riverdale Panera Block Wall
4130 Riverdale Road
Riverdale, Utah

This letter report provides retaining wall recommendations and design pertaining to proposed Panera Bread located at 4130 Riverdale Road in Riverdale, Utah. Currently the site slopes up steeply to the neighboring property to the east. The exposed height of the proposed wall will be up to nine feet. The layout of the wall was provided by the client and should be verified prior to ordering blocks. Level slopes are proposed behind the wall. A surcharge of 250 pounds per square foot was incorporated into the design.

Gordon Geotechnical Engineering, Inc. (G^2) performed the following gravity wall design using the program VertiBlock Design Software. Horizontal seismic coefficient incorporating a maximum allowable wall displacement in accordance with the AASHTO LRFD Bridge Manual A11.5.3 was used. Calculations for the wall section are attached.

1. All walls must be constructed by qualified personnel according to the manufacturer's recommendations.

2. A geotextile fabric, such as Mirafi 140 N or and approved equivalent, must be placed over the surface of the fill/cut soil. It should be placed under the bottom wall, extended up the slope behind the wall, and be wrapped over the top of the granular backfill, back to the wall, at a depth of at least 12 inches below final grade.

3. Backfill material should consist of three-quarter- to one-inch angular, "free-draining" gravel.

4. Designs show the maximum height, minimum block size, and minimum offset between tiers. When modifying the design to match field condition, blocks should be removed from the top of the design, maintaining the bottom row of block size.

5. G^2 is not responsible for the wall location relative to setbacks, easements, and property lines. G^2 is also not responsible for potential fall hazards. Safety rail or fence above the wall is the responsibility of others.

6. If any assumptions made by G^2, shown in the appendixes, are different from conditions encountered in the field, G^2 should immediately by contacted to possibly modify the design.

7. G^2 should perform reviews during the construction of the wall and once complete to ensure compliance with the design.

Good surface drainage should be provided upslope of the retraining walls to direct runoff away from the wall (parallel to the wall) and reduce the possibility of water flow into the voids behind the particles or over the face of the wall. A drawing of a properly constructed retaining wall utilizing the previously mentioned recommendations is attached to this report.

Since these retaining walls are not a true structural element, the walls may be subject to deformation and a potential block fall hazard under seismic events. If landscaping is desired on benches between walls, it is recommended that plants requiring nominal watering be utilized. Excessive watering or leaking sprinkler lines may saturate the zones behind the walls and cause slumping or deformation. Care and frequent maintenance of irrigation systems will be necessary. Any retaining walls supporting fill will be potentially subjected to deformation as the fill settles over time.

GORDON GEOTECHNICAL ENGINEERING, INC.

If you have any questions or would like to discuss these items further, please do not hesitate to contact us.

Respectfully submitted,

Gordon Geotechnical Engineering, Inc.

Ryan W. Little, State of Utah No. 10899969
Professional Engineer

Reviewed By:

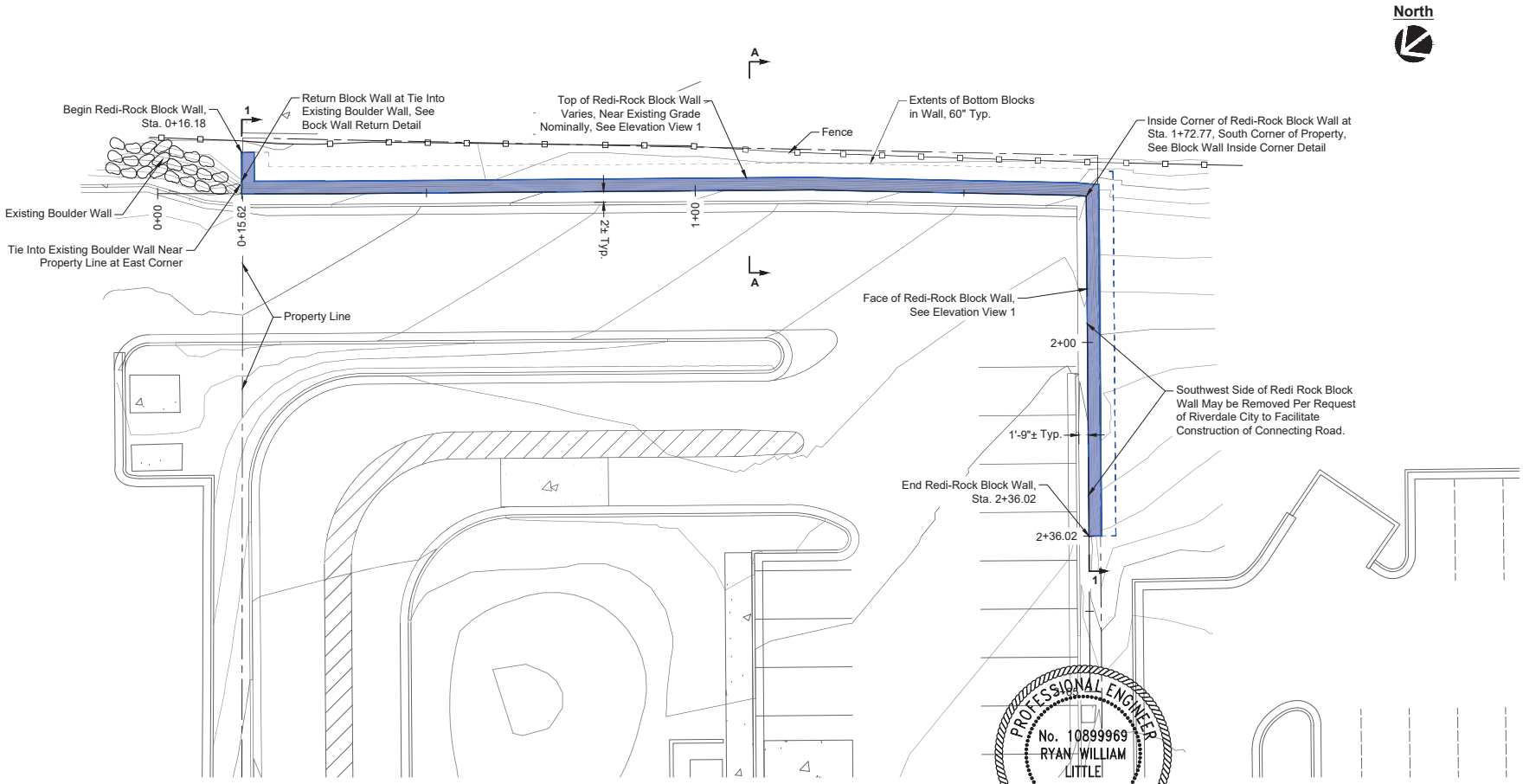
Patrick R. Emery, State of Utah No. 7941710
Professional Engineer

RWL/PRE:sn

Encl. Retaining Wall Design
Appendix A: Calculations

Addressee (email only)





Plan View

0 20 40

Scale: 1" = 20'

REFERENCE:

DATE	DESCRIPTION
02.02.24	Submitted for Review

DESIGNED FOR: PERIGEE CONSULTING

DESIGNED BY: GORDON GEOTECHNICAL ENGINEERING, INC.
4426 South Century Drive, Ste 100, Salt Lake City, UT 84123
801-327-3600

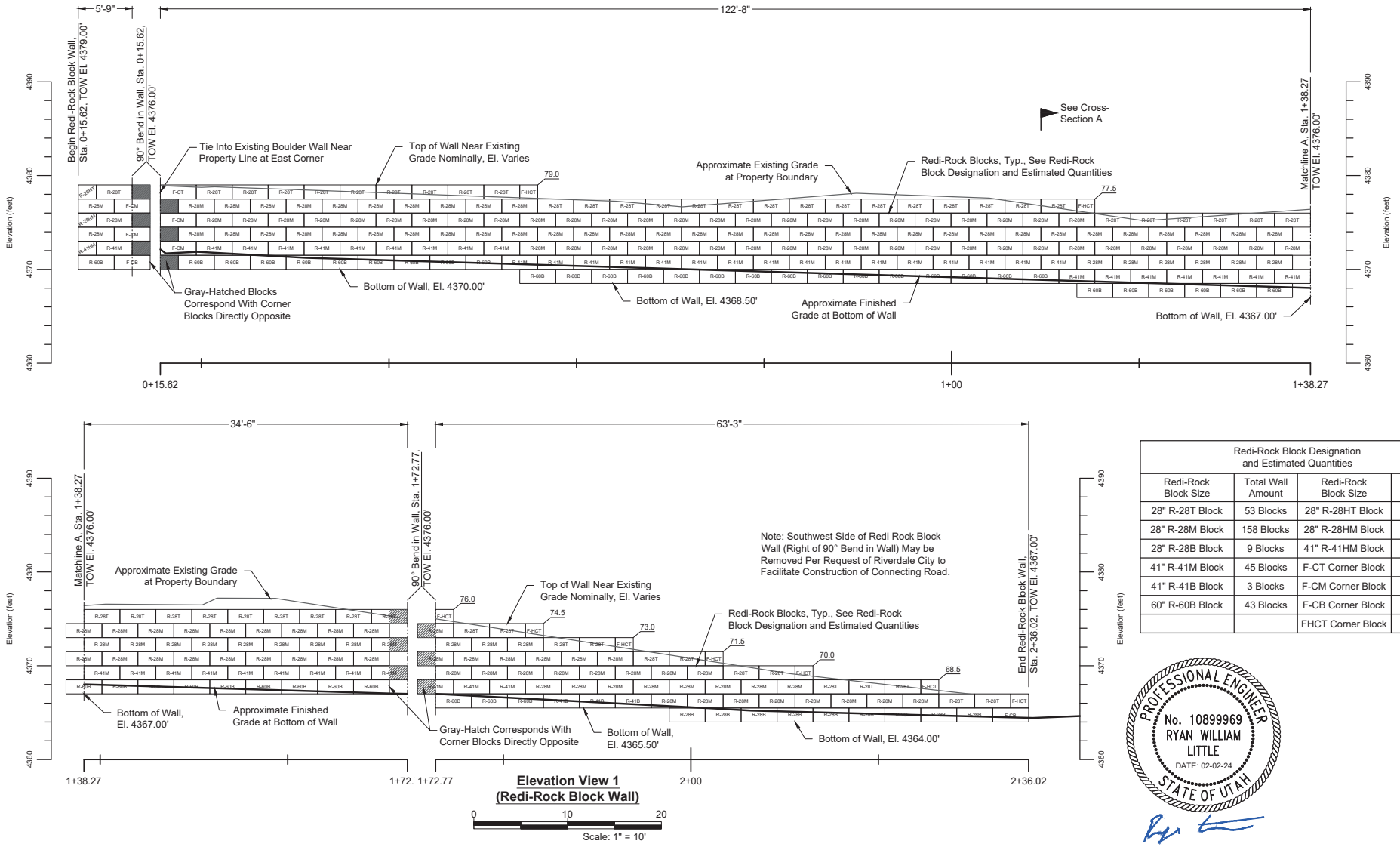
Proposed Riverdale Panera Block Wall
Riverdale City Panera Bread
4130 Riverdale Road
Riverdale, Utah

DESIGN BY: RL DRAWN BY: TT CHECKED BY: RL APPROVED BY: RL

Proposed Redi-Rock Block Wall
Plan View

GT PROJECT NO.: 748-003-24

SHEET NO.: 1 of 4



Elevation View 1
(Redi-Rock Block Wall)

0 10 20

Scale: 1" = 10'

Redi-Rock Block Designation and Estimated Quantities			
Redi-Rock Block Size	Total Wall Amount	Redi-Rock Block Size	Total Wall Amount
28" R-28T Block	53 Blocks	28" R-28HT Block	1 Blocks
28" R-28M Block	158 Blocks	28" R-28HM Block	1 Blocks
28" R-28B Block	9 Blocks	41" R-41HM Block	1 Blocks
41" R-41M Block	45 Blocks	F-CT Corner Block	1 Blocks
41" R-41B Block	3 Blocks	F-CM Corner Block	4 Blocks
60" R-60B Block	43 Blocks	F-CB Corner Block	2 Blocks
		FHCT Corner Block	9 Blocks

PROFESSIONAL ENGINEER
No. 10899969
RYAN WILLIAM LITTLE
DATE: 02-02-24
STATE OF UTAH

REFERENCE:

DATE	DESCRIPTION
02.02.24	Submitted for Review

DESIGNED FOR: PERIGEE CONSULTING

DESIGNED BY: GORDON GEOTECHNICAL ENGINEERING, INC.
4426 South Century Drive, Ste 100, Salt Lake City, UT 84123
801-327-9600

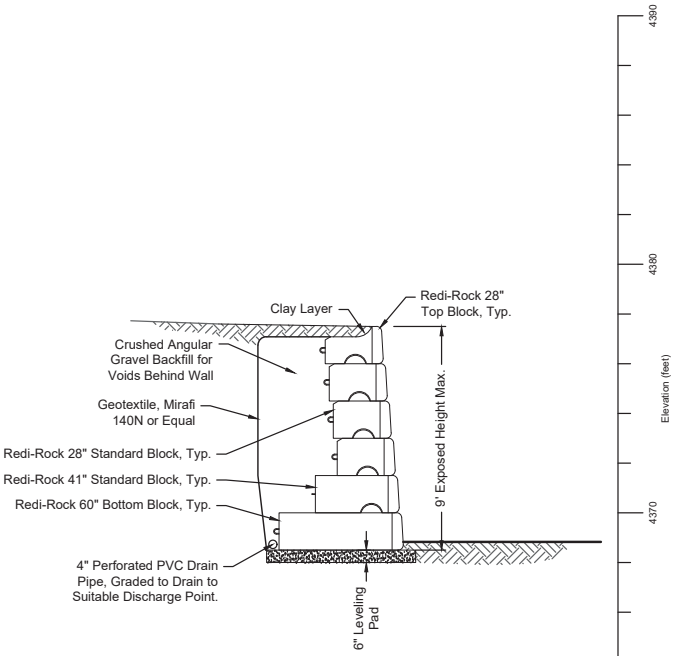
Proposed Riverdale Panera Block Wall
Riverdale City Panera Bread
4130 Riverdale Road
Riverdale, Utah

DESIGN BY: RL DRAWN BY: TT CHECKED BY: RL APPROVED BY: RL

Proposed Redi-Rock Block Wall
Elevation View 1

G² PROJECT NO.: **748-003-24**

SHEET NO.: **2 of 4**



Typical Cross-Section A

0 5 10

Scale: 1" = 5'

PROFESSIONAL ENGINEER
No. 10899969
RYAN WILLIAM LITTLE
DATE: 02-02-24
STATE OF UTAH

REFERENCE:

DATE	DESCRIPTION
02.02.24	Submitted for Review

DESIGNED FOR:

PERIGEE CONSULTING

DESIGNED BY:

GORDON GEOTECHNICAL ENGINEERING, INC.
4426 South Century Drive, Ste 100, Salt Lake City, UT 84123
801-327-3600

Proposed Riverdale Panera Block Wall
Riverdale City Panera Bread
4130 Riverdale Road
Riverdale, Utah

DESIGN BY: RL DRAWN BY: TT CHECKED BY: RL APPROVED BY: RL

Proposed Redi-Rock Block Wall
Typical Cross-Section

G² PROJECT NO.: **748-003-24**

SHEET NO.: **3 of 4**

General Notes

General

1. The responsibility of Redi-Rock walls remains with the wall builder.
2. Any modifications to the walls or the hillside above or below the rock walls post construction will remove the responsibility from the design engineer.
3. It is the owner's responsibility to intercept surface drainage from above the walls and direct it away from the walls to a permanent discharge point well away from the toe of the walls.
4. G^2 is not responsible for potential fall hazards. Safety rail or fence above the wall is the responsibility of others.
5. Interference with property lines is not the responsibility of G^2.

Design

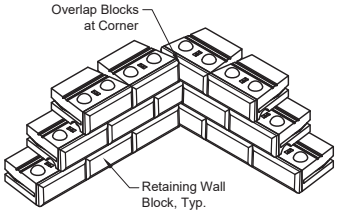
1. Redi-Rock walls were designed with "Redi-Rock 2020 - Redi-Rock Wall Freeware" according to ASD.
2. Soil laboratory testing was performed on the soil behind the proposed wall. Based on these test results, an effective friction angle of 28 degrees and cohesion of 150 psf. A retained soil unit weight of 120 pcf was used. If soil with different properties is observed in the excavation for the retaining wall, G^2 should immediately be contacted to possibly update the design.
3. Retaining walls are not designed as a true structural element, as such, the walls may be subject to deformation and a potential rock fall hazard under seismic events.
4. As designed, the retaining walls are susceptible to frost heave. If undesirable, please contact G^2 to update the design.
5. Walls were designed with a surcharge of 250 psf.

Construction

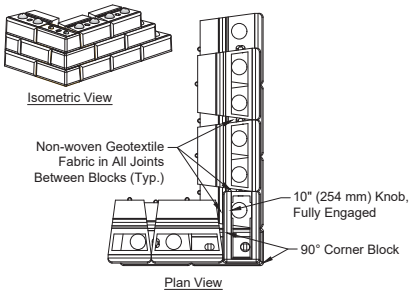
1. All Gravity Wall installation shall be in accordance with the installation guide as manufactured by Redi-Rock, and these plans. Conflicts that arise shall be resolved by G^2 of Salt Lake City, Utah, whose decision shall be final. No warranty is expressed or implied, only that the design was prepared in general accordance with the design principles and practices in use at the time this work was performed. Changes to the design or layout shall only be made with express written permission of G^2.
2. Wall Backfill shall be end dumped behind the wall. In no instance should compaction equipment be behind the wall.
3. Soils used as Wall Backfill shall be a gap graded, non-organic, granular soil meeting all manufactures specifications of block infill (1inch crushed stone). Gradations and material properties of candidate backfill materials proposed for use may be submitted to G^2 for review and approval. Backfill not conforming to these specifications shall not be used without express, written permission of Gordon Geotechnical.
4. Mirafi 140N filter fabric or equivalent shall be placed over native/fill soils behind and at the base of the walls to prevent the infiltration of fines into the gravel.
5. Drainpipe as shown on the drawings should be a perforated, socked, 4" pipe. It should be installed so that it is sloped to drain to a suitable location.
6. The surface of all walls, during and after construction, shall be graded to drain. No ponding or uncontrolled flowing water shall be allowed on or around any walls, at any time.
7. Contractor to provide fall protection for workers and equipment during construction in compliance with OSHA and any other applicable requirements. Owner shall also provide and maintain permanent fall protection as required by applicable building codes.
8. The wall shall be established upon a crushed stone footer consisting of clean crushed gravel approximately 6 inches deep and 12 inches wider than the base coarse, centered on the base coarse. The crushed stone footer should be estabilished on natural undisturbed soils, structural fill, and/or weathered bedrock. Any non-engineered fill, loose soils, etc., shall be removed and replaced with compacted granular structural fill meeting the requirements for wall backfill. Prior to placing structural replacement fill or beginning wall construction, the natural exposed subgrade shall be properly prepared in accordance with project specifications with review by Project Geotechnical Engineer.
9. When shortening a design for the actual build height in the field, blocks should be removed starting at the top of the design.
10. Wall corners and end of wall returns shall be constructed be the wall manufactures recommendations.
11. All field fits should be verified by G^2.

Drainage

1. "Free-draining" materials connected to weep holes or a drainage pipe must be placed behind the proposed retaining walls. Weepholes and/or drainage pipe should be appropriately sloped, daylighted, and discharging to a suitable location. Additionally, runoff must be diverted above the retaining walls to reduce infiltration of this water into the backfill.
2. Care should be taken not to over water the soil located above and behind the retaining walls. Overwatering will likely result in soil erosion through the joints.
3. Good surface drainage should be provided upslope of the retaining walls to direct runoff away from the retaining walls.



Typical Block Wall Inside Corner Detail
Not to Scale



Typical Bock Wall Return Detail
Not to Scale

PROFESSIONAL ENGINEER
No. 10899969
RYAN WILLIAM LITTLE
DATE: 02-02-24
STATE OF UTAH

REFERENCE:

DATE	DESCRIPTION
02.02.24	Submitted for Review

DESIGNED FOR:
PERIGEE CONSULTING

DESIGNED BY:
GORDON GEOTECHNICAL ENGINEERING, INC.
4426 South Century Drive, Ste 100, Salt Lake City, UT 84123
801-327-3600

Proposed Riverdale Panera Block Wall
Riverdale City Panera Bread
4130 Riverdale Road
Riverdale, Utah

DESIGN BY: RL DRAWN BY: TT CHECKED BY: RL APPROVED BY: RL

Proposed Redi-Rock Block Wall
General Notes and Details

G² PROJECT NO.: 748-003-24
SHEET NO.: 4 of 4

APPENDIX A

Calculations

Analysis of Redi Rock wall

Input data

Date : 1/26/2024

Settings

USA - Safety factor

Wall analysis

Verification methodology :	Safety factors (ASD)
Active earth pressure calculation :	Coulomb
Passive earth pressure calculation :	Mazindrani (Rankine)
Earthquake analysis :	Mononobe-Okabe
Shape of earth wedge :	Calculate as skew
Allowable eccentricity :	0.333
Internal stability :	Standard - straight slip surface
Reduction coeff. of contact first block - base :	1.00

Safety factors			
Permanent design situation			
Safety factor for overturning :	SF_o =	1.50	[–]
Safety factor for sliding resistance :	SF_s =	1.50	[–]
Safety factor for bearing capacity :	SF_b =	2.00	[–]
Safety factor for sliding along geo-reinforcement :	SF_{sr} =	1.50	[–]
Safety factor for geo-reinforcement strength :	SF_{st} =	1.50	[–]
Safety factor for pull out resistance of geo-reinf. :	SF_{po} =	1.50	[–]
Safety factor for connection strength :	SF_{con} =	1.50	[–]

Blocks

No.	Description	Height h [in]	Width w [in]	Unit weight γ [pcf]
1	Block 28	18.00	28.00	120.00
2	Block 41	18.00	40.50	120.00
3	Block 60	18.00	60.00	130.00
4	Top block 24 straight	18.00	24.00	108.00
5	Planter 41	18.00	40.50	120.00
6	Planter 60	18.00	60.00	112.00
7	Top block 28	18.00	28.00	120.00
8	Top block 41	18.00	40.50	120.00
9	Top block 24 straight garden	18.00	24.00	80.00
10	Block R-5236 HC	36.00	52.00	110.00
11	Block R-7236 HC	36.00	72.00	110.00
12	Block R-9636 HC	36.00	96.00	110.00
13	Block R-41 HC	18.00	40.50	110.00

No.	Description	Min. shear strength F_{min} [lbf/ft]	Max. shear strength F_{max} [lbf/ft]	Friction f [°]
1	Block 28	6061.00	11276.00	44.00

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No.	Description	Min. shear strength F_{min} [lbf/ft]	Max. shear strength F_{max} [lbf/ft]	Friction f [°]
2	Block 41	6061.00	11276.00	44.00
3	Block 60	6061.00	11276.00	44.00
4	Top block 24 straight	6061.00	11276.00	44.00
5	Planter 41	6061.00	11276.00	44.00
6	Planter 60	6061.00	11276.00	44.00
7	Top block 28	6061.00	11276.00	44.00
8	Top block 41	6061.00	11276.00	44.00
9	Top block 24 straight garden	6061.00	11276.00	44.00
10	Block R-5236 HC	4550.00	12000.00	44.00
11	Block R-7236 HC	4550.00	12000.00	44.00
12	Block R-9636 HC	4550.00	12000.00	44.00
13	Block R-41 HC	5358.00	12906.00	37.00

Setbacks

No.	Setback s [in]
1	0.010
2	0.375
3	1.625
4	9.375
5	16.625

Geometry

No. group	Description	Count	Setback s [in]
1	Block 28	3	1.62
2	Top block 28	1	-

Base

Geometry

Upper setback a_1 = 1.00 ft
Lower setback a_2 = 1.00 ft
Height h = 1.00 ft
Width b = 4.00 ft

Material

Soil creating foundation - gravel

Basic soil parameters

No.	Name	Pattern	φ_{ef} [°]	c_{ef} [psf]	γ [pcf]	γ_{su} [pcf]	δ [°]
1	native		28.00	150.0	120.00	57.50	16.80
2	gravel		35.00	0.0	120.00	57.50	21.00

All soils are considered as cohesionless for at rest pressure analysis.

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Soil parameters

native

Unit weight :	γ	=	120.0 pcf
Stress-state :	effective		
Angle of internal friction :	φ_{ef}	=	28.00 °
Cohesion of soil :	c_{ef}	=	150.0 psf
Angle of friction struc.-soil :	δ	=	16.80 °
Saturated unit weight :	γ_{sat}	=	120.0 pcf

gravel

Unit weight :	γ	=	120.0 pcf
Stress-state :	effective		
Angle of internal friction :	φ_{ef}	=	35.00 °
Cohesion of soil :	c_{ef}	=	0.0 psf
Angle of friction struc.-soil :	δ	=	21.00 °
Saturated unit weight :	γ_{sat}	=	120.0 pcf

Backfill

Backfill is not considered.

Geological profile and assigned soils

No.	Thickness of layer t [ft]	Depth z [ft]	Assigned soil	Pattern
1	-	0.00 .. ∞	native	

Terrain profile

Terrain behind the structure is flat.

Water influence

Ground water table is located below the structure.

Input surface surcharges

No.	Surcharge new	Surcharge change	Action	Mag.1 [lbf/ft²]	Mag.2 [lbf/ft²]	Ord.x x [ft]	Length l [ft]	Depth z [ft]
1	Yes		permanent	250.0				on terrain

No.	Name
1	surcharge

Resistance on front face of the structure

Resistance on front face of the structure is not considered.

Earthquake

Factor of horizontal acceleration K_h = 0.1150
Factor of vertical acceleration K_v = 0.0000

Water below the GWT is restricted.

Settings of the stage of construction

Design situation : permanent
Reduction of soil/soil friction angle : reduce to 2/3 φ (AASHTO)

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Verification No. 1

Forces acting on construction

Name	F_{hor} [lbf/ft]	App.Pt. z [ft]	F_{vert} [lbf/ft]	App.Pt. x [ft]	Design coefficient
Weight - wall	0.0	-3.09	2068.1	2.27	1.000
Earthq.- constr.	241.6	-3.06	0.0	2.29	1.000
Weight - earth wedge	0.0	-1.32	38.6	3.58	1.000
Earthquake - soil wedge	4.4	-1.32	0.0	3.58	1.000
Weight - earth wedge	0.0	-6.79	89.6	2.72	1.000
Earthquake - soil wedge	10.3	-6.79	0.0	2.72	1.000
Active pressure	283.2	-1.14	250.4	3.75	1.000
Earthq.- act.pressure	234.3	-4.67	95.4	3.65	1.000
surcharge	291.5	-1.90	273.4	3.69	1.000
surcharge	0.0	-7.00	416.6	2.66	1.000

Verification of complete wall

Check for overturning stability

Resisting moment M_{res} = 8491.9 lbfft/ft
Overturning moment M_{ovr} = 2786.3 lbfft/ft

Safety factor = 3.05 > 1.50
Wall for overturning is SATISFACTORY

Check for slip

Resisting horizontal force H_{res} = 2248.13 lbf/ft
Active horizontal force H_{act} = 1065.27 lbf/ft

Safety factor = 2.11 > 1.50
Wall for slip is SATISFACTORY

Overall check - WALL is SATISFACTORY

Dimensioning No. 1

Forces acting on construction

Name	F_{hor} [lbf/ft]	App.Pt. z [ft]	F_{vert} [lbf/ft]	App.Pt. x [ft]	Design coefficient
Weight - wall	0.0	-2.87	1588.1	1.36	1.000
Earthq.- constr.	186.4	-2.82	0.0	1.37	1.000
Weight - earth wedge	0.0	-5.79	89.6	1.72	1.000
Earthquake - soil wedge	10.3	-5.79	0.0	1.72	1.000
Active pressure	29.6	-0.44	6.1	2.37	1.000
Earthq.- act.pressure	171.9	-4.01	63.5	2.64	1.000
surcharge	179.5	-1.58	143.0	2.60	1.000
surcharge	0.0	-6.00	416.6	1.66	1.000

Verification of most stressed block No. 1

Check for overturning stability

Resisting moment M_{res} = 3554.8 lbfft/ft
Overturning moment M_{ovr} = 1571.4 lbfft/ft

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Safety factor = 2.26 > 1.50
Joint for overturning stability is SATISFACTORY

Check for slip
Resisting horizontal force H_{res} = 1615.28 lbf/ft
Active horizontal force H_{act} = 577.67 lbf/ft

Safety factor = 2.80 > 1.50
Joint for verification is SATISFACTORY

Bearing capacity of foundation soil

Design load acting at the center of footing bottom

No.	Moment [lbfft/ft]	Norm. force [lbf/ft]	Shear Force [lbf/ft]	Eccentricity [–]	Stress [psf]
1	758.7	3232.11	1065.27	0.059	915.5

Service load acting at the center of footing bottom

No.	Moment [lbfft/ft]	Norm. force [lbf/ft]	Shear Force [lbf/ft]
1	758.7	3232.11	1065.27

Verification of foundation soil

Stress in the footing bottom : rectangle

Eccentricity verification
Max. eccentricity of normal force e = 0.059
Maximum allowable eccentricity e_{alw} = 0.333

Eccentricity of the normal force is SATISFACTORY

Verification of bearing capacity
Max. stress at footing bottom σ = 915.5 psf
Bearing capacity of foundation soil R_d = 0.0 psf

Safety factor = 0.00 < 2.00
Bearing capacity of foundation soil is NOT SATISFACTORY

Overall verification - bearing capacity of found. soil is NOT SATISFACTORY

Slope stability analysis

Input data (Construction stage 1)

Project

Settings

USA - Safety factor

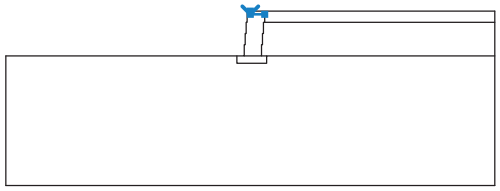
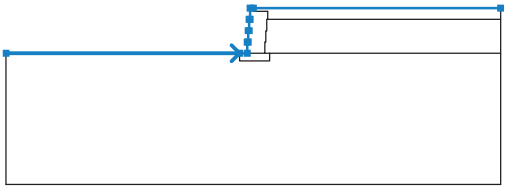
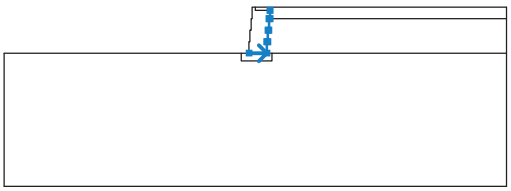
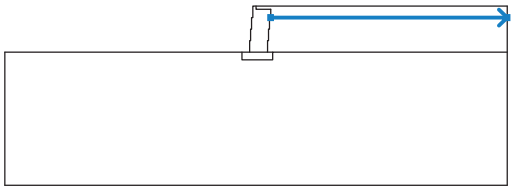
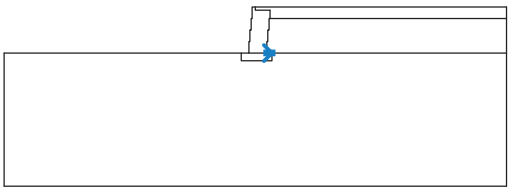
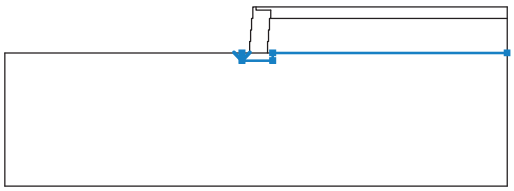
Stability analysis

Verification methodology : Safety factors (ASD)
Earthquake analysis : Standard

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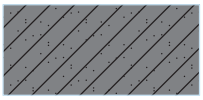
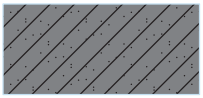
Safety factors			
Permanent design situation			
Safety factor :	SF_s =	1.50	[–]

Interface

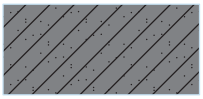
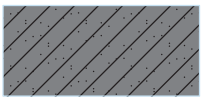
No.	Interface location	Coordinates of interface points [ft]					
		x	z	x	z	x	z
1		0.00	0.00	0.00	-0.42	1.92	-0.42
2		-32.80	-6.00	-1.82	-6.00	-0.82	-6.00
		-0.82	-4.50	-0.69	-4.50	-0.69	-3.00
		-0.55	-3.00	-0.55	-1.50	-0.42	-1.50
		-0.42	0.00	0.00	0.00	32.80	0.00
3		-0.82	-6.00	1.51	-6.00	1.51	-4.50
		1.65	-4.50	1.65	-3.00	1.78	-3.00
		1.78	-1.50	1.92	-1.50	1.92	-0.42
4		1.92	-1.50	32.80	-1.50		
5		1.51	-6.00	2.18	-6.00		
6		-1.82	-6.00	-1.82	-7.00	2.18	-7.00
		2.18	-6.00	32.80	-6.00		

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Soil parameters - effective stress state

No.	Name	Pattern	φ_{ef} [°]	c_{ef} [psf]	γ [pcf]
1	native		28.00	150.0	120.0
2	gravel		35.00	0.0	120.0

Soil parameters - uplift

No.	Name	Pattern	γ_{sat} [pcf]	γ_s [pcf]	n [–]
1	native		120.0		
2	gravel		120.0		

Soil parameters

native

Unit weight :	γ = 120.0 pcf
Stress-state :	effective
Shear strength :	Mohr-Coulomb
Angle of internal friction :	φ_{ef} = 28.00 °
Cohesion of soil :	c_{ef} = 150.0 psf
Saturated unit weight :	γ_{sat} = 120.0 pcf

gravel

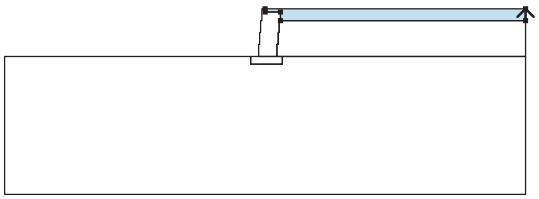
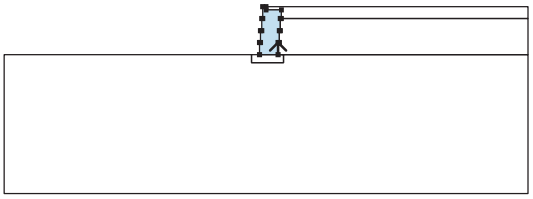
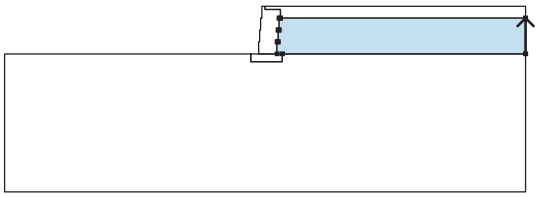
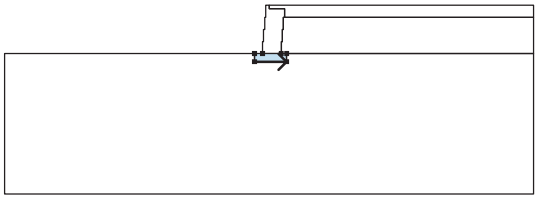
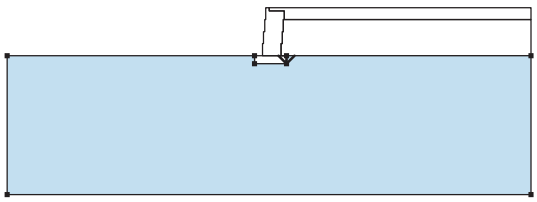
Unit weight :	γ = 120.0 pcf
Stress-state :	effective
Shear strength :	Mohr-Coulomb
Angle of internal friction :	φ_{ef} = 35.00 °
Cohesion of soil :	c_{ef} = 0.0 psf
Saturated unit weight :	γ_{sat} = 120.0 pcf

Rigid Bodies

No.	Name	Sample	γ [pcf]
1	Material of structure		120.0

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Assigning and surfaces

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
1		32.80	-1.50	32.80	0.00	native
		0.00	0.00	0.00	-0.42	
		1.92	-0.42	1.92	-1.50	
2		1.51	-6.00	1.51	-4.50	Material of structure
		1.65	-4.50	1.65	-3.00	
		1.78	-3.00	1.78	-1.50	
		1.92	-1.50	1.92	-0.42	
		0.00	-0.42	0.00	0.00	
		-0.42	0.00	-0.42	-1.50	
		-0.55	-1.50	-0.55	-3.00	
		-0.69	-3.00	-0.69	-4.50	
		-0.82	-4.50	-0.82	-6.00	
3		32.80	-6.00	32.80	-1.50	native
		1.92	-1.50	1.78	-1.50	
		1.78	-3.00	1.65	-3.00	
		1.65	-4.50	1.51	-4.50	
		1.51	-6.00	2.18	-6.00	
4		-1.82	-7.00	2.18	-7.00	gravel
		2.18	-6.00	1.51	-6.00	
		-0.82	-6.00	-1.82	-6.00	
5		2.18	-6.00	2.18	-7.00	native
		-1.82	-7.00	-1.82	-6.00	
		-32.80	-6.00	-32.80	-23.40	
		32.80	-23.40	32.80	-6.00	

Surcharge

No.	Type	Type of action	Location z [ft]	Origin x [ft]	Length l [ft]	Width b [ft]	Slope α [°]	Magnitude q, q_1, f, F, x	Magnitude q_2, z	Magnitude unit
1	strip	permanent	on terrain	x = 0.00	l = 32.80		0.00	250.0		lbf/ft^2

Surcharges

No.	Name
1	surcharge

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Water

Water type : No water

Tensile crack

Tensile crack not input.

Earthquake

Horizontal seismic coefficient : K_h = 0.1150
Vertical seismic coefficient : K_v = 0.0000

Settings of the stage of construction

Design situation : permanent

Results (Construction stage 1)

Analysis 1

Circular slip surface

Slip surface parameters							
Center :	x =	-1.69	[ft]	Angles :	α_1 =	-22.68	[°]
	z =	1.64	[ft]		α_2 =	78.58	[°]
Radius :	R =	8.28	[ft]				
The slip surface after optimization.							

Total weight of soil above the slip surface: 4216.1 lbf/ft

Slope stability verification (Bishop)

Sum of active forces : F_a = 3104.7 lbf/ft
Sum of passive forces : F_p = 4807.6 lbf/ft

Sliding moment : M_a = 25706.6 lbfft/ft
Resisting moment : M_p = 39807.2 lbfft/ft

Factor of safety = 1.55 > 1.50

Slope stability ACCEPTABLE

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Analysis of Redi Rock wall

Input data

Date : 1/26/2024

Settings

USA - Safety factor

Wall analysis

Verification methodology :	Safety factors (ASD)
Active earth pressure calculation :	Coulomb
Passive earth pressure calculation :	Mazindrani (Rankine)
Earthquake analysis :	Mononobe-Okabe
Shape of earth wedge :	Calculate as skew
Allowable eccentricity :	0.333
Internal stability :	Standard - straight slip surface
Reduction coeff. of contact first block - base :	1.00

Safety factors			
Permanent design situation			
Safety factor for overturning :	SF_o =	1.50	[–]
Safety factor for sliding resistance :	SF_s =	1.50	[–]
Safety factor for bearing capacity :	SF_b =	2.00	[–]
Safety factor for sliding along geo-reinforcement :	SF_{sr} =	1.50	[–]
Safety factor for geo-reinforcement strength :	SF_{st} =	1.50	[–]
Safety factor for pull out resistance of geo-reinf. :	SF_{po} =	1.50	[–]
Safety factor for connection strength :	SF_{con} =	1.50	[–]

Blocks

No.	Description	Height h [in]	Width w [in]	Unit weight γ [pcf]
1	Block 28	18.00	28.00	120.00
2	Block 41	18.00	40.50	120.00
3	Block 60	18.00	60.00	130.00
4	Top block 24 straight	18.00	24.00	108.00
5	Planter 41	18.00	40.50	120.00
6	Planter 60	18.00	60.00	112.00
7	Top block 28	18.00	28.00	120.00
8	Top block 41	18.00	40.50	120.00
9	Top block 24 straight garden	18.00	24.00	80.00
10	Block R-5236 HC	36.00	52.00	110.00
11	Block R-7236 HC	36.00	72.00	110.00
12	Block R-9636 HC	36.00	96.00	110.00
13	Block R-41 HC	18.00	40.50	110.00

No.	Description	Min. shear strength F_{min} [lbf/ft]	Max. shear strength F_{max} [lbf/ft]	Friction f [°]
1	Block 28	6061.00	11276.00	44.00

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No.	Description	Min. shear strength F_{min} [lbf/ft]	Max. shear strength F_{max} [lbf/ft]	Friction f [°]
2	Block 41	6061.00	11276.00	44.00
3	Block 60	6061.00	11276.00	44.00
4	Top block 24 straight	6061.00	11276.00	44.00
5	Planter 41	6061.00	11276.00	44.00
6	Planter 60	6061.00	11276.00	44.00
7	Top block 28	6061.00	11276.00	44.00
8	Top block 41	6061.00	11276.00	44.00
9	Top block 24 straight garden	6061.00	11276.00	44.00
10	Block R-5236 HC	4550.00	12000.00	44.00
11	Block R-7236 HC	4550.00	12000.00	44.00
12	Block R-9636 HC	4550.00	12000.00	44.00
13	Block R-41 HC	5358.00	12906.00	37.00

Setbacks

No.	Setback s [in]
1	0.010
2	0.375
3	1.625
4	9.375
5	16.625

Geometry

No. group	Description	Count	Setback s [in]
1	Block 41	1	1.62
2	Block 28	3	1.62
3	Top block 28	1	-

Base

Geometry

Upper setback a_1 = 1.00 ft
Lower setback a_2 = 1.00 ft
Height h = 1.00 ft
Width b = 5.00 ft

Material

Soil creating foundation - gravel

Basic soil parameters

No.	Name	Pattern	φ_{ef} [°]	c_{ef} [psf]	γ [pcf]	γ_{su} [pcf]	δ [°]
1	native		28.00	150.0	120.00	57.50	16.80
2	gravel		35.00	0.0	120.00	57.50	21.00

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All soils are considered as cohesionless for at rest pressure analysis.

Soil parameters

native

Unit weight :	γ =	120.0 pcf
Stress-state :		effective
Angle of internal friction :	φ_{ef} =	28.00 °
Cohesion of soil :	c_{ef} =	150.0 psf
Angle of friction struc.-soil :	δ =	16.80 °
Saturated unit weight :	γ_{sat} =	120.0 pcf

gravel

Unit weight :	γ =	120.0 pcf
Stress-state :		effective
Angle of internal friction :	φ_{ef} =	35.00 °
Cohesion of soil :	c_{ef} =	0.0 psf
Angle of friction struc.-soil :	δ =	21.00 °
Saturated unit weight :	γ_{sat} =	120.0 pcf

Backfill

Backfill is not considered.

Geological profile and assigned soils

No.	Thickness of layer t [ft]	Depth z [ft]	Assigned soil	Pattern
1	-	0.00 .. ∞	native	

Terrain profile

Terrain behind the structure is flat.

Water influence

Ground water table is located below the structure.

Input surface surcharges

No.	Surcharge new	Surcharge change	Action	Mag.1 [lbf/ft²]	Mag.2 [lbf/ft²]	Ord.x x [ft]	Length l [ft]	Depth z [ft]
1	Yes		permanent	250.0				on terrain

No.	Name
1	surcharge

Resistance on front face of the structure

Resistance on front face of the structure is not considered.

Earthquake

Factor of horizontal acceleration K_h = 0.1150
Factor of vertical acceleration K_v = 0.0000

Water below the GWT is restricted.

Settings of the stage of construction

Design situation : permanent
Reduction of soil/soil friction angle : reduce to 2/3 φ (AASHTO)

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Verification No. 1

Forces acting on construction

Name	F_{hor} [lbf/ft]	App.Pt. z [ft]	F_{vert} [lbf/ft]	App.Pt. x [ft]	Design coefficient
Weight - wall	0.0	-3.54	2795.6	2.54	1.000
Earthq.- constr.	325.2	-3.53	0.0	2.54	1.000
Weight - earth wedge	0.0	-1.35	39.0	4.58	1.000
Earthquake - soil wedge	4.5	-1.35	0.0	4.58	1.000
Weight - earth wedge	0.0	-2.94	71.3	3.81	1.000
Earthquake - soil wedge	8.2	-2.94	0.0	3.81	1.000
Weight - earth wedge	0.0	-8.29	89.6	2.86	1.000
Earthquake - soil wedge	10.3	-8.29	0.0	2.86	1.000
Active pressure	711.8	-1.89	675.5	4.42	1.000
Earthq.- act.pressure	346.4	-5.66	168.0	3.94	1.000
surcharge	450.4	-2.59	453.1	4.19	1.000
surcharge	0.0	-8.50	416.6	2.79	1.000

Verification of complete wall

Check for overturning stability

Resisting moment M_{res} = 14505.3 lbfft/ft
Overturning moment M_{ovr} = 5735.8 lbfft/ft

Safety factor = 2.53 > 1.50
Wall for overturning is SATISFACTORY

Check for slip

Resisting horizontal force H_{res} = 3062.36 lbf/ft
Active horizontal force H_{act} = 1856.84 lbf/ft

Safety factor = 1.65 > 1.50
Wall for slip is SATISFACTORY

Overall check - WALL is SATISFACTORY

Dimensioning No. 1

Forces acting on construction

Name	F_{hor} [lbf/ft]	App.Pt. z [ft]	F_{vert} [lbf/ft]	App.Pt. x [ft]	Design coefficient
Weight - wall	0.0	-3.37	2195.6	1.55	1.000
Earthq.- constr.	256.2	-3.35	0.0	1.56	1.000
Weight - earth wedge	0.0	-1.94	71.3	2.81	1.000
Earthquake - soil wedge	8.2	-1.94	0.0	2.81	1.000
Weight - earth wedge	0.0	-7.29	89.6	1.86	1.000
Earthquake - soil wedge	10.3	-7.29	0.0	1.86	1.000
Active pressure	397.3	-1.57	334.3	3.06	1.000
Earthq.- act.pressure	269.3	-5.00	119.1	2.84	1.000
surcharge	342.7	-2.16	323.5	2.94	1.000
surcharge	0.0	-7.50	416.6	1.79	1.000

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Verification of most stressed block No. 1

Check for overturning stability
Resisting moment M_{res} = 6821.2 lbfft/ft
Overturning moment M_{ovr} = 3658.6 lbfft/ft

Safety factor = 1.86 > 1.50
Joint for overturning stability is SATISFACTORY

Check for slip
Resisting horizontal force H_{res} = 2485.68 lbf/ft
Active horizontal force H_{act} = 1283.94 lbf/ft

Safety factor = 1.94 > 1.50
Joint for verification is SATISFACTORY

Bearing capacity of foundation soil

Design load acting at the center of footing bottom

No.	Moment [lbfft/ft]	Norm. force [lbf/ft]	Shear Force [lbf/ft]	Eccentricity [–]	Stress [psf]
1	3002.1	4708.64	1856.84	0.128	1264.1

Service load acting at the center of footing bottom

No.	Moment [lbfft/ft]	Norm. force [lbf/ft]	Shear Force [lbf/ft]
1	3002.1	4708.64	1856.84

Verification of foundation soil

Stress in the footing bottom : rectangle

Eccentricity verification
Max. eccentricity of normal force e = 0.128
Maximum allowable eccentricity e_{alw} = 0.333

Eccentricity of the normal force is SATISFACTORY

Verification of bearing capacity
Max. stress at footing bottom σ = 1264.1 psf
Bearing capacity of foundation soil R_d = 0.0 psf

Safety factor = 0.00 < 2.00
Bearing capacity of foundation soil is NOT SATISFACTORY

Overall verification - bearing capacity of found. soil is NOT SATISFACTORY

Slope stability analysis

Input data (Construction stage 1)

Project

Settings

USA - Safety factor

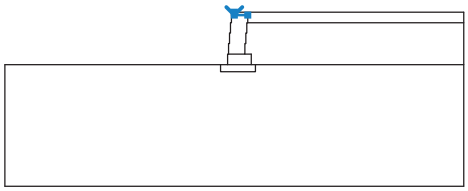
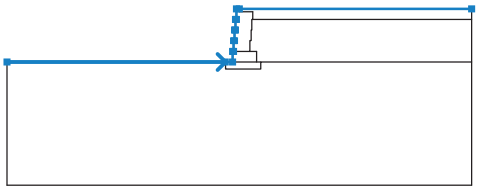
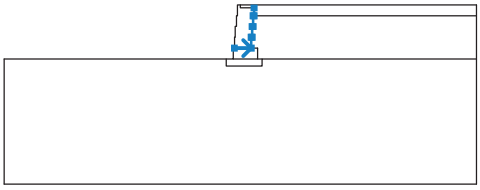
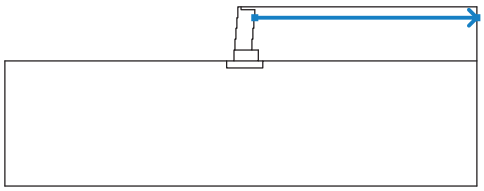
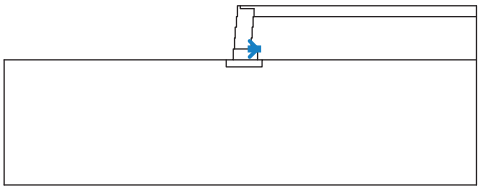
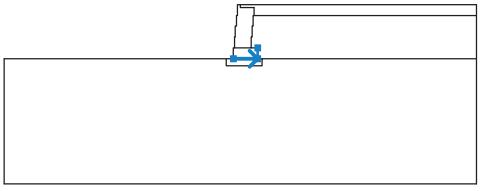
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Stability analysis

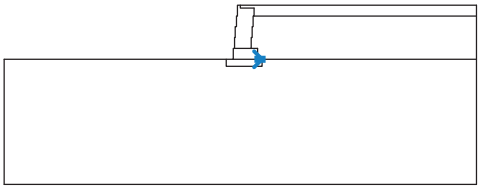
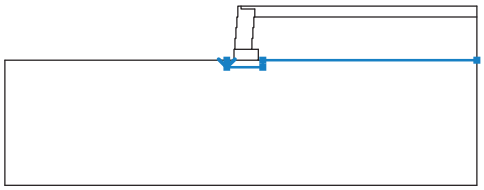
Verification methodology : Safety factors (ASD)
Earthquake analysis : Standard

Safety factors			
Permanent design situation			
Safety factor :	SF_s =	1.50	[–]

Interface

No.	Interface location	Coordinates of interface points [ft]					
		x	z	x	z	x	z
1		0.00	0.00	0.00	-0.42	1.92	-0.42
2		-32.80	-7.50	-1.96	-7.50	-0.96	-7.50
		-0.96	-6.00	-0.82	-6.00	-0.82	-4.50
		-0.69	-4.50	-0.69	-3.00	-0.55	-3.00
		-0.55	-1.50	-0.42	-1.50	-0.42	0.00
		0.00	0.00	32.80	0.00		
3		-0.82	-6.00	1.51	-6.00	1.51	-4.50
		1.65	-4.50	1.65	-3.00	1.78	-3.00
		1.78	-1.50	1.92	-1.50	1.92	-0.42
4		1.92	-1.50	32.80	-1.50		
5		1.51	-6.00	2.42	-6.00		
6		-0.96	-7.50	2.42	-7.50	2.42	-6.00

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No.	Interface location	Coordinates of interface points [ft]					
		x	z	x	z	x	z
7		2.42	-7.50	3.04	-7.50		
8		-1.96	-7.50	-1.96	-8.50	3.04	-8.50
		3.04	-7.50	32.80	-7.50		

Soil parameters - effective stress state

No.	Name	Pattern	φ_{ef} [°]	c_{ef} [psf]	γ [pcf]
1	native		28.00	150.0	120.0
2	gravel		35.00	0.0	120.0

Soil parameters - uplift

No.	Name	Pattern	γ_{sat} [pcf]	γ_s [pcf]	n [–]
1	native		120.0		
2	gravel		120.0		

Soil parameters

native

Unit weight :	γ = 120.0 pcf
Stress-state :	effective
Shear strength :	Mohr-Coulomb
Angle of internal friction :	φ_{ef} = 28.00 °
Cohesion of soil :	c_{ef} = 150.0 psf
Saturated unit weight :	γ_{sat} = 120.0 pcf

gravel

Unit weight :	γ = 120.0 pcf
Stress-state :	effective

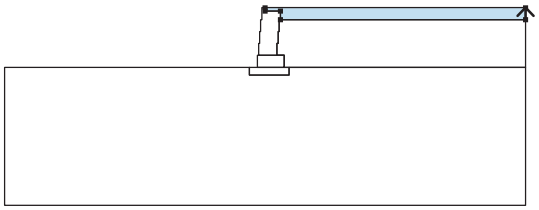
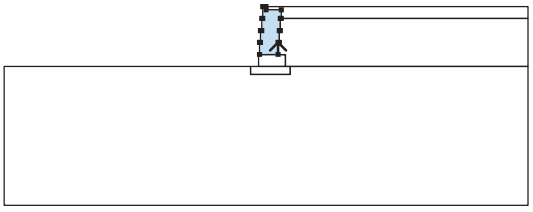
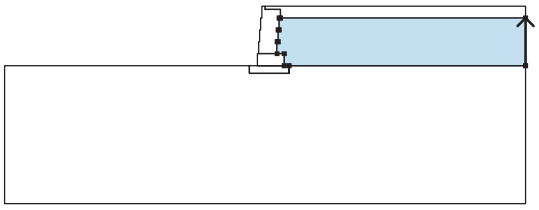
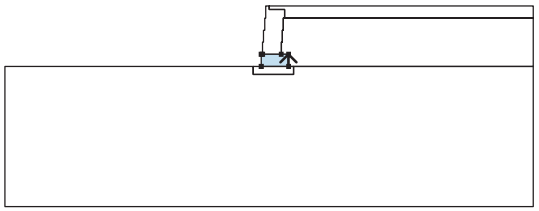
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Shear strength : Mohr-Coulomb
Angle of internal friction : φ_{ef} = 35.00 °
Cohesion of soil : c_{ef} = 0.0 psf
Saturated unit weight : γ_{sat} = 120.0 pcf

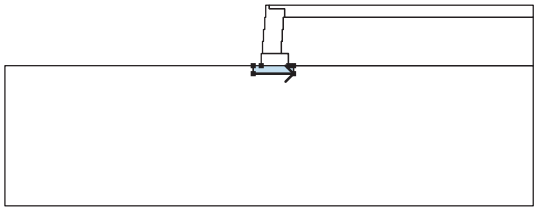
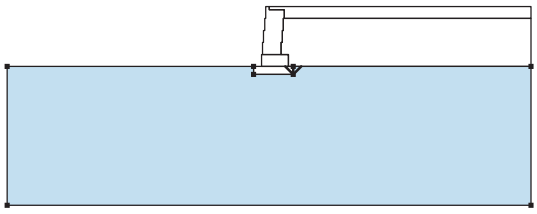
Rigid Bodies

No.	Name	Sample	γ [pcf]
1	Material of structure		120.0

Assigning and surfaces

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
1		32.80	-1.50	32.80	0.00	native
		0.00	0.00	0.00	-0.42	
		1.92	-0.42	1.92	-1.50	
2		1.51	-6.00	1.51	-4.50	Material of structure
		1.65	-4.50	1.65	-3.00	
		1.78	-3.00	1.78	-1.50	
		1.92	-1.50	1.92	-0.42	
		0.00	-0.42	0.00	0.00	
		-0.42	0.00	-0.42	-1.50	
		-0.55	-1.50	-0.55	-3.00	
		-0.69	-3.00	-0.69	-4.50	
		-0.82	-4.50	-0.82	-6.00	
3		32.80	-7.50	32.80	-1.50	native
		1.92	-1.50	1.78	-1.50	
		1.78	-3.00	1.65	-3.00	
		1.65	-4.50	1.51	-4.50	
		1.51	-6.00	2.42	-6.00	
		2.42	-7.50	3.04	-7.50	
4		2.42	-7.50	2.42	-6.00	Material of structure
		1.51	-6.00	-0.82	-6.00	
		-0.96	-6.00	-0.96	-7.50	

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No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
5		-1.96	-8.50	3.04	-8.50	gravel
		3.04	-7.50	2.42	-7.50	
		-0.96	-7.50	-1.96	-7.50	
6		3.04	-7.50	3.04	-8.50	native
		-1.96	-8.50	-1.96	-7.50	
		-32.80	-7.50	-32.80	-24.90	
		32.80	-24.90	32.80	-7.50	

Surcharge

No.	Type	Type of action	Location z [ft]	Origin x [ft]	Length l [ft]	Width b [ft]	Slope α [°]	Magnitude q, q_1, f, F, x	Magnitude q_2, z	Magnitude unit
1	strip	permanent	on terrain	x = 0.00	l = 32.80		0.00	250.0		lbf/ft^2

Surcharges

No.	Name
1	surcharge

Water

Water type : No water

Tensile crack

Tensile crack not input.

Earthquake

Horizontal seismic coefficient : K_h = 0.1150
Vertical seismic coefficient : K_v = 0.0000

Settings of the stage of construction

Design situation : permanent

Results (Construction stage 1)

Analysis 1

Circular slip surface

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Slip surface parameters							
Center :	x =	-1.92	[ft]	Angles :	α_1 =	-23.52	[°]
	z =	2.43	[ft]		α_2 =	77.03	[°]
Radius :	R =	10.83	[ft]				
The slip surface after optimization.							

Total weight of soil above the slip surface: 7094.5 lbf/ft

Slope stability verification (Bishop)

Sum of active forces : F_a = 4768.3 lbf/ft

Sum of passive forces : F_p = 7280.3 lbf/ft

Sliding moment : M_a = 51640.2 lbfft/ft

Resisting moment : M_p = 78845.7 lbfft/ft

Factor of safety = 1.53 > 1.50

Slope stability ACCEPTABLE

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Analysis of Redi Rock wall

Input data

Date : 1/26/2024

Settings

USA - Safety factor

Wall analysis

Verification methodology :	Safety factors (ASD)
Active earth pressure calculation :	Coulomb
Passive earth pressure calculation :	Mazindrani (Rankine)
Earthquake analysis :	Mononobe-Okabe
Shape of earth wedge :	Calculate as skew
Allowable eccentricity :	0.333
Internal stability :	Standard - straight slip surface
Reduction coeff. of contact first block - base :	1.00

Safety factors			
Permanent design situation			
Safety factor for overturning :	SF_o =	1.50	[–]
Safety factor for sliding resistance :	SF_s =	1.50	[–]
Safety factor for bearing capacity :	SF_b =	2.00	[–]
Safety factor for sliding along geo-reinforcement :	SF_{sr} =	1.50	[–]
Safety factor for geo-reinforcement strength :	SF_{st} =	1.50	[–]
Safety factor for pull out resistance of geo-reinf. :	SF_{po} =	1.50	[–]
Safety factor for connection strength :	SF_{con} =	1.50	[–]

Blocks

No.	Description	Height h [in]	Width w [in]	Unit weight γ [pcf]
1	Block 28	18.00	28.00	120.00
2	Block 41	18.00	40.50	120.00
3	Block 60	18.00	60.00	130.00
4	Top block 24 straight	18.00	24.00	108.00
5	Planter 41	18.00	40.50	120.00
6	Planter 60	18.00	60.00	112.00
7	Top block 28	18.00	28.00	120.00
8	Top block 41	18.00	40.50	120.00
9	Top block 24 straight garden	18.00	24.00	80.00
10	Block R-5236 HC	36.00	52.00	110.00
11	Block R-7236 HC	36.00	72.00	110.00
12	Block R-9636 HC	36.00	96.00	110.00
13	Block R-41 HC	18.00	40.50	110.00

No.	Description	Min. shear strength F_{min} [lbf/ft]	Max. shear strength F_{max} [lbf/ft]	Friction f [°]
1	Block 28	6061.00	11276.00	44.00

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No.	Description	Min. shear strength F_{min} [lbf/ft]	Max. shear strength F_{max} [lbf/ft]	Friction f [°]
2	Block 41	6061.00	11276.00	44.00
3	Block 60	6061.00	11276.00	44.00
4	Top block 24 straight	6061.00	11276.00	44.00
5	Planter 41	6061.00	11276.00	44.00
6	Planter 60	6061.00	11276.00	44.00
7	Top block 28	6061.00	11276.00	44.00
8	Top block 41	6061.00	11276.00	44.00
9	Top block 24 straight garden	6061.00	11276.00	44.00
10	Block R-5236 HC	4550.00	12000.00	44.00
11	Block R-7236 HC	4550.00	12000.00	44.00
12	Block R-9636 HC	4550.00	12000.00	44.00
13	Block R-41 HC	5358.00	12906.00	37.00

Setbacks

No.	Setback s [in]
1	0.010
2	0.375
3	1.625
4	9.375
5	16.625

Geometry

No. group	Description	Count	Setback s [in]
1	Block 60	1	1.62
2	Block 41	1	1.62
3	Block 28	3	1.62
4	Top block 28	1	-

Base

Geometry

Upper setback a_1 = 1.00 ft
Lower setback a_2 = 1.00 ft
Height h = 1.00 ft
Width b = 7.00 ft

Material

Soil creating foundation - gravel

Basic soil parameters

No.	Name	Pattern	φ_{ef} [°]	c_{ef} [psf]	γ [pcf]	γ_{su} [pcf]	δ [°]
1	native		28.00	150.0	120.00	57.50	16.80

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No.	Name	Pattern	φ_{ef} [°]	c_{ef} [psf]	γ [pcf]	γ_{su} [pcf]	δ [°]
2	gravel		35.00	0.0	120.00	57.50	21.00

All soils are considered as cohesionless for at rest pressure analysis.

Soil parameters

native

Unit weight : $\gamma = 120.0$ pcf
Stress-state : effective
Angle of internal friction : $\varphi_{ef} = 28.00$ °
Cohesion of soil : $c_{ef} = 150.0$ psf
Angle of friction struc.-soil : $\delta = 16.80$ °
Saturated unit weight : $\gamma_{sat} = 120.0$ pcf

gravel

Unit weight : $\gamma = 120.0$ pcf
Stress-state : effective
Angle of internal friction : $\varphi_{ef} = 35.00$ °
Cohesion of soil : $c_{ef} = 0.0$ psf
Angle of friction struc.-soil : $\delta = 21.00$ °
Saturated unit weight : $\gamma_{sat} = 120.0$ pcf

Backfill

Backfill is not considered.

Geological profile and assigned soils

No.	Thickness of layer t [ft]	Depth z [ft]	Assigned soil	Pattern
1	-	0.00 .. ∞	native	

Terrain profile

Terrain behind the structure is flat.

Water influence

Ground water table is located below the structure.

Input surface surcharges

No.	Surcharge new	Surcharge change	Action	Mag.1 [lbf/ft²]	Mag.2 [lbf/ft²]	Ord.x x [ft]	Length l [ft]	Depth z [ft]
1	Yes		permanent	250.0				on terrain

No.	Name
1	surcharge

Resistance on front face of the structure

Resistance on front face of the structure is not considered.

Earthquake

Factor of horizontal acceleration $K_h = 0.1150$
Factor of vertical acceleration $K_v = 0.0000$

Water below the GWT is restricted.

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Settings of the stage of construction

Design situation : permanent
Reduction of soil/soil friction angle : reduce to 2/3 φ (AASHTO)

Verification No. 1

Forces acting on construction

Name	F_{hor} [lbf/ft]	App.Pt. z [ft]	F_{vert} [lbf/ft]	App.Pt. x [ft]	Design coefficient
Weight - wall	0.0	-3.74	4010.6	3.05	1.000
Earthq.- constr.	464.8	-3.79	0.0	3.05	1.000
Weight - earth wedge	0.0	-3.53	524.0	4.96	1.000
Earthquake - soil wedge	60.3	-3.53	0.0	4.96	1.000
Weight - earth wedge	0.0	-9.79	89.6	2.99	1.000
Earthquake - soil wedge	10.3	-9.79	0.0	2.99	1.000
Active pressure	1465.9	-2.78	1548.1	5.76	1.000
Earthq.- act.pressure	483.2	-6.64	333.3	4.68	1.000
surcharge	675.8	-3.50	798.6	5.25	1.000
surcharge	0.0	-10.00	416.6	2.93	1.000

Verification of complete wall

Check for overturning stability
Resisting moment M_{res} = 30997.7 lbfft/ft
Overturning moment M_{ovr} = 11721.1 lbfft/ft

Safety factor = 2.64 > 1.50
Wall for overturning is SATISFACTORY

Check for slip
Resisting horizontal force H_{res} = 4854.26 lbf/ft
Active horizontal force H_{act} = 3160.31 lbf/ft

Safety factor = 1.54 > 1.50
Wall for slip is SATISFACTORY

Overall check - WALL is SATISFACTORY

Dimensioning No. 1

Forces acting on construction

Name	F_{hor} [lbf/ft]	App.Pt. z [ft]	F_{vert} [lbf/ft]	App.Pt. x [ft]	Design coefficient
Weight - wall	0.0	-3.60	3170.6	1.93	1.000
Earthq.- constr.	366.4	-3.67	0.0	1.92	1.000
Weight - earth wedge	0.0	-2.95	380.9	3.61	1.000
Earthquake - soil wedge	43.8	-2.95	0.0	3.61	1.000
Weight - earth wedge	0.0	-8.79	89.6	1.99	1.000
Earthquake - soil wedge	10.3	-8.79	0.0	1.99	1.000
Active pressure	980.3	-2.49	947.8	4.14	1.000
Earthq.- act.pressure	390.3	-5.98	241.1	3.41	1.000
surcharge	545.1	-3.02	606.2	3.78	1.000

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Name	F_{hor} [lbf/ft]	App.Pt. z [ft]	F_{vert} [lbf/ft]	App.Pt. x [ft]	Design coefficient
surcharge	0.0	-9.00	416.6	1.93	1.000

Verification of most stressed block No. 1

Check for overturning stability

Resisting moment M_{res} = 15524.1 lbfft/ft
Overturning moment M_{ovr} = 7981.0 lbfft/ft

Safety factor = 1.95 > 1.50
Joint for overturning stability is SATISFACTORY

Check for slip

Resisting horizontal force H_{res} = 4098.20 lbf/ft
Active horizontal force H_{act} = 2336.22 lbf/ft

Safety factor = 1.75 > 1.50
Joint for verification is SATISFACTORY

Bearing capacity of foundation soil

Design load acting at the center of footing bottom

No.	Moment [lbfft/ft]	Norm. force [lbf/ft]	Shear Force [lbf/ft]	Eccentricity [–]	Stress [psf]
1	7746.4	7720.85	3160.31	0.143	1546.2

Service load acting at the center of footing bottom

No.	Moment [lbfft/ft]	Norm. force [lbf/ft]	Shear Force [lbf/ft]
1	7746.4	7720.85	3160.31

Verification of foundation soil

Stress in the footing bottom : rectangle

Eccentricity verification

Max. eccentricity of normal force e = 0.143
Maximum allowable eccentricity e_{alw} = 0.333

Eccentricity of the normal force is SATISFACTORY

Verification of bearing capacity

Max. stress at footing bottom σ = 1546.2 psf
Bearing capacity of foundation soil R_d = 0.0 psf

Safety factor = 0.00 < 2.00
Bearing capacity of foundation soil is NOT SATISFACTORY

Overall verification - bearing capacity of found. soil is NOT SATISFACTORY

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Slope stability analysis

Input data (Construction stage 1)

Project

Settings

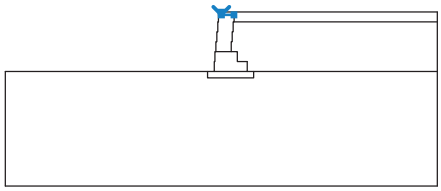
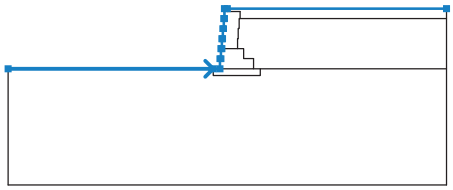
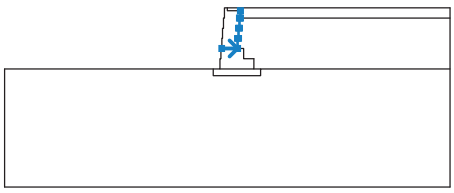
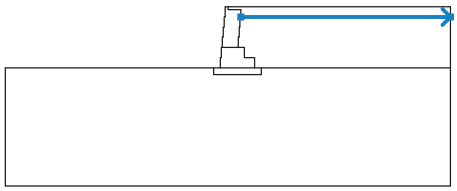
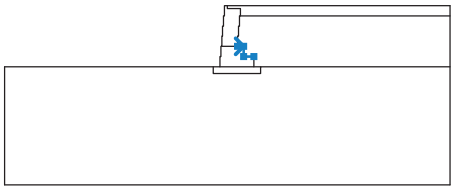
USA - Safety factor

Stability analysis

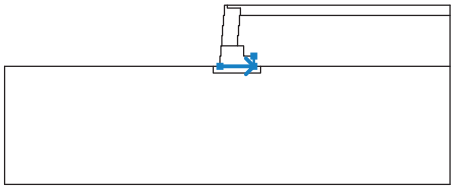
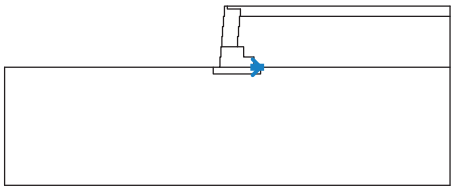
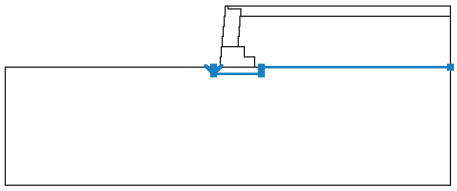
Verification methodology : Safety factors (ASD)
Earthquake analysis : Standard

Safety factors			
Permanent design situation			
Safety factor :	SF_s =	1.50	[–]

Interface

No.	Interface location	Coordinates of interface points [ft]					
		x	z	x	z	x	z
1		0.00	0.00	0.00	-0.42	1.92	-0.42
2		-32.80	-9.00	-2.09	-9.00	-1.09	-9.00
		-1.09	-7.50	-0.96	-7.50	-0.96	-6.00
		-0.82	-6.00	-0.82	-4.50	-0.69	-4.50
		-0.69	-3.00	-0.55	-3.00	-0.55	-1.50
		-0.42	-1.50	-0.42	0.00	0.00	0.00
		32.80	0.00				
3		-0.82	-6.00	1.51	-6.00	1.51	-4.50
		1.65	-4.50	1.65	-3.00	1.78	-3.00
		1.78	-1.50	1.92	-1.50	1.92	-0.42
4		1.92	-1.50	32.80	-1.50		
5		1.51	-6.00	2.42	-6.00	2.42	-7.50
		3.91	-7.50				

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No.	Interface location	Coordinates of interface points [ft]					
		x	z	x	z	x	z
6		-1.09	-9.00	3.91	-9.00	3.91	-7.50
7		3.91	-9.00	4.91	-9.00		
8		-2.09	-9.00	-2.09	-10.00	4.91	-10.00
		4.91	-9.00	32.80	-9.00		

Soil parameters - effective stress state

No.	Name	Pattern	φ_{ef} [°]	c_{ef} [psf]	γ [pcf]
1	native		28.00	150.0	120.0
2	gravel		35.00	0.0	120.0

Soil parameters - uplift

No.	Name	Pattern	γ_{sat} [pcf]	γ_s [pcf]	n [–]
1	native		120.0		
2	gravel		120.0		

Soil parameters

native

Unit weight : γ = 120.0 pcf
Stress-state : effective
Shear strength : Mohr-Coulomb
Angle of internal friction : φ_{ef} = 28.00 °

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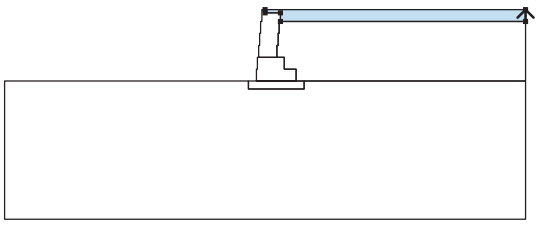
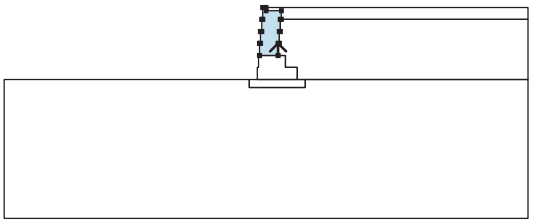
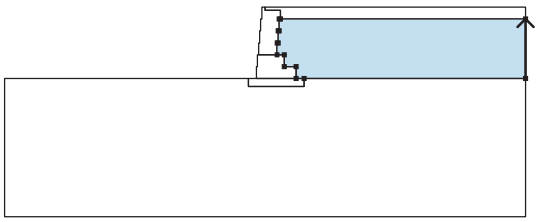
Cohesion of soil : c_{ef} = 150.0 psf
Saturated unit weight : γ_{sat} = 120.0 pcf

gravel
Unit weight : γ = 120.0 pcf
Stress-state : effective
Shear strength : Mohr-Coulomb
Angle of internal friction : φ_{ef} = 35.00 °
Cohesion of soil : c_{ef} = 0.0 psf
Saturated unit weight : γ_{sat} = 120.0 pcf

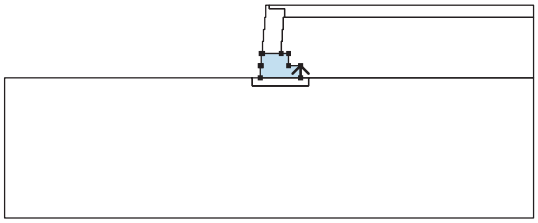
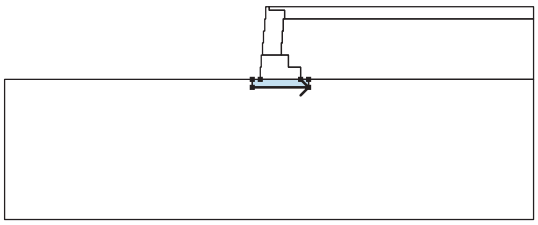
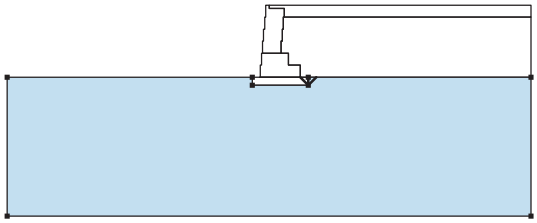
Rigid Bodies

No.	Name	Sample	γ [pcf]
1	Material of structure		120.0

Assigning and surfaces

No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
1		32.80	-1.50	32.80	0.00	native
		0.00	0.00	0.00	-0.42	
		1.92	-0.42	1.92	-1.50	
2		1.51	-6.00	1.51	-4.50	Material of structure
		1.65	-4.50	1.65	-3.00	
		1.78	-3.00	1.78	-1.50	
		1.92	-1.50	1.92	-0.42	
		0.00	-0.42	0.00	0.00	
		-0.42	0.00	-0.42	-1.50	
		-0.55	-1.50	-0.55	-3.00	
		-0.69	-3.00	-0.69	-4.50	
		-0.82	-4.50	-0.82	-6.00	
3		32.80	-9.00	32.80	-1.50	native
		1.92	-1.50	1.78	-1.50	
		1.78	-3.00	1.65	-3.00	
		1.65	-4.50	1.51	-4.50	
		1.51	-6.00	2.42	-6.00	
		2.42	-7.50	3.91	-7.50	
		3.91	-9.00	4.91	-9.00	

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No.	Surface position	Coordinates of surface points [ft]				Assigned soil
		x	z	x	z	
4		3.91	-9.00	3.91	-7.50	Material of structure
		2.42	-7.50	2.42	-6.00	
		1.51	-6.00	-0.82	-6.00	
		-0.96	-6.00	-0.96	-7.50	
		-1.09	-7.50	-1.09	-9.00	
5		-2.09	-10.00	4.91	-10.00	gravel
		4.91	-9.00	3.91	-9.00	
		-1.09	-9.00	-2.09	-9.00	
6		4.91	-9.00	4.91	-10.00	native
		-2.09	-10.00	-2.09	-9.00	
		-32.80	-9.00	-32.80	-26.40	
		32.80	-26.40	32.80	-9.00	

Surcharge

No.	Type	Type of action	Location z [ft]	Origin x [ft]	Length l [ft]	Width b [ft]	Slope α [°]	Magnitude q, q_1, f, F, x	Magnitude q_2, z	Magnitude unit
1	strip	permanent	on terrain	x = 0.00	l = 32.80		0.00	250.0		lbf/ft^2

Surcharges

No.	Name
1	surcharge

Water

Water type : No water

Tensile crack

Tensile crack not input.

Earthquake

Horizontal seismic coefficient : K_h = 0.1150
Vertical seismic coefficient : K_v = 0.0000

Settings of the stage of construction

Design situation : permanent

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Results (Construction stage 1)

Analysis 1

Circular slip surface

Slip surface parameters							
Center :	x =	-2.80	[ft]	Angles :	α_1 =	-27.70	[°]
	z =	3.67	[ft]		α_2 =	75.14	[°]
Radius :	R =	14.31	[ft]				
The slip surface after optimization.							

Total weight of soil above the slip surface: 11689.3 lbf/ft

Slope stability verification (Bishop)

Sum of active forces : F_a = 7247.7 lbf/ft

Sum of passive forces : F_p = 11240.2 lbf/ft

Sliding moment : M_a = 103714.6 lbfft/ft

Resisting moment : M_p = 160847.5 lbfft/ft

Factor of safety = 1.55 > 1.50

Slope stability ACCEPTABLE

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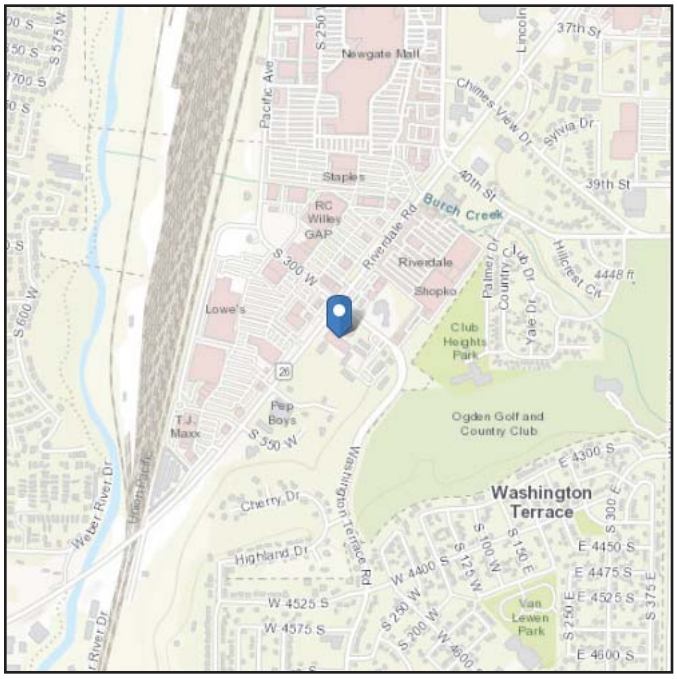
Siesmic Design Values			
Variable	Value	Units	Notes/Source
PGA	0.609	g	ASCE7 Hazard Tool
F_{PGA}	1.1		ASCE 7-16 Table 11.8.1
PGA_M	0.670	g	
S_S	1.350	g	
S_1	0.485	g	
F_a	1		ASCE 7-16 Table 11.4-1
F_v	1.815		ASCE 7-16 Table 11.4-2
S_{DS}	0.899	g	ASCE 7-16 Equations 11.4-1 & 11.4-3
S_{D1}	0.586	g	ASCE 7-16 Equations 11.4-2 & 11.4-4
T_0	0.130	sec	ASCE 7-16 Section 11.4.6
T_S	0.652	sec	ASCE 7-16 Section 11.4.6
T_L	8	sec	ASCE 7-16 Figure 22-12

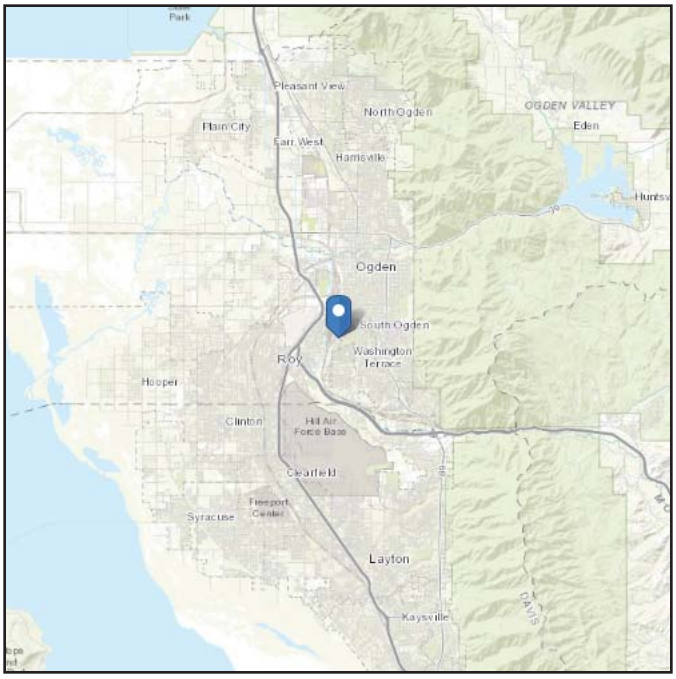
Wall Seismic Acceleration Considering Wave Scattering and Wall Displacement			
AASHTO LRFD Bridge Manual A11.5.3			
Variable	Value	Units	Notes/Source
H_{heel}	9.0	feet	
H'	7.200	feet	$=H_{heel}*0.8$
V_S	600	ft/sec	Specify source, base off site class, or $=107*N^{-0.314}$
T_S	0.048	sec	$=4*H'/V_s$
$1.5T_S$	0.072	sec	
S_a	0.657	sec	
D_a	15	cm	Maximum Allowable Wall Displacement (typ. 5, 10, or 15cm)
M	7.02		
ε	0		Normally distributed random variable with zero mean and a standard deviation of 0.66
a	3.067		$=2.83-0.566\ln(S_a)$
b	2.694		$=a^2-1.33[\ln(D_a)+1.10-3.04\ln(S_a)+0.244(\ln(S_a))^2-1.5T_S-0.278(M-7)-\varepsilon$
k_h	0.115	g	$=e^{(\frac{-a+\sqrt{b}}{0.66})}$

ASCE Hazards Report

Address:
4130 Riverdale Rd
Ogden, Utah
84405

Standard:	ASCE/SEI 7-16	**Latitude:**	41.187788
Risk Category:	I	**Longitude:**	-111.983178
Soil Class:	D - Stiff Soil	**Elevation:**	4361.007309342255 ft (NAVD 88)





ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

Seismic

Site Soil Class: D - Stiff Soil

Results:

S_S :	1.348	S_{D1} :	N/A
S_1 :	0.485	T_L :	8
F_a :	1	PGA :	0.609
F_v :	N/A	PGA_M :	0.67
S_{MS} :	1.348	F_{PGA} :	1.1
S_{M1} :	N/A	I_e :	1
S_{DS} :	0.899	C_v :	1.37

Ground motion hazard analysis may be required. See ASCE/SEI 7-16 Section 11.4.8.

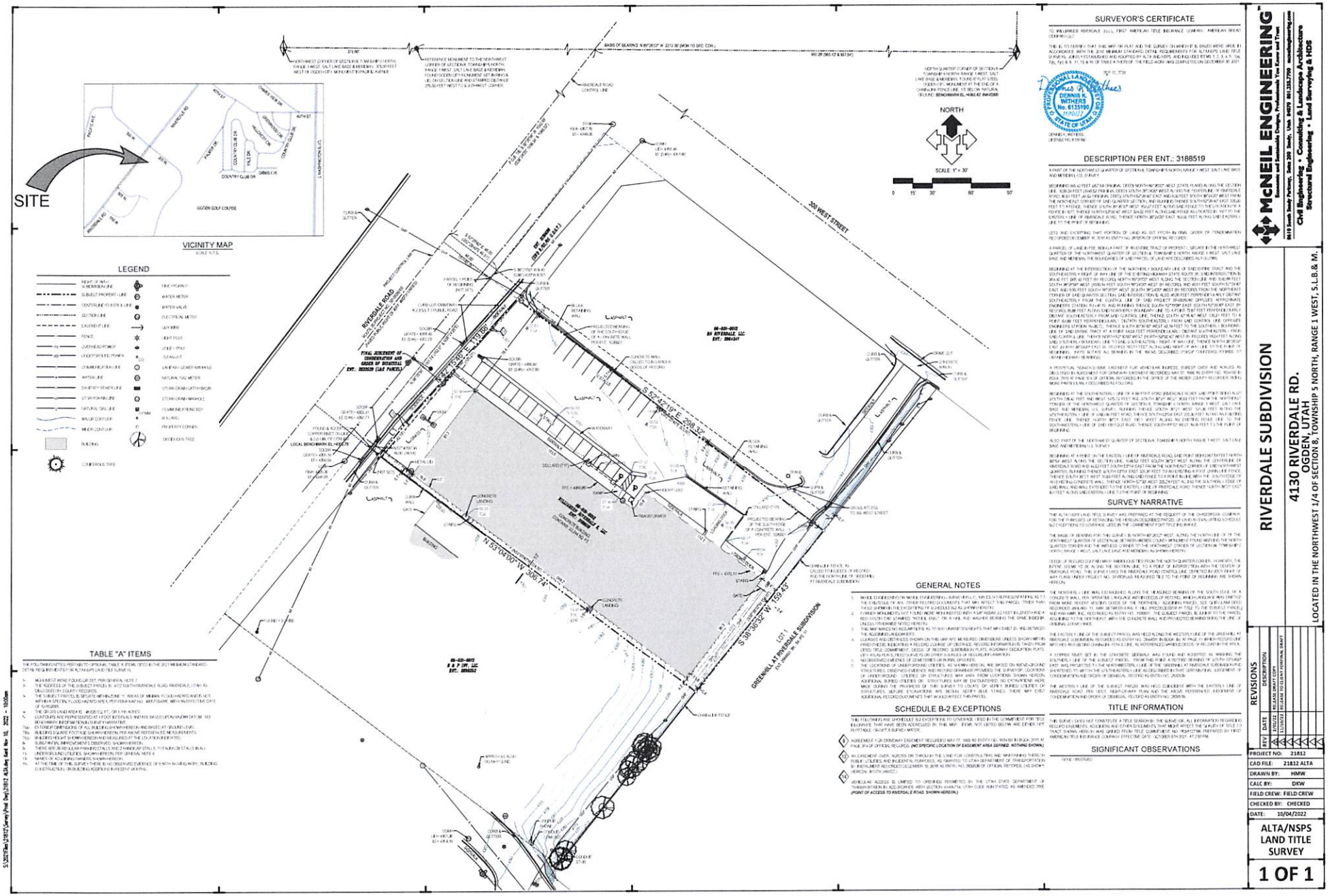
Data Accessed: Fri Jan 26 2024

Date Source: USGS Seismic Design Maps

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RIVERDALE SUBDIVISION

4130 RIVERDALE RD.
OGDEN, UTAH

LOCATED IN THE NORTHWEST 1/4 OF SECTION 8, TOWNSHIP 5 NORTH, RANGE 1 WEST, S.L.B.& M.

REVISIONS		
REV	DATE	DESCRIPTION
1	10/04/22	REVISED PER CLIENT COMMENTS
2	12/06/22	REVISED PER CLIENT COMMENTS
3	12/13/22	RELEASED AS CLIENT REVIEW DRAFT

PROJECT NO:	21812
CAD FILE:	21812 ALTA
DRAWN BY:	HMW
CALC BY:	DKW
FIELD CREW:	FIELD CREW
CHECKED BY:	CHECKED
DATE:	10/04/2022

ALTA/NSPS LAND TITLE SURVEY

1 OF 1

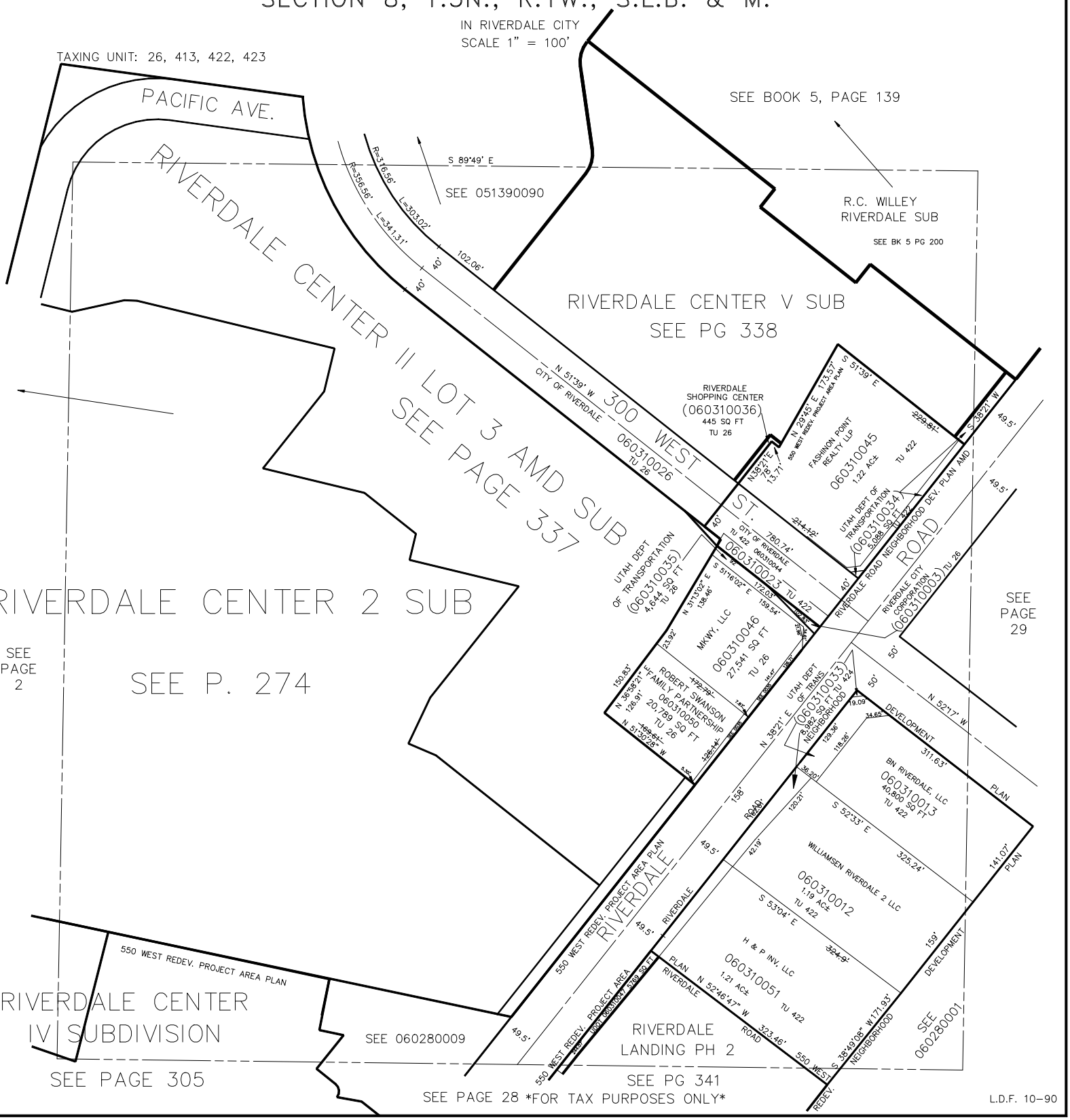
S:\2021\Proj\21812\Survey\Prod\Dwg\21812 ALTA.dwg Sat, Nov 19, 2022 - 10:05am

N.W. 1/4 OF N.W. 1/4

SECTION 8, T.5N., R.1W., S.L.B. & M.

IN RIVERDALE CITY
SCALE 1" = 100'

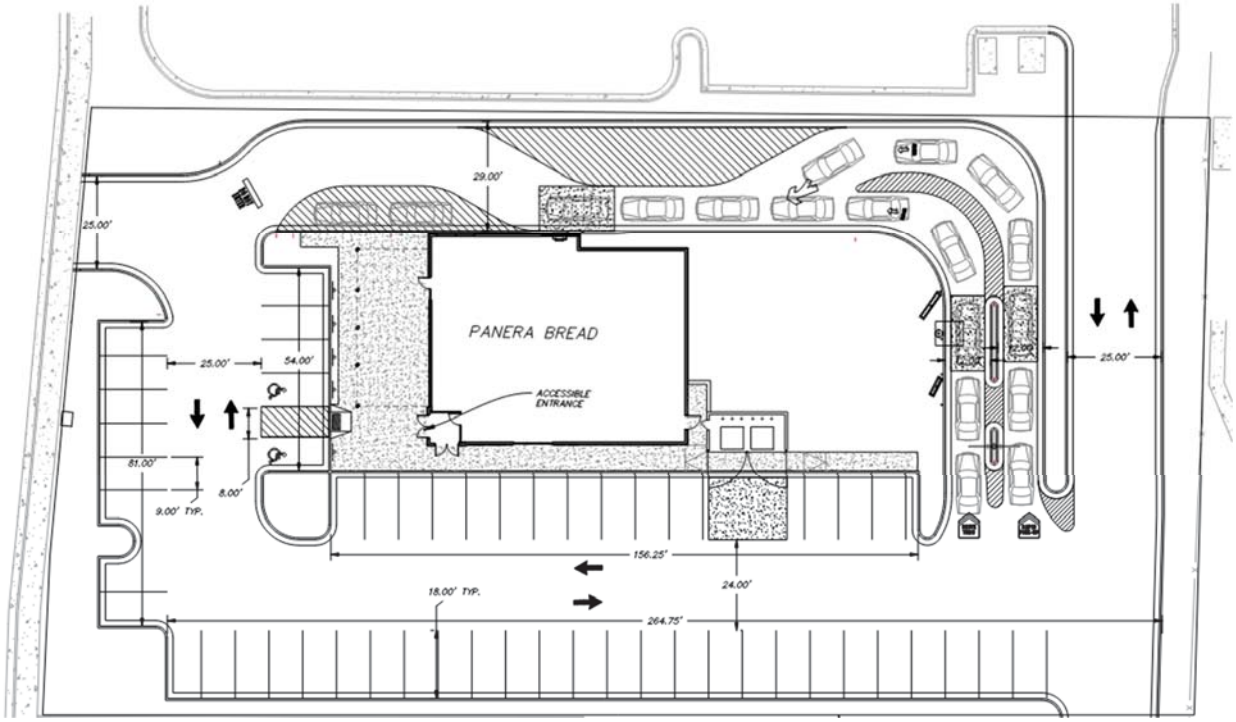
TAXING UNIT: 26, 413, 422, 423



SEE PAGE 28 *FOR TAX PURPOSES ONLY*

L.D.F. 10-90

Riverdale – Panera Bread
Traffic Impact Study



LICENSED PROFESSIONAL ENGINEER
8905056
JEREMY E.
SEARLE
STATE OF UTAH

Prepared by: WCG

Date: October 24, 2023

Executive Summary

This study addresses the traffic impacts associated with the proposed Panera Bread development (Project) located in Riverdale, Utah. The Project is south of the 300 West / Riverdale Road (SR-26) intersection.

The Project proposes a new Panera Bread restaurant. The site plan includes approximately 3,800 square feet of restaurant space, and a drive thru. The Project is anticipated to add an additional 404 daily trips to the roadway network, including 52 trips in the morning peak hour and an additional 62 trips in the evening peak hour. The Project could potentially add a RIRO access 100 feet south of the 300 West / Riverdale Road (SR-26) intersection.

The level of service (LOS) for both morning and evening peak hours was determined for each study intersection under the existing and existing plus project scenarios. Both scenarios with and without a RIRO access were analyzed. The results of the analysis are summarized in ***Table ES-1***.

Table ES-1: Level of Service Summary			
Intersection	**Level of Service (sec/vehicle)[1]**		
	Existing (2023) Background	**Existing (2023) Plus Project**	**Existing (2023) Plus Project w/ RIRO Access**
AM Peak Hour			
Access Road (Canes) / Riverdale Road (SR-26)	F (>50) / EB LT	F (>50) / EB LT	F (>50) / EB LT
RIRO Access / Riverdale Road (SR-26)	-	-	B (10.9) / WB RT
300 West / Riverdale Road (SR-26)	B (16.5)	B (16.6)	B (16.2)
Access Road (Starbucks) / 300 West	C (20.1) / NB LT	C (20.5) / NB LT	C (16.3) / NB LT
PM Peak Hour			
Access Road (Canes) / Riverdale Road (SR-26)	F (>50) / EB LT	F (>50) / EB LT	F (>50) / EB LT
RIRO Access / Riverdale Road (SR-26)	-	-	F (>50) / WB RT
300 West / Riverdale Road (SR-26)	C (33.0)	C (32.3)	C (30.0)
Access Road (Starbucks) / 300 West	F (>50) / NB LT	F (>50) / NB LT	F (>50) / NB LT

[1] Intersection LOS and delay (seconds/vehicle) values represent the overall intersection average for signalized intersections and the worst movement for unsignalized intersections.

Findings and Recommendations

WCG makes the following conclusions and recommendations:

- Existing 2023 conditions were analyzed.
    - The 300 West / Riverdale Road (SR-26) intersection operates at acceptable LOS during the morning and evening peak hours.
        - During the evening peak hour, the westbound left turn movement at the 300 West / Riverdale Road (SR-26) intersection extends into the Access Road (Starbucks) / 300 West intersection.
            - It is recommended that the signal timing at the 300 West / Riverdale Road (SR-26) intersection be updated to give more time to the westbound left-turn movements.

        - Preliminary analysis determined that the westbound left-turn queue extends into the Access Road (Starbucks) / 300 West intersection less frequently.
    - The Access Road (Canes) / Riverdale Road (SR-26) intersection operates at LOS F during the morning and evening peak hours.
        - It is common for unsignalized side streets to experience long left turn delays onto busy arterials.
    - The Access Road (Starbucks) / 300 West intersection operates at LOS C during the morning peak hour and LOS F during the evening peak hour.
- The Project proposes a new Panera Bread restaurant. The site plan includes approximately 3,800 square feet of restaurant space with a drive thru.
- The Project is anticipated to generate a total of 407 daily trips to the roadway network, including 52 trips in the morning peak hour and 62 trips in the evening peak hour. These numbers are calculated values from the ITE trip generation model.
    - Based on ITE data, the convenience store / gas station has 43% pass-by trips during the morning and evening peak hour periods. To be conservative, no pass-by reductions were taken in this analysis.
- The Project could potentially add a right-in-right-out (RIRO) 100 feet south of the 300 West / Riverdale Road (SR-26) intersection.
    - A variance from UDOT standards will be required if this access is installed.
- With Project traffic added, no auxiliary lanes are required based on UDOT Administrative Rule R930-6.
- Scenarios with and without a RIRO access to the Project site were analyzed. It is assumed that signal timing at the 300 West / Riverdale Road (SR-26) intersection is updated to accommodate the new traffic volumes.
    - With Project traffic added, the 300 West / Riverdale Road (SR-26) intersection is anticipated to operate at acceptable LOS during the morning and evening peak hours with or without a RIRO access.
    - The Access Road (Starbucks) / 300 West intersection operates at acceptable LOS during the morning peak hour and LOS F during the evening peak hour with and without the RIRO access.
        - Since this intersection operates at acceptable LOS during the morning peak hour and throughout most of the day, no mitigation measures are recommended.
    - The Access Road (Canes) / Riverdale Road (SR-26) intersection operates at LOS F during the morning and evening peak hours.
        - It is common for unsignalized side streets to experience long left turn delays onto busy arterials.

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I. INTRODUCTION

A. Purpose

This study addresses the traffic impacts associated with the proposed Panera Bread restaurant (Project) located in Riverdale, Utah. The Project is located south of the 300 West / Riverdale Road (SR-26) intersection. The Project could potentially create a new right-in-right-out (RIRO) access 100 feet south of the 300 West / Riverdale Road (SR-26) intersection. ***Figure 1*** depicts the location of the Project and the study intersections. A concept land use plan is also included in ***Appendix A***.

Included within the analyses for this study are the traffic operations for opening day (2023) conditions with and without the Project at study intersections and roadways adjacent to the Project. Both scenarios with and without the RIRO access are included.

B. Scope

Based on the proximity to the Project site the following intersections were analyzed to evaluate the traffic operational impacts:

- 300 West / Riverdale Road (SR-26)
- Access Road (Adjacent to Raising Canes) / Riverdale Road (SR-26)
- Access Road (behind Starbucks) / 300 West

C. Analysis Methodology

Level-of-service (LOS) is a term that describes an intersection's operating performance during critical peak hours of the day. LOS is measured quantitatively and reported on a scale from A to F, with A representing the best performance and F the worst. ***Table 1*** provides a brief description of each LOS letter designation and an accompanying average delay per vehicle thresholds for both signalized and unsignalized intersections.

The Highway Capacity Manual (HCM) 7th Edition, 2022 methodology was used in this study. This methodology has different quantitative evaluations for signalized and unsignalized intersections. For signalized intersections, the overall intersection LOS is reported. For other unsignalized intersections, the worst approach or movement LOS is reported. LOS is measured in seconds of delay per vehicle.

Table 1: Level of Service Definition for Intersections			
LOS	**Signalized Delay (sec/vehicle)**	**Unsignalized Delay (sec/vehicle)**	**Description**
A	≤10	≤10	Favorable progression
B	>10 and ≤20	>10 and ≤15	Good progression
C	>20 and ≤35	>15 and ≤25	Fair progression
D	>35 and ≤55	>25 and ≤35	Noticeable congestion
E	>55 and ≤80	>35 and ≤50	Limit of acceptable delay
F	>80	>50	Unacceptable delay
Source: *Highway Capacity Manual*, Transportation Research Board, 2022			

Using Synchro/SimTraffic software, which incorporates the HCM methodology, WCG computed the peak hour LOS for each study intersection. Multiple runs (10) of SimTraffic were used to provide a statistical evaluation of traffic operations along the study corridor and at each study intersection. Detailed LOS and queueing reports are included in ***Appendix C***.

D. Level of Service Standards

For the purposes of this study, a minimum overall intersection performance for each of the study intersections was set at LOS D. LOS D is generally considered acceptable for urbanized areas. If LOS E or F conditions exist, an explanation and/or mitigation measures are presented.



WALL CONSULTANT GROUP

Vicinity Map

Riverdale Panera TIS

N

DATE: 10/24/2023

PROJECT: 23-420

Figure 1

II. BACKGROUND EXISTING CONDITIONS

A. Purpose

The purpose of the existing conditions section is to gather existing information on roadway geometry, lane configurations and traffic volumes for the surrounding area. This information is used to help identify and quantify impacts that the Project will have on the surrounding roadway network. The existing (2023) background analysis evaluates the study intersections and roadways without any Project traffic and establishes existing traffic and geometric conditions.

B. Roadway Network

The intersections are described below and shown in ***Figure 2***, along with existing intersection lane configurations.

300 West / Riverdale Road (SR-26) – This study intersection is a four-leg intersection controlled by a signal. The northbound (Riverdale Road) approach has three thru lanes, two left-turn lanes, and a single right-turn lane. The southbound (Riverdale Road) approach has two thru lanes, a shared thru/right-turn lane, and a single left-turn lane. The eastbound approach (300 West) has two left-turn lanes, a single thru lane, and a shared thru/right-turn lane. The westbound approach (300 West) has two left-turn lanes, a single thru lane, and a single right-turn lane. The posted speed limit along Riverdale Road (SR-26) at this location is 35 MPH. The posted speed limit on 300 West is 30 MPH.

Access Road (Canes) / Riverdale Road (SR-26) – This study intersection is a four-leg intersection. The northbound and southbound (Riverdale Road) approaches are free movements while the eastbound and westbound (Access Road) approaches are stop controlled. The northbound and southbound movements have two thru lanes and a shared thru/right-turn lane in each direction, as well as a two-way-left-turn median. Both the westbound and eastbound approaches have a left-turn and right-turn lane. The posted speed limit along Riverdale Road (SR-26) at this location is 35 MPH. The posted speed limit along the Access Road (Shake Shack) is 25 MPH.

Access Road (Starbucks) / 300 West – This study intersection is a three-leg intersection. The eastbound and westbound (300 West) approaches are free movements while the northbound (Access Road) approach is stop controlled. The eastbound approach has a single thru lane and shared thru/right-turn lane. The westbound approach has two thru lanes. 300 West also has a two-way-left-turn-median at this location. The northbound approach has a single ingress lane. The posted speed limit along the Access Road (Starbucks) is 25 MPH.

C. Traffic Volumes

WCG conducted weekday morning (7:00 AM to 9:00 AM) and evening (4:00 PM to 6:00 PM) peak period traffic counts at the following existing intersections:

- 300 West / Riverdale Road (SR-26)
- Access Road (Adjacent Raising Canes) / Riverdale Road (SR-26)

- Access Road (behind Starbucks) / 300 West

The intersection turning movement counts were completed on Wednesday October 18th, 2023. The morning peak hour was observed to be 7:30 AM – 8:30 AM. The evening peak hour was observed to be 4:45 PM – 5:45 PM.

Figure 2 depicts the existing (2023) morning and evening peak hour traffic volumes at the study intersections. Traffic count data is included in ***Appendix B***.

D. Level of Service Analysis

WCG determined that the 300 West / Riverdale Road (SR-26) intersection is operating acceptable LOS during the morning and evening peak hour. The Access Road (Canes) / Riverdale Road (SR-26) intersection operates at LOS F during the morning and evening peak hours. The Access Road (Starbucks) / 300 West intersection operates at acceptable LOS during the morning peak hour and unacceptable LOS during the evening peak hour, as shown in **Table 2**. Detailed LOS reports are included in ***Appendix C***.

E. Queuing Analysis

The 95th percentile queue lengths were evaluated for each study intersection. During the evening peak hour, the westbound left turn queue at the 300 West / Riverdale Road intersection (SR-26) is approximately 270 feet, extending past the turn pockets. This can interfere with egressing vehicles at the Access Road (Starbucks) / 300 West intersection. No significant queuing was observed. The full queuing analysis is included in ***Appendix C***.

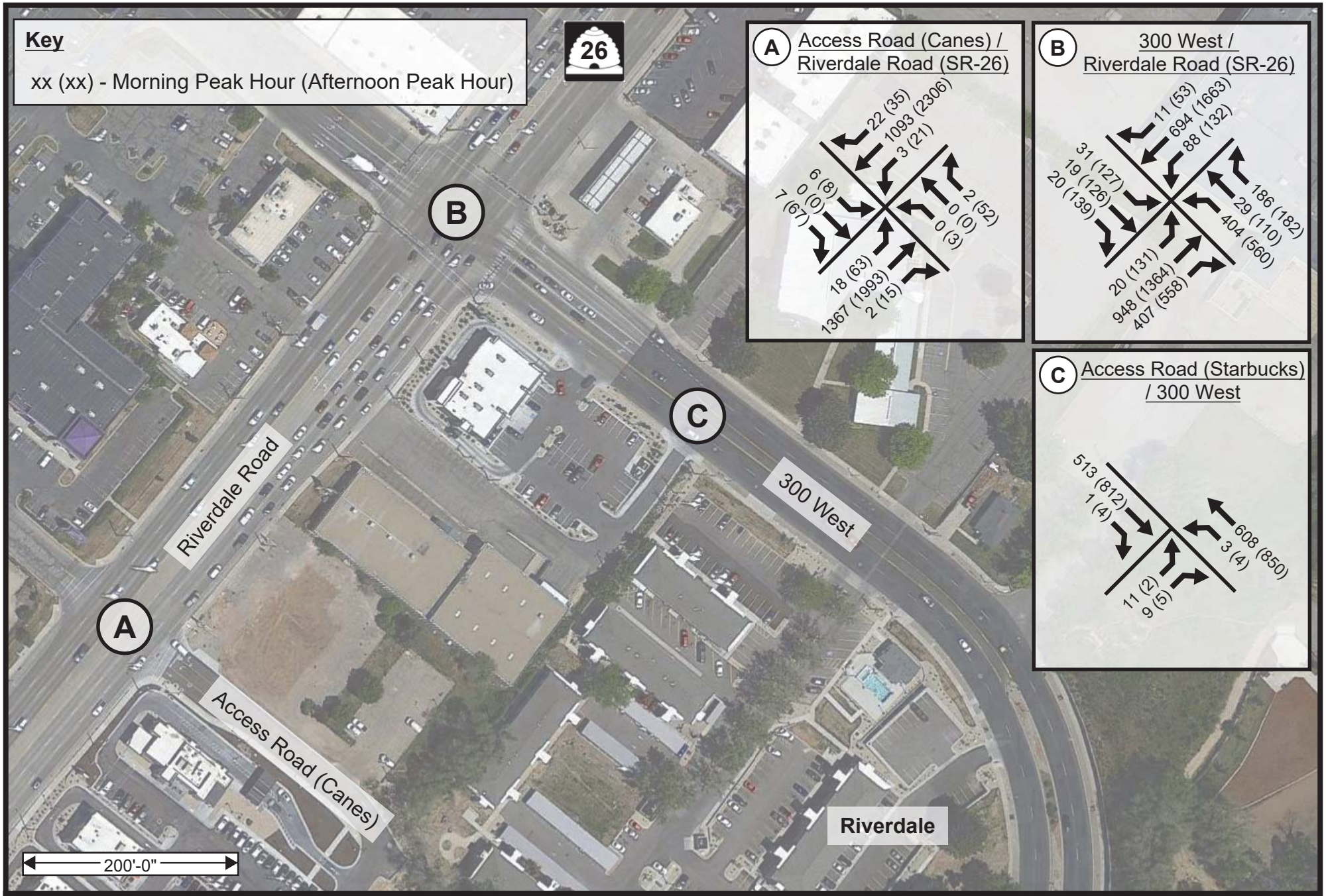
F. Mitigation Measures

As shown in ***Table 2***, the Access Road (Canes) / Riverdale Road (SR-26) intersection is currently operating at LOS F during the morning and evening peak hour. It is common for unsignalized side streets to experience long left turn delays onto busy arterials. This intersection does not meet the criteria for a signal. During the morning and (evening) peak hours, there are a total of 6 (11) vehicles attempting to make a left turn from Access Road (Canes). Since there is a low number of left turns onto this Riverdale Road (SR-26), no mitigation measures are recommended at this intersection.

The westbound queue at the 300 West / Riverdale Road (SR-26) intersection extends into the Access Road (Starbucks) / 300 West intersection during the evening peak hour. It is recommended that the signal timing at 300 West / Riverdale Road (SR-26) intersection be adjusted so that more green time is given to the westbound left turns. Preliminary analysis found that doing so reduces the 95th percentile westbound left-turn queue to 175 feet. The queue still occasionally extends into the Access Road (Starbucks) / 300 West intersection, but less frequently.

Table 2: Existing (2023) Background Conditions Peak Hour Level of Service						
Intersection		**Worst Movement[1]**			**Overall Intersection[2]**	
Intersection	**Control**	**Approach**	**Avg. Delay (Sec / Veh)**	**LOS**	**Avg. Delay (Sec / Veh)**	**LOS**
AM Peak Hour						
Access Road (Canes) / Riverdale Road (SR-26)	EB / WB Stop	EB LT	>50	F	-	-
300 West / Riverdale Road (SR-26)	Signal	-	-	-	16.5	B
Access Road (Starbucks) / 300 West	NB Stop	NB LT	20.1	C	-	-
PM Peak Hour						
Access Road (Canes) / Riverdale Road (SR-26)	EB / WB Stop	EB LT	>50	F	-	-
300 West / Riverdale Road (SR-26)	Signal	-	-	-	33.0	C
Access Road (Starbucks) / 300 West	NB Stop	NB LT	>50	F	-	-

[1] This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for unsignalized intersections.
[2] This represents the overall intersection LOS and delay (seconds / vehicle).



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Existing Traffic Conditions (2023)

Riverdale Panera TIS

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DATE: 10/24/2023

PROJECT: 23-420

Figure 2

III. PROJECT CONDITIONS

A. Purpose

This section describes the type and intensity of land uses planned as a part of the Project and serves as the basis for trip generation, distribution, and assignment of Project trips to the study area roadways and intersections.

B. Project Description

The Project proposes a new Panera Bread restaurant which will have approximately 3,800 square feet of restaurant space and a drive thru. The Project could potentially create a new access 100 feet south of the 300 West / Riverdale Road (SR-26) intersection. A conceptual land use plan for the Project is included in ***Appendix A***.

C. Overall Trip Generation, Distribution and Assignment

The Project trip generation estimates were developed using trip generation rates published in the Institute of Transportation Engineers (ITE) *Trip Generation, 11th Edition*. WCG compared the trip generation rates between ITE land uses #932: High-Turnover (Sit-Down) Restaurant, #930: Fast Casual Restaurant, and #934: Fast-Food Restaurant with Drive-Thru Window. Based on the nature of Panera Bread, the trip generation for land uses #930 and #932 were more reasonable than the high number of trips generated by #934. ITE has little data for land use #930, and this land use generates less trips than land use #932. Therefore, land use #932 was used in this study. The ITE land use description for High-Turnover (Sit-Down) Restaurant states, "This land use consists of sit-down, full-service eating establishments with a typical duration of stay of 60 minutes or less. This type of restaurant is usually moderately priced, frequently belongs to a restaurant chain, and is commonly referred to as casual dining."

The number of trips generated by the overall Project is shown in ***Table 3***.

Table 3: Overall Trip Generation

Land Use	Intensity	Units	Daily	AM Peak			PM Peak		
			Total	In	Out	Total	In	Out	Total
High-Turnover (Sit-Down) Restaurant (#932)	3.8	1,000 sq ft GFA	**407**	**30**	**22**	**52**	**32**	**30**	**62**

Project traffic from ***Table 3*** was assigned to the roadway network based on the type of trip and the proximity of Project access points to regional roadways and major population/employment centers. Existing travel patterns observed during data collection and engineering judgement provided primary guidance to establish distribution percentages. It is assumed that all accesses are completed. The trip distribution for the project was estimated as follows:

- 35% North
- 40% South

- 20% East
- 5% West

With the drive thru being part of the Project, some of the trips generated are anticipated to be pass-by trips. Pass-by trips are trips that are already on the roadway that will stop at a land use on their way to their primary destination. For example, drivers may stop by the restaurant via the drive thru on their way home from work. These are not new trips to the network, but they do enter and exit the site. Based on data from ITE, a high turnover restaurant has 43% pass-by trips during the morning and evening peak hour periods. To be conservative, pass-by reduction was not used in this analysis.

Traffic was assigned for the opening day (2023) conditions. The traffic assignment for the Project without a RIRO access is shown in ***Figure 3.*** The traffic assignment for the Project without a RIRO access is shown in ***Figure 4.***

D. Accesses and Access Spacing

As previously mentioned, the Project could potentially create a new access adjacent to Starbucks along Riverdale Road (SR-26). This access would be located approximately 100 feet south of the 300 West / Riverdale Road (SR-26) intersection. This access will be a RIRO access. The westbound approach will be stop controlled.

UDOT classifies Riverdale Road (SR-26) as an Access Category 5 – Regional Priority-Urban Importance roadway. An access category 5 roadway access spacing criteria requires a minimum of ½ mile (2,640 feet) spacing between signalized intersections, 660-foot street spacing, 350-foot access spacing, and 500-foot RIRO spacing.

The potential access is located approximately 100 feet south of the 300 West / Riverdale Road (SR-26) intersection. This access is proposed to be a RIRO access. This access does not meet the UDOT access spacing requirements. A variance from UDOT standards will be required.

E. Auxiliary Lanes

Based on Administrative Rule R930-6, the following auxiliary lanes may be required for the North Access on Riverdale Road (SR-26) (UDOT Access Category 5 roadway):

Left-turn Deceleration Lane with Storage Length Plus Taper:

- Required when projected peak hour left ingress turning volume is greater than 10 vehicles per hour. As shown in ***Figure 3*** and ***Figure 4***, this access is planned as a right-in right-out access, so the projected peak hour left-turn volume is 0. Therefore, a left-turn deceleration lane with storage length plus taper is not required.

Right-turn Deceleration Lane with Storage Length Plus taper

- Required when projected peak hour right ingress turning volume is greater than 25 vehicles per hour. As shown in ***Figure 3*** and ***Figure 4***, the projected peak hour right-turn volume is less than 25 vehicles at the access to the Project along

Riverdale Road (SR-26). Therefore, a right-turn deceleration lane with storage length plus taper is not required.

Right-turn Acceleration Lane with Storage Length Plus taper

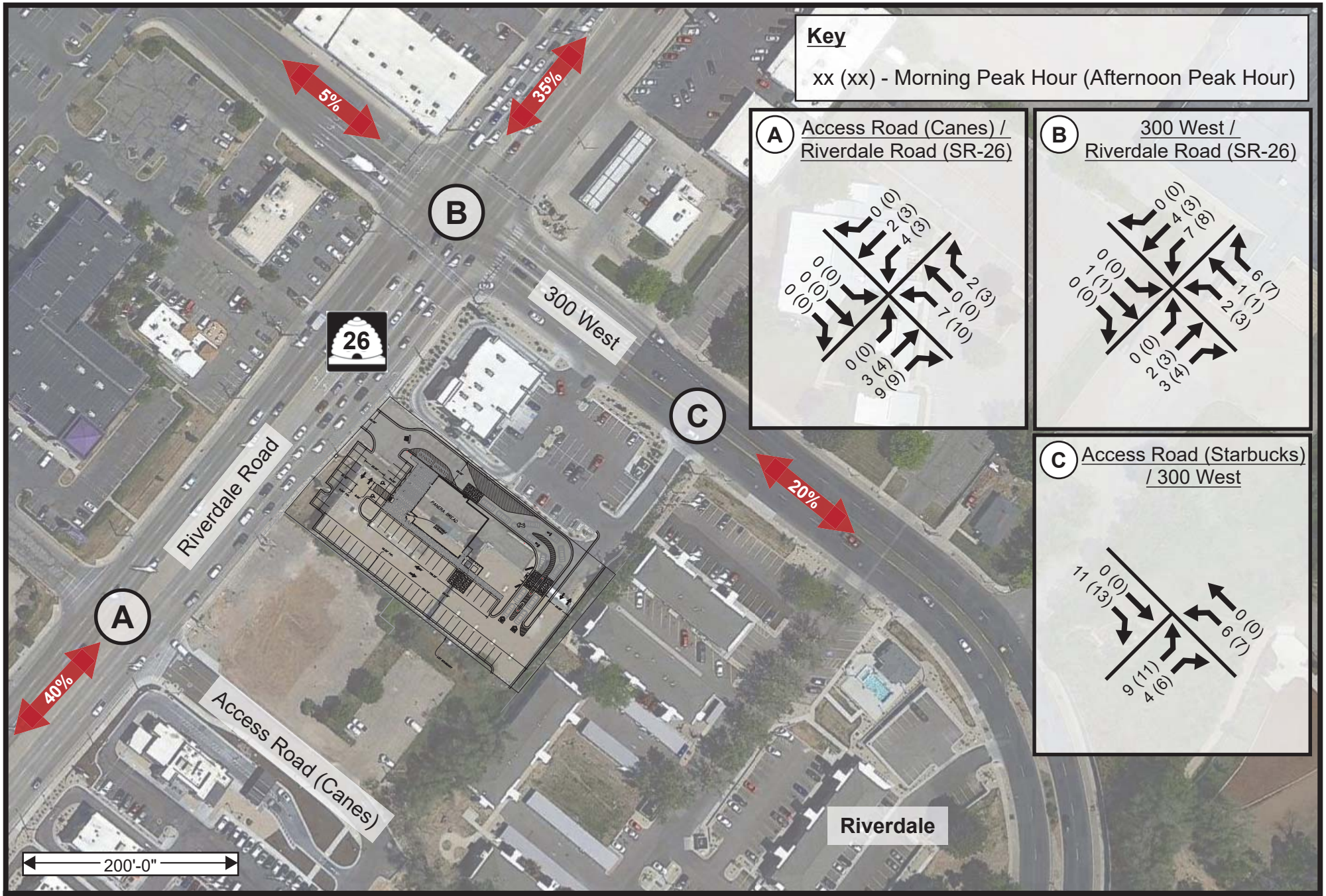
- Required with the projected peak hour right turning volume is greater than 50 vehicles per hour when the posted speed limit on the highway is greater than 40 MPH. As shown in ***Figure 3*** and ***Figure 4***, the projected peak hour right-turn volume is less than 25 vehicles the access to the Project along Riverdale Road (SR-26). Additionally, the speed limit on Riverdale Road (SR-26) is 35 MPH at this location. Therefore, a right-turn acceleration lane with storage length plus taper is not required.

Left-turn Acceleration Lane

- Administrative Rule R930-6 states that, A left turn acceleration lane is generally not required where the posted speed limit is less than 45 MPH, the intersection is signalized, or the acceleration lane would interfere with the left turn ingress movements to any other access." Since the speed limit on Riverdale Road (SR-26) is less than 45 MPH at this location and this is planned as a right-in right-out access, a left-turn acceleration lane is not required.

Administrative Rule R930-6 states that "Right turn deceleration and acceleration lanes are generally not required on roadways with three or more travel lanes in the direction of the right turn." Since Riverdale Road (SR-26) has three travel lanes in both directions and the projected peak turning movements are less than the requirements, right turn deceleration and acceleration lanes are not required.

In summary, no auxiliary lanes are required.



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Project Traffic Opening Day Trip Assignment
without RIRO Access

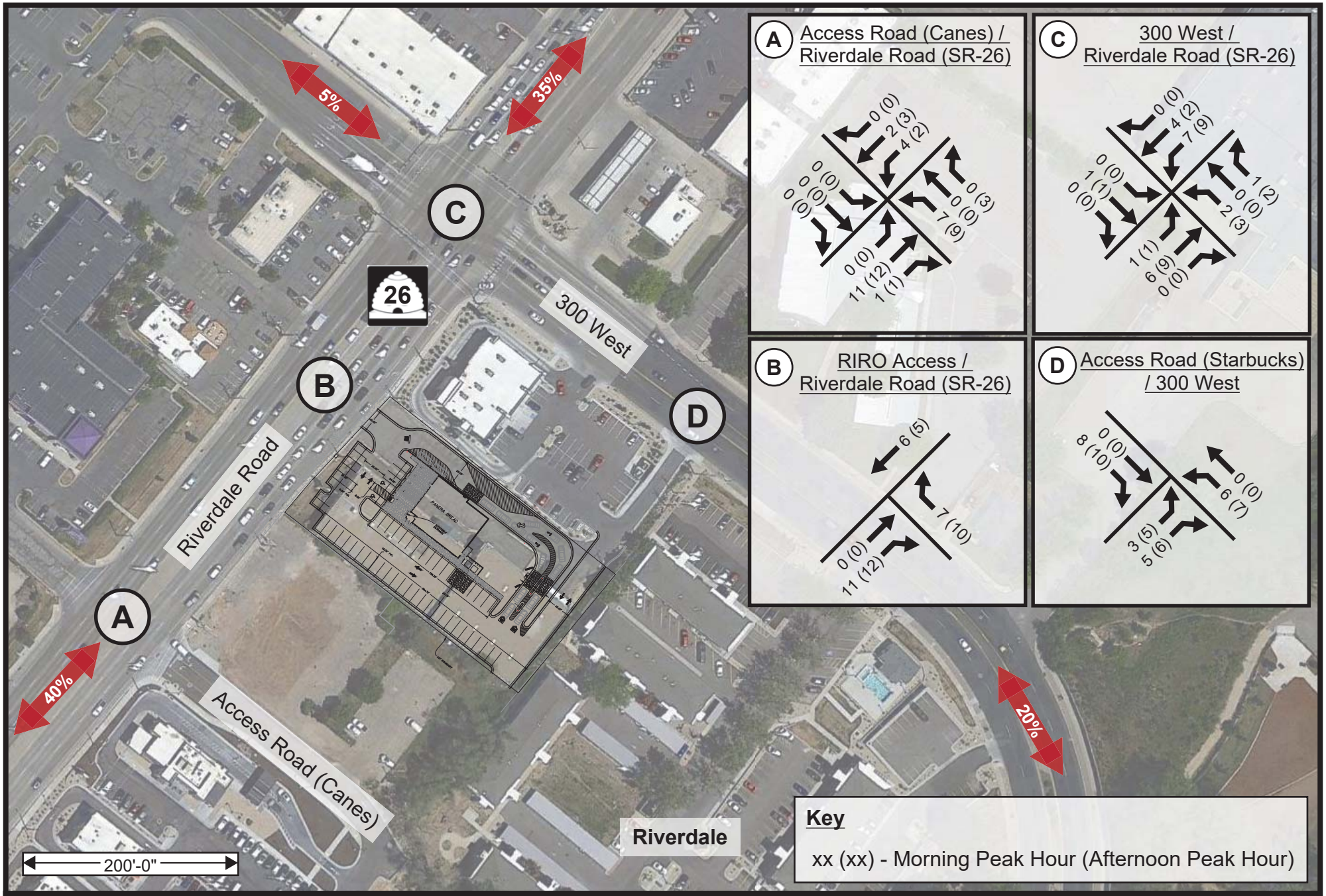
Riverdale Panera TIS

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DATE: 10/24/2023

PROJECT: 23-420

Figure 3



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Project Traffic Opening Day Trip Assignment with RIRO Access

Riverdale Panera TIS

N

DATE: 10/24/2023

PROJECT: 23-420

Figure 4

IV. OPENING DAY PLUS PROJECT CONDITIONS

A. Purpose

The opening day project traffic was combined with (2023) background traffic volumes to evaluate the study intersections and determine any potential impacts that are specifically attributed to Project traffic. Both scenarios with and without a RIRO access were analyzed.

B. Project Description

As mentioned in Chapter III Project Conditions, The Project proposes a Panera Bread restaurant with approximately 3,800 square feet of restaurant space and a drive thru. The Project is anticipated to add an additional 407 daily trips to the roadway network, including 52 trips in the morning peak hour and an additional 62 trips in the evening peak hour. There is potential for the Project to add a RIRO access 100 feet south of the 300 West / Riverdale Road (SR-26) intersection. ***Figure 3*** and ***Figure 4*** depict the project traffic distribution and assignment to the roadway network without and with the RIRO access, respectively.

C. Roadway Network

Besides those introduced by the project, no changes are assumed for the roadway network in opening day conditions. It is assumed that signal timing at the 300 West / Riverdale Road (SR-26) intersection has been updated to accommodate the updated volumes at the intersection.

D. Traffic Volumes

For the scenario without a RIRO access, the project traffic from ***Figure 3*** was combined with 2023 background traffic volumes (***Figure 2***) to reflect the opening day plus project traffic volumes shown in ***Figure 5.*** For the scenario with a RIRO access, the project traffic from ***Figure 4*** was combined with 2023 background traffic volumes (***Figure 2***) to reflect the opening day plus project traffic volumes shown in ***Figure 6.***

E. Level of Service Analysis

WCG determined that the 300 West / Riverdale Road (SR-26) intersection is anticipated to operate at acceptable levels of service during the morning and evening peak hours both with and without the RIRO access as shown in ***Table 4*** and ***Table 5***. With and without the RIRO access, the Access Road (Starbucks) / 300 West intersection is anticipated to operate at LOS C during the morning peak hour and LOS F during the evening peak hour. The RIRO access is anticipated to operate at LOS B during the morning peak hour and LOS F during the evening peak hour. Detailed LOS reports are included in ***Appendix C***.

F. Queuing Analysis

The 95th percentile queue lengths were evaluated for each study intersection. During the evening peak hour, the 95th percentile queue for the northbound direction at the 300 West / Riverdale Road (SR-26) intersection is anticipated to be approximately 180 feet during the evening peak hour. This can block egressing westbound vehicles at the RIRO access. The full queuing analysis is included in ***Appendix C***.

G. Mitigation Measures

As mentioned in Chapter II, it is common for unsignalized side streets to experience long left turn delays onto busy arterials. The Access Road (Canes) / Riverdale Road (SR-26) intersection does not meet the criteria for a signal. During the morning (evening) peak hour, there are a total of 13 (21) vehicles attempting to make a left turn from Access Road (Canes). Since there is a low number of left turns onto this Riverdale Road (SR-26), no mitigation measures are recommended at this intersection.

The Access Road (Starbucks) / 300 West operates at acceptable LOS during the morning peak hour and throughout most of the day. Therefore, no mitigation measures are recommended at this intersection.

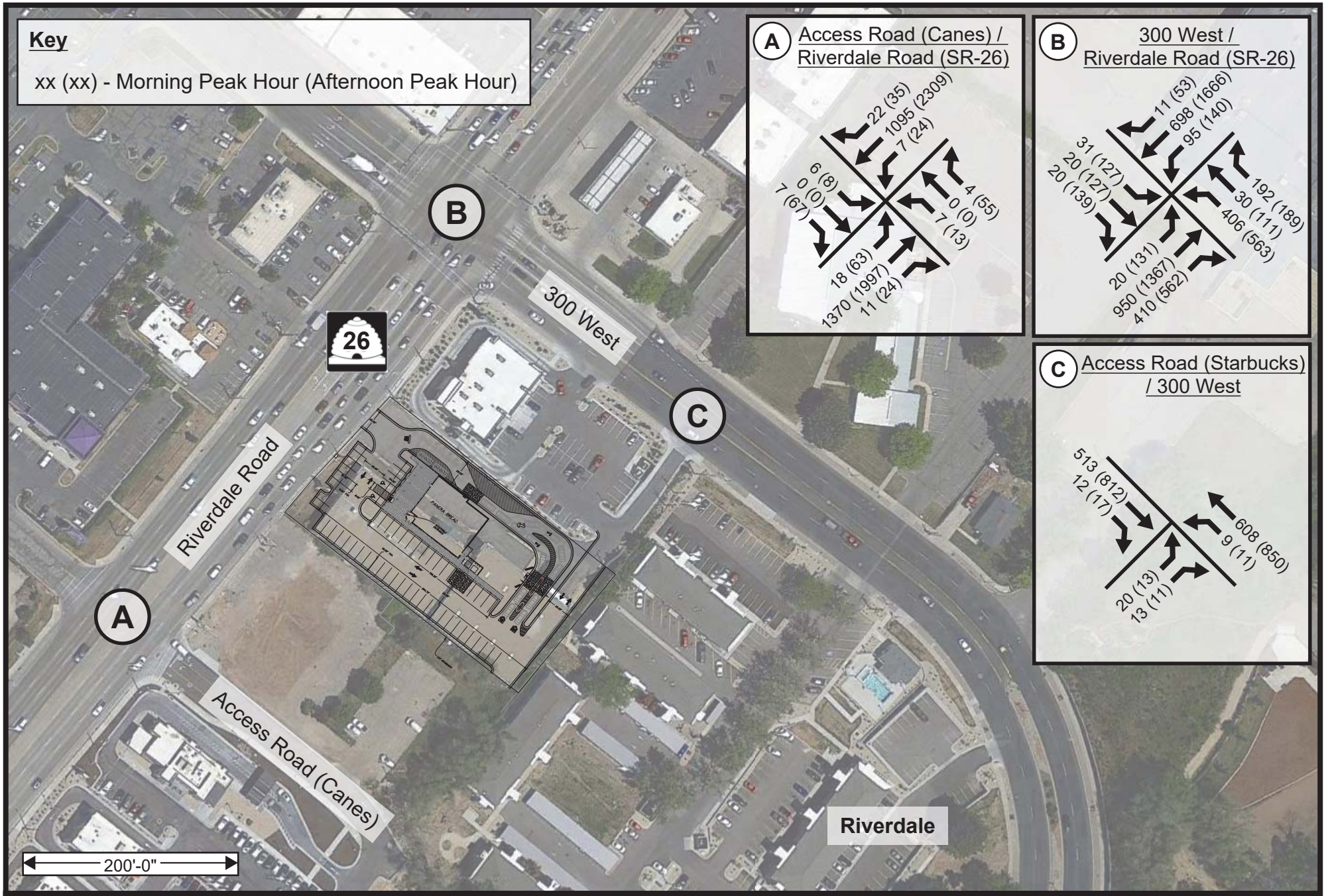
Table 4: Opening Day (2023) Plus Project Peak Hour Level of Service without RIRO Access

Intersection		Worst Movement[1]			Overall Intersection[2]	
Intersection	Control	Approach	Avg. Delay (Sec / Veh)	LOS	Avg. Delay (Sec / Veh)	LOS
AM Peak Hour						
Access Road (Shake Shack) / Riverdale Road (SR-26)	EB / WB Stop	EB LT	>50	F	-	-
300 West / Riverdale Road (SR-26)	Signal	-	-	-	16.6	B
Access Road (Starbucks) / 300 West	NB Stop	NB LT	20.5	C	-	-
PM Peak Hour						
Access Road (Shake Shack) / Riverdale Road (SR-26)	EB / WB Stop	EB LT	>50	F	-	-
300 West / Riverdale Road (SR-26)	Signal	-	-	-	32.3	C
Access Road (Starbucks) / 300 West	NB Stop	NB LT	>50	F	-	-

[1] This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for unsignalized intersections.
[2] This represents the overall intersection LOS and delay (seconds / vehicle).

Table 5: Opening Day (2023) Plus Project Peak Hour Level of Service with RIRO Access						
Intersection		**Worst Movement[1]**			**Overall Intersection[2]**	
Intersection	**Control**	**Approach**	**Avg. Delay (Sec / Veh)**	**LOS**	**Avg. Delay (Sec / Veh)**	**LOS**
AM Peak Hour						
Access Road (Shake Shack) / Riverdale Road (SR-26)	EB / WB Stop	EB LT	>50	F	-	-
RIRO access / Riverdale Road (SR-26)	WB Stop	WB RT	10.9	B	-	-
300 West / Riverdale Road (SR-26)	Signal	-	-	-	16.2	B
Access Road (Starbucks) / 300 West	NB Stop	NB LT	16.3	C	-	-
PM Peak Hour						
Access Road (Shake Shack) / Riverdale Road (SR-26)	EB / WB Stop	EB LT	>50	F	-	-
RIRO access / Riverdale Road (SR-26)	WB Stop	WB RT	>50	F	-	-
300 West / Riverdale Road (SR-26)	Signal	-	-	-	30.0	C
Access Road (Starbucks) / 300 West	NB Stop	NB LT	>50	F	-	-

[1] This represents the worst approach LOS and delay (seconds / vehicle) and is only reported for unsignalized intersections.
[2] This represents the overall intersection LOS and delay (seconds / vehicle).



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2023 Plus Project Conditions without RIRO Access

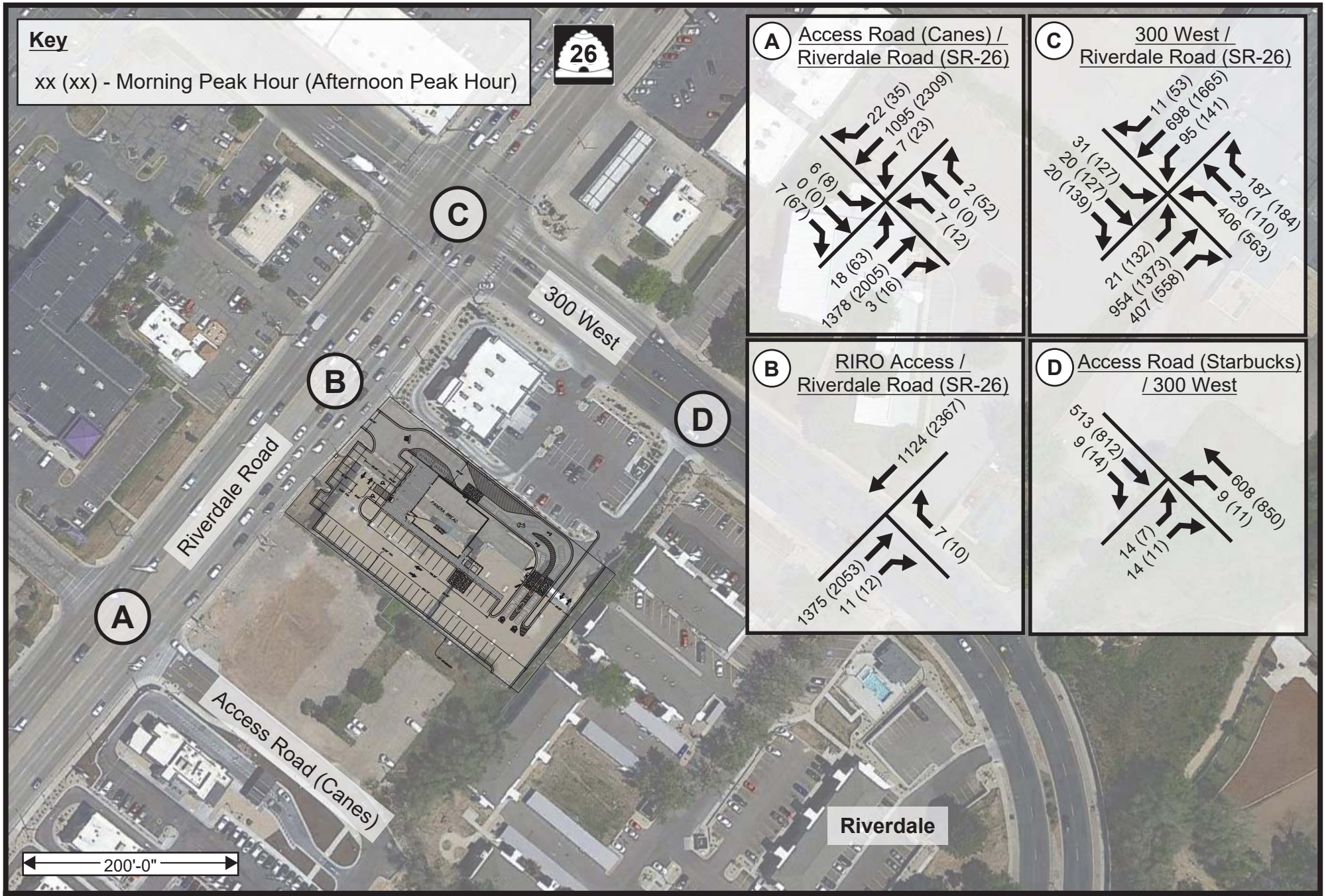
Riverdale Panera TIS

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DATE: 10/24/2023

PROJECT: 23-420

Figure 5



WALL CONSULTANT GROUP

2023 Plus Project Conditions with RIRO Access

Riverdale Panera TIS

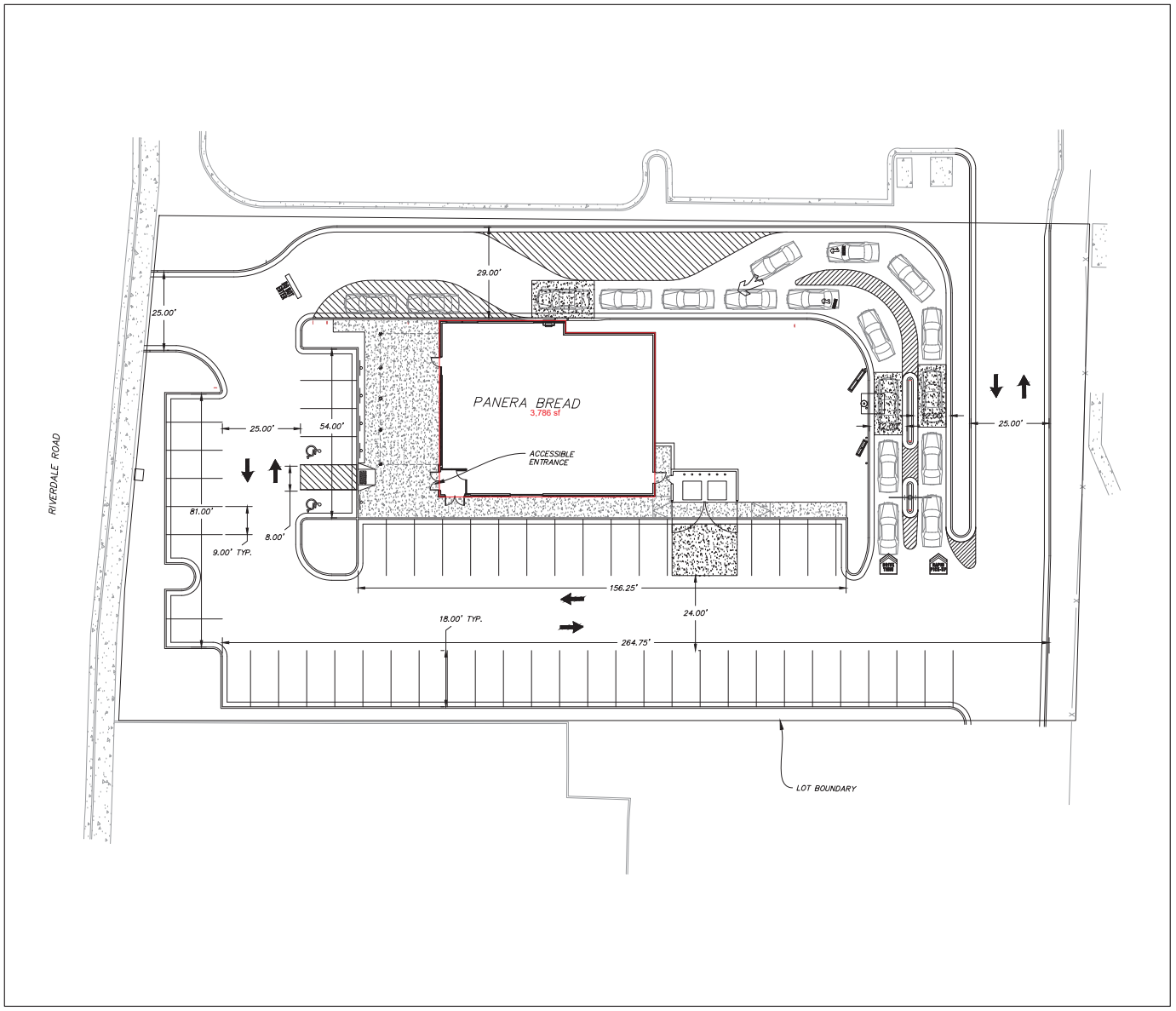
DATE: 10/24/2023

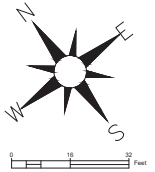
PROJECT: 23-420

Figure 6

V. APPENDICES

APPENDIX A: CONCEPTUAL LAND USE PLAN





PRELIMINARY - NOT FOR CONSTRUCTION

RIVERDALE CITY

CITY ENGINEER DATE

NO.	DESCRIPTION	DATE

PERIGEE ENGINEERING
CIVIL + STRUCTURAL + SURVEY
9389 SOUTH 1300 WEST, SUITE 100
SOUTH JORDAN, UT 84095
TEL: 801.446.1144 FAX:
WEST JORDAN, UT 84088
WWW.PERIGEEUT.COM

DESIGNED BY: RN
DRAWN BY: CTL
CHECKED BY: JTA
SUBMITTED BY:
FILENAME: N:\20000 Panera Riverdale\Civil\P\03 SP01
PLOTTED BY: ANSI D
DATE: AUGUST 2023
ISSUED FOR/NO.:
CONTRACT NO. 00837
REV:
8/1/2023 8:42:01 AM

RIVERDALE CITY
PANERA BREAD
SITE PLAN

SHEET NUMBER
03
OF 8 SHEETS
DRAWING NAME
SP01

CALL BEFORE YOU DIG!
BLUE STAKES 1 800 662 4111

8/1/2023 8:42:01 AM

APPENDIX B: TRAFFIC COUNTS

Canes Access & Riverdale Rd
Riverdale UT
10/18/2023
3rd Wednesday

Source: WCG

	Canes Access Eastbound Approach			Canes Access Westbound Approach			Riverdale Road Northbound Approach			Riverdale Road Southbound Approach			Pedestrians (Crossing Approach)					
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right	EB	WB	NB	SB	15 Min	Hour
7:00 AM	0	0	1	0	0	0	1	0	1	0	0	4	0	0	0	0	7	7
7:15 AM	1	0	2	0	0	2	4	0	0	0	0	2	0	0	0	0	12	19
7:30 AM	1	0	0	0	0	0	3	0	1	0	0	6	0	0	0	0	12	31
7:45 AM	3	0	1	0	0	0	7	0	1	2	0	4	0	0	0	0	19	50
8:00 AM	1	0	0	0	0	2	5	0	0	0	0	5	0	0	0	0	13	56
8:15 AM	1	0	6	0	0	0	3	0	0	1	0	7	0	0	0	0	18	62
8:30 AM	3	0	2	0	0	1	6	0	1	3	0	10	1	1	0	0	26	76
8:45 AM	1	0	4	1	0	1	5	0	0	0	0	13	0	0	0	0	25	82
4:00 PM	0	0	8	0	0	3	9	0	3	12	0	9	0	0	0	0	44	44
4:15 PM	2	0	17	5	0	10	11	0	7	5	0	7	0	0	0	0	64	108
4:30 PM	2	0	17	3	0	11	12	0	8	3	0	12	0	1	0	0	69	177
4:45 PM	1	0	17	1	0	15	16	1	2	8	0	7	1	1	1	0	68	245
5:00 PM	1	0	15	1	0	17	14	0	5	8	0	13	1	0	0	0	75	276
5:15 PM	2	0	20	0	0	11	13	0	2	5	0	3	0	0	0	0	57	269
5:30 PM	4	0	15	1	0	9	20	0	6	0	0	12	0	0	0	0	67	267
5:45 PM	4	1	10	3	0	15	11	0	3	12	0	14	0	0	0	0	73	272

Riverdale Rd & 300 West
Riverdale UT
10/18/2023
3rd Wednesday

Source: WCG

	300 West Eastbound Approach			300 West Westbound Approach			Riverdale Road Northbound Approach			Riverdale Road Southbound Approach			Pedestrians (Crossing Approach)					
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right	EB	WB	NB	SB	15 Min	Hour
7:00 AM	6	3	2	65	3	22	2	131	75	13	117	2	0	0	0	0	449	449
7:15 AM	6	5	1	84	6	27	4	182	138	15	118	0	0	0	0	0	596	1045
7:30 AM	4	2	2	125	8	45	4	194	140	22	149	2	0	0	0	1	705	1750
7:45 AM	7	1	5	119	10	68	3	244	94	24	180	4	0	0	0	0	767	2517
8:00 AM	11	11	9	83	4	33	5	264	75	23	186	2	1	0	0	1	718	2786
8:15 AM	9	5	4	77	7	40	8	246	98	19	179	3	0	0	0	0	706	2896
8:30 AM	11	8	9	104	13	42	8	216	90	17	158	5	1	1	0	2	689	2880
8:45 AM	10	16	5	94	13	37	12	251	100	19	206	5	0	0	1	0	783	2896
4:00 PM	30	18	38	106	23	32	29	349	120	34	397	9	2	1	1	2	1196	1196
4:15 PM	27	41	17	124	13	48	28	335	126	33	418	10	0	1	1	0	1233	2429
4:30 PM	18	34	20	110	23	50	34	319	154	30	370	15	0	1	2	0	1185	3614
4:45 PM	29	34	29	143	19	55	30	335	145	42	421	13	0	0	0	1	1302	4916
5:00 PM	33	33	34	129	28	49	38	333	137	24	419	15	0	1	1	0	1277	4997
5:15 PM	41	31	44	147	34	40	36	345	133	37	429	16	0	0	0	0	1340	5104
5:30 PM	24	28	32	141	29	38	27	351	143	29	394	9	0	1	0	0	1251	5170
5:45 PM	25	26	21	119	26	45	35	291	123	44	383	6	0	0	0	1	1151	5019

Starbucks Access & 300 West
Riverdale UT
10/18/2023
3rd Wednesday

Source: WCG

	300 West Eastbound Approach			300 West Westbound Approach			Starbucks Access Northbound Approach			- Southbound Approach			Pedestrians (Crossing Approach)					
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right	EB	WB	NB	SB	15 Min	Hour
7:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1
7:15 AM	0	0	0	1	0	0	2	0	2	0	0	0	0	0	0	0	5	6
7:30 AM	0	0	0	2	0	0	3	0	5	0	0	0	0	0	0	0	10	16
7:45 AM	0	0	0	1	0	0	2	0	3	0	0	0	0	0	0	0	6	22
8:00 AM	0	0	1	0	0	0	2	0	1	0	0	0	0	0	0	0	4	25
8:15 AM	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4	24
8:30 AM	0	0	0	0	0	0	4	0	1	0	0	0	0	0	0	0	5	19
8:45 AM	0	0	1	1	0	0	1	0	3	0	0	0	0	0	1	0	6	19
4:00 PM	0	0	0	0	0	0	4	0	1	0	0	0	0	0	1	0	5	5
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	6
4:30 PM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	8
4:45 PM	0	0	1	0	0	0	0	0	2	0	0	0	0	0	1	0	3	11
5:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7
5:15 PM	0	0	2	3	0	0	1	0	0	0	0	0	0	0	0	0	6	12
5:30 PM	0	0	0	1	0	0	1	0	3	0	0	0	0	0	2	0	5	15
5:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	13

APPENDIX C: SIMTRAFFIC LOS AND QUEUEING REPORTS

1: Riverdale Rd & Canes Access Rd Performance by movement

Movement	EBL	EBR	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.3	0.1	0.1	2.1	0.2	0.5	0.0	0.0	0.0	0.1
Total Del/Veh (s)	71.2	3.9	9.7	8.5	0.2	0.3	12.6	1.5	1.2	1.0

2: Riverdale Rd & 300 W Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.2	0.3	4.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.1	0.1
Total Del/Veh (s)	40.1	46.7	5.8	36.1	28.7	7.4	44.9	15.0	4.9	39.1	10.9	4.6

2: Riverdale Rd & 300 W Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	16.5

3: Starbucks Access Rd & 300 W Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	3.1	0.3	0.1	0.1	0.2
Total Del/Veh (s)	0.6	0.4	3.8	0.3	20.1	4.6	0.6

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	18.3

Intersection: 1: Riverdale Rd & Canes Access Rd

Movement	EB	EB	WB	NB	SB	SB
Directions Served	L	R	R	L	L	TR
Maximum Queue (ft)	41	31	25	40	27	2
Average Queue (ft)	7	6	2	11	1	0
95th Queue (ft)	29	25	15	35	11	2
Link Distance (ft)		265	302			453
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	50			100	100	
Storage Blk Time (%)	1	0	0			
Queuing Penalty (veh)	0	0	0			

Intersection: 2: Riverdale Rd & 300 W

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	TR	L	L	T	R	L	L	T	T	T
Maximum Queue (ft)	66	51	42	203	239	234	81	24	56	248	222	162
Average Queue (ft)	25	17	17	123	162	37	37	2	18	158	123	63
95th Queue (ft)	57	46	41	205	230	146	67	13	46	227	199	145
Link Distance (ft)		397				249	249			453	453	453
Upstream Blk Time (%)					0	0						
Queuing Penalty (veh)					0	1						
Storage Bay Dist (ft)	100		100	165	165			150	150			
Storage Blk Time (%)	0			1	10	0				8		1
Queuing Penalty (veh)	0			0	3	0				2		4

Intersection: 2: Riverdale Rd & 300 W

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	T	T	TR
Maximum Queue (ft)	157	136	235	183	117
Average Queue (ft)	68	64	113	73	26
95th Queue (ft)	116	116	194	155	77
Link Distance (ft)			666	666	666
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	100	290			
Storage Blk Time (%)	1		0		
Queuing Penalty (veh)	4		0		

Intersection: 3: Starbucks Access Rd & 300 W

Movement	WB	WB	NB
Directions Served	L	T	LR
Maximum Queue (ft)	25	19	48
Average Queue (ft)	2	1	15
95th Queue (ft)	12	12	41
Link Distance (ft)		347	223
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Network Summary

Network wide Queuing Penalty: 15

1: Riverdale Rd & Canes Access Rd Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	56.4	114.2	4.3	0.2	1.9	0.3	0.5	0.0	0.0	0.0	2.0
Total Del/Veh (s)	967.5	98.6	513.6	20.1	24.6	0.7	0.7	34.6	3.7	2.8	6.8

2: Riverdale Rd & 300 W Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	3.6	1.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.2	0.3
Total Del/Veh (s)	45.7	47.5	14.3	79.8	44.9	11.5	54.3	25.4	8.5	50.5	29.6	19.2

2: Riverdale Rd & 300 W Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	33.0

3: Starbucks Access Rd & 300 W Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	21.2	9.0	0.1	0.1	4.6
Total Del/Veh (s)	0.9	0.9	14.3	13.4	222.7	6.1	7.4

Total Network Performance

Denied Del/Veh (s)	3.5
Total Del/Veh (s)	41.1

Intersection: 1: Riverdale Rd & Canes Access Rd

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	R	L	R	L	T	T	TR	L	T	T	TR
Maximum Queue (ft)	72	200	43	94	96	84	20	29	57	50	41	35
Average Queue (ft)	45	95	10	35	36	6	1	1	17	2	2	1
95th Queue (ft)	94	255	37	72	74	44	15	12	48	24	22	19
Link Distance (ft)		265		302		387	387	387		453	453	453
Upstream Blk Time (%)		18										
Queuing Penalty (veh)		0										
Storage Bay Dist (ft)	50		50		100				100			
Storage Blk Time (%)	57	6	10	6	0	0			0	0		
Queuing Penalty (veh)	38	0	5	0	2	0			0	0		

Intersection: 2: Riverdale Rd & 300 W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	R	L	L	T	T
Maximum Queue (ft)	112	167	182	147	205	245	306	111	113	309	406	370
Average Queue (ft)	13	86	88	62	195	231	230	45	42	104	257	226
95th Queue (ft)	72	145	152	117	224	267	381	91	106	220	357	327
Link Distance (ft)			397				249	249			453	453
Upstream Blk Time (%)						15	25				0	
Queuing Penalty (veh)						0	107				0	
Storage Bay Dist (ft)	100	100		100	165	165			150	150		
Storage Blk Time (%)	0	9	9	2	24	59	1		0	0	29	
Queuing Penalty (veh)	0	24	28	3	27	65	3		0	1	38	

Intersection: 2: Riverdale Rd & 300 W

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	TR
Maximum Queue (ft)	297	242	271	486	449	335
Average Queue (ft)	164	103	104	324	288	207
95th Queue (ft)	259	183	204	444	403	312
Link Distance (ft)	453			666	666	666
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		100	290			
Storage Blk Time (%)	14	6		13		
Queuing Penalty (veh)	79	28		17		

Intersection: 3: Starbucks Access Rd & 300 W

Movement	WB	WB	WB	NB
Directions Served	L	T	T	LR
Maximum Queue (ft)	65	341	66	32
Average Queue (ft)	3	149	14	7
95th Queue (ft)	34	391	123	26
Link Distance (ft)		347	347	223
Upstream Blk Time (%)		11	0	
Queuing Penalty (veh)		0	0	
Storage Bay Dist (ft)	100			
Storage Blk Time (%)		20		
Queuing Penalty (veh)		1		

Network Summary

Network wide Queuing Penalty: 467

1: Riverdale Rd & Canes Access Rd Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.1	0.1	4.4	0.1	2.3	0.2	0.3	0.0	0.0	0.0	0.2
Total Del/Veh (s)	91.7	4.6	59.4	8.1	8.2	0.3	0.3	9.7	1.4	1.3	1.2

2: Riverdale Rd & 300 W Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.0	0.3	4.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.1	0.1
Total Del/Veh (s)	34.4	38.3	5.0	46.5	26.1	7.5	35.8	13.0	4.7	39.8	8.5	3.1

2: Riverdale Rd & 300 W Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	16.6

3: Starbucks Access Rd & 300 W Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	3.3	0.3	0.1	0.1	0.2
Total Del/Veh (s)	0.7	0.6	3.5	0.3	20.5	5.8	0.9

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	18.6

Intersection: 1: Riverdale Rd & Canes Access Rd

Movement	EB	EB	WB	WB	NB	SB	SB	SB
Directions Served	L	R	L	R	L	L	T	TR
Maximum Queue (ft)	37	33	37	31	47	31	4	2
Average Queue (ft)	7	7	7	4	13	5	0	0
95th Queue (ft)	28	28	29	21	39	22	4	2
Link Distance (ft)		265		302			453	453
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	50		50		100	100		
Storage Blk Time (%)	2	0	1	0				
Queuing Penalty (veh)	0	0	0	0				

Intersection: 2: Riverdale Rd & 300 W

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	TR	L	L	T	R	L	L	T	T	T
Maximum Queue (ft)	65	58	44	202	236	240	84	18	52	261	213	147
Average Queue (ft)	24	19	16	128	164	34	37	1	16	142	108	52
95th Queue (ft)	56	49	40	212	231	137	66	9	43	213	177	125
Link Distance (ft)		397				249	249			453	453	453
Upstream Blk Time (%)					0	0						
Queuing Penalty (veh)					0	1						
Storage Bay Dist (ft)	100		100	165	165			150	150			
Storage Blk Time (%)	0			1	15	0				4		0
Queuing Penalty (veh)	0			0	5	0				1		2

Intersection: 2: Riverdale Rd & 300 W

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	T	T	TR
Maximum Queue (ft)	126	127	194	156	68
Average Queue (ft)	65	63	97	58	19
95th Queue (ft)	103	113	162	121	53
Link Distance (ft)			666	666	666
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	100	290			
Storage Blk Time (%)	1				
Queuing Penalty (veh)	3				

Intersection: 3: Starbucks Access Rd & 300 W

Movement	WB	WB	NB
Directions Served	L	T	LR
Maximum Queue (ft)	31	30	54
Average Queue (ft)	4	1	23
95th Queue (ft)	20	14	50
Link Distance (ft)		347	223
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 12

1: Riverdale Rd & Canes Access Rd Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	154.6	130.6	208.7	194.0	1.9	0.4	0.5	0.0	0.0	0.0	5.2
Total Del/Veh (s)	879.4	94.4	957.0	277.0	29.3	0.9	0.6	43.0	3.7	2.9	11.8

2: Riverdale Rd & 300 W Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	3.6	1.1	3.6	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.2	0.3
Total Del/Veh (s)	53.7	51.3	16.6	53.5	39.5	11.3	64.3	27.7	9.5	66.8	31.8	20.2

2: Riverdale Rd & 300 W Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	32.3

3: Starbucks Access Rd & 300 W Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	2.8	0.5	0.1	0.1	0.3
Total Del/Veh (s)	0.9	0.7	7.2	2.2	73.9	34.4	2.3

Total Network Performance

Denied Del/Veh (s)	4.9
Total Del/Veh (s)	42.9

Intersection: 1: Riverdale Rd & Canes Access Rd

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	R	L	R	L	T	T	TR	L	T	T	TR
Maximum Queue (ft)	72	202	80	250	98	112	26	20	67	61	88	50
Average Queue (ft)	41	86	58	164	38	11	1	1	20	3	4	2
95th Queue (ft)	92	230	105	377	77	63	15	10	54	27	52	26
Link Distance (ft)		265		302		387	387	387		453	453	453
Upstream Blk Time (%)		16		37								
Queuing Penalty (veh)		0		0								
Storage Bay Dist (ft)	50		50		100				100			
Storage Blk Time (%)	53	8	73	7	1	0			1	0		
Queuing Penalty (veh)	36	1	40	1	4	0			6	0		

Intersection: 2: Riverdale Rd & 300 W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	R	L	L	T	T
Maximum Queue (ft)	128	174	232	181	205	245	305	114	131	309	392	353
Average Queue (ft)	12	93	99	70	182	218	174	49	48	113	270	238
95th Queue (ft)	65	151	184	138	228	266	345	92	115	242	369	331
Link Distance (ft)			397				249	249			453	453
Upstream Blk Time (%)			0			4	7				0	
Queuing Penalty (veh)			0			0	28				0	
Storage Bay Dist (ft)	100	100		100	165	165			150	150		
Storage Blk Time (%)	0	14	11	3	7	39	0		0	0	33	
Queuing Penalty (veh)	0	37	36	5	8	43	3		0	2	43	

Intersection: 2: Riverdale Rd & 300 W

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	TR
Maximum Queue (ft)	286	248	392	528	470	408
Average Queue (ft)	176	114	129	347	306	229
95th Queue (ft)	265	204	263	477	433	350
Link Distance (ft)	453			666	666	666
Upstream Blk Time (%)				0		
Queuing Penalty (veh)				0		
Storage Bay Dist (ft)		100	290			
Storage Blk Time (%)	18	9	0	16		
Queuing Penalty (veh)	100	40	1	23		

Intersection: 3: Starbucks Access Rd & 300 W

Movement	WB	WB	WB	NB
Directions Served	L	T	T	LR
Maximum Queue (ft)	30	255	32	70
Average Queue (ft)	6	38	1	23
95th Queue (ft)	27	152	33	63
Link Distance (ft)		347	347	223
Upstream Blk Time (%)		0		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)	100			
Storage Blk Time (%)		2		
Queuing Penalty (veh)		0		

Network Summary

Network wide Queuing Penalty: 456

1: Riverdale Rd & Canes Access Rd Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.3	0.1	4.1	0.1	2.2	0.2	0.5	0.1	0.0	0.0	0.2
Total Del/Veh (s)	90.8	5.2	54.0	10.1	7.0	0.3	0.3	16.7	0.3	0.2	0.7

2: Riverdale Rd & Empty Lot Access Performance by movement

Movement	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0
Total Del/Veh (s)	10.9	1.0	0.2	0.9	1.0

3: Riverdale Rd & 300 W Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	4.0	0.3	4.1	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.1	0.1
Total Del/Veh (s)	34.3	35.8	5.4	49.5	27.5	7.0	34.6	11.2	3.6	39.7	8.6	3.6

3: Riverdale Rd & 300 W Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	16.2

4: Starbucks Access Rd & 300 W Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	3.0	0.3	0.1	0.1	0.2
Total Del/Veh (s)	0.6	0.5	3.7	0.5	16.3	5.7	0.8

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	18.6

Intersection: 1: Riverdale Rd & Canes Access Rd

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	R	L	R	L	TR	L	TR
Maximum Queue (ft)	40	39	38	31	40	2	33	4
Average Queue (ft)	7	7	8	3	11	0	6	0
95th Queue (ft)	30	30	30	18	35	2	25	5
Link Distance (ft)		265		302		387		256
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	50		50		100		100	
Storage Blk Time (%)	2	0	1	0				
Queuing Penalty (veh)	0	0	0	0				

Intersection: 2: Riverdale Rd & Empty Lot Access

Movement	WB	NB	NB	NB
Directions Served	R	T	T	TR
Maximum Queue (ft)	31	118	79	3
Average Queue (ft)	6	29	6	0
95th Queue (ft)	26	89	42	3
Link Distance (ft)	211	256	256	256
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Riverdale Rd & 300 W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	R	L	L	T	T
Maximum Queue (ft)	13	74	55	37	197	240	240	74	38	29	156	155
Average Queue (ft)	0	23	17	14	131	165	41	33	14	2	128	104
95th Queue (ft)	13	57	45	38	205	232	165	61	37	15	169	157
Link Distance (ft)			397				247	247	139	139	139	139
Upstream Blk Time (%)						1	1				5	1
Queuing Penalty (veh)						0	4				15	3
Storage Bay Dist (ft)	100	100		100	165	165						
Storage Blk Time (%)		0			2	18	0					
Queuing Penalty (veh)		0			1	5	1					

Intersection: 3: Riverdale Rd & 300 W

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	TR
Maximum Queue (ft)	140	123	136	184	149	72
Average Queue (ft)	48	69	62	94	59	21
95th Queue (ft)	117	110	112	161	120	58
Link Distance (ft)	139			666	666	666
Upstream Blk Time (%)	0	0				
Queuing Penalty (veh)	0	0				
Storage Bay Dist (ft)		100	290			
Storage Blk Time (%)	0	2				
Queuing Penalty (veh)	2	6				

Intersection: 4: Starbucks Access Rd & 300 W

Movement	WB	WB	NB
Directions Served	L	T	LR
Maximum Queue (ft)	28	60	56
Average Queue (ft)	3	4	21
95th Queue (ft)	19	40	48
Link Distance (ft)		347	223
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)		0	
Queuing Penalty (veh)		0	

Network Summary

Network wide Queuing Penalty: 37

1: Riverdale Rd & Canes Access Rd Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	218.1	166.2	269.8	315.0	1.9	0.4	0.4	0.0	0.0	0.0	7.2
Total Del/Veh (s)	1286.6	103.6	1275.4	361.8	26.8	1.8	0.8	39.2	1.3	0.8	12.8

2: Riverdale Rd & Empty Lot Access Performance by movement

Movement	WBR	NBT	NBR	SBT	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0
Total Del/Veh (s)	55.9	8.8	4.4	2.0	5.3

3: Riverdale Rd & 300 W Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	3.7	1.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.2	0.4
Total Del/Veh (s)	56.1	50.3	16.2	54.5	37.6	11.0	59.3	20.7	7.4	59.2	31.5	20.4

3: Riverdale Rd & 300 W Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	30.0

4: Starbucks Access Rd & 300 W Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	2.8	0.5	0.1	0.1	0.3
Total Del/Veh (s)	0.9	0.8	7.3	2.6	85.1	24.5	2.2

Total Network Performance

Denied Del/Veh (s)	6.6
Total Del/Veh (s)	45.7

Intersection: 1: Riverdale Rd & Canes Access Rd

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	R	L	R	L	T	T	TR	L	T	T	TR
Maximum Queue (ft)	73	185	84	310	99	194	110	94	57	41	64	54
Average Queue (ft)	48	89	70	198	37	38	9	8	21	3	4	3
95th Queue (ft)	92	248	100	397	79	135	67	57	53	27	34	27
Link Distance (ft)		265		302		387	387	387		256	256	256
Upstream Blk Time (%)		19		46								
Queuing Penalty (veh)		0		0								
Storage Bay Dist (ft)	50		50		100				100			
Storage Blk Time (%)	73	7	91	12	0	2				0		
Queuing Penalty (veh)	49	1	47	1	2	1				0		

Intersection: 2: Riverdale Rd & Empty Lot Access

Movement	WB	NB	NB	NB	SB	SB
Directions Served	R	T	T	TR	T	T
Maximum Queue (ft)	40	271	266	249	42	20
Average Queue (ft)	9	202	158	95	1	1
95th Queue (ft)	33	303	278	238	25	10
Link Distance (ft)	211	256	256	256	139	139
Upstream Blk Time (%)		3	1	1	0	
Queuing Penalty (veh)		20	5	6	0	
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Riverdale Rd & 300 W

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	T	TR	L	L	T	R	L	L	T	T
Maximum Queue (ft)	132	161	190	160	205	245	296	103	127	120	163	167
Average Queue (ft)	19	92	93	67	181	218	172	43	64	54	146	145
95th Queue (ft)	90	148	164	126	228	267	343	85	111	104	161	161
Link Distance (ft)			397				247	247	139	139	139	139
Upstream Blk Time (%)						6	7		0	0	34	22
Queuing Penalty (veh)						0	32		2	0	141	90
Storage Bay Dist (ft)	100	100		100	165	165						
Storage Blk Time (%)	0	13	11	2	7	40	1					
Queuing Penalty (veh)	0	34	36	3	8	44	7					

Intersection: 3: Riverdale Rd & 300 W

Movement	NB	NB	SB	SB	SB	SB
Directions Served	T	R	L	T	T	TR
Maximum Queue (ft)	186	139	403	521	472	365
Average Queue (ft)	140	118	128	342	305	224
95th Queue (ft)	175	166	260	468	428	328
Link Distance (ft)	139			666	666	666
Upstream Blk Time (%)	9	3		0		
Queuing Penalty (veh)	37	0		0		
Storage Bay Dist (ft)		100	290			
Storage Blk Time (%)	18	10	0	16		
Queuing Penalty (veh)	103	46	0	22		

Intersection: 4: Starbucks Access Rd & 300 W

Movement	EB	WB	WB	NB
Directions Served	TR	L	T	LR
Maximum Queue (ft)	2	52	256	64
Average Queue (ft)	0	9	46	16
95th Queue (ft)	2	38	179	50
Link Distance (ft)	247		347	223
Upstream Blk Time (%)			0	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)		100		
Storage Blk Time (%)			3	
Queuing Penalty (veh)			0	

Network Summary

Network wide Queuing Penalty: 737

November 14, 2023

Riverdale City
4600 South Weber River Drive
Riverdale, Utah 84405

To Whom It May Concern,

The purpose of this letter is to provide you with the anticipated yearly culinary water usage of the Panera Bread restaurant at 4122 Riverdale Road. This information is to be used to enter a development agreement with the city to purchase water rights on behalf of American Bread Company, LLC.

Outdoor Monthly/Yearly Usage*		
April	2,078	Gallons Per Month
May:	4,872	Gallons Per Month
June:	8,690	Gallons Per Month
July:	10,869	Gallons Per Month
August:	8,333	Gallons Per Month
September:	4,786	Gallons Per Month
October:	1,339	Gallons Per Month
Yearly Usage	**40,967**	**Gallons Per Month**

Indoor Monthly/Yearly Usage**		
Daily usage	1,600	GPD
Yearly Usage	**584,000**	**Gallons per year**

*Calculations and total provided by Gbrown Design Inc. Site & Landscape Architects.
** Daily usage provided by EC4B Engineering

If you have any questions regarding this, please let me know.

Best Regards,

Russell J. Haight

Russell Haight

State of Utah
Department of Transportation

Cross Access Easement

This Cross Access Easement ("Agreement"), by and between Williamsen Riverdale 2 LLC ("Property Owner") and BN Riverdale LLC ("Adjacent Property") describes the terms and conditions of access connections in the Utah Department of Transportation ("Department") Right-of-Way.

RECITALS

WHEREAS, Property Owner has received access approval to improve its property identified as Panera Bread, located at 4122 Riverdale Road in City of Riverdale, County of Weber, State of Utah, and described in the attached Exhibit; and

WHEREAS, as a condition of this access approval, Property Owner is required to enter into an agreement to create a cross access easement on its property to allow for ingress and egress between its property and the adjacent property located at 4142 Riverdale Road, Riverdale; and

WHEREAS, the purpose of the easement is to allow traffic flow between the properties in one access and onto 4122 Riverdale Road, Riverdale so as to relieve congestion and to create less traffic hazards; and

WHEREAS, at this time, the Adjacent Property is not seeking access approval, and the owner of that property is willing to grant a mutual cross access easement at this time to connect the two properties. As required by the Department, the Parties agree to grant an easement as set forth in this Agreement; and

WHEREAS, the attached Exhibit describes the approximate location of the cross access easement.

AGREEMENT

The Parties agree to the following:

(1) In fulfillment of the requirements imposed as a condition of access approval, the Property Owner agrees, to grant a cross access easement provided that the Adjacent Property likewise grants a similar cross access easement over its property.

(2) The Property Owner agrees to grant the cross access easement and to execute all necessary documents to create the cross access easement.

(3) The easements to be created shall burden and benefit the parcels. The easements shall run with the land and shall be binding on and shall insure to the benefit of the Property Owner, their respective heirs, successors or assigns and the Adjacent Property, their respective heirs, successors or assigns.

(4) The easements to be created shall continue until expressly terminated by written agreement between the parties, the successors, or the assigns. Any agreement to terminate or modify the easements to be created shall be approved in writing by the Department.

(5) The Property Owner agrees to make the necessary improvements to its property to allow the ingress and egress as set forth herein within a reasonable time after the creation of the cross access easements.

(6) The Property Owner agrees to maintain the easement area that will be located within its property in a reasonable manner and at its sole expense.

(7) The Adjacent Property agrees to maintain the easement area that will be located within its property in a reasonable manner and at its sole expense.

(8) Any violation or breach of this Agreement shall be considered a breach of the access permit, and the Department shall have the authority to enforce this Agreement in any manner permitted by law.

(9) This Agreement to create a cross access easement shall be recorded with the County Recorder's office by the Property Owner.

(10) **MISCELLANEOUS**

a) Each party agrees to undertake and perform all further acts that are reasonably necessary to carry out the intent and purpose of the Agreement at the request of the other party.

b) This Agreement does not create any type of agency relationship, joint venture, or partnership between the Department and the Property Owner.

c) The failure of either party to insist upon strict compliance of any of the terms and conditions, or failure or delay by either party to exercise any rights or remedies provided in this Agreement, or by law, will not release either party from any obligations arising under this Agreement.

d) This Agreement shall be deemed to be made under and shall be governed by the laws of the State of Utah in all respects. Each person signing this Agreement warrants that the person has full legal capacity, power and authority to execute this Agreement for and on behalf of the respective party and to bind such party.

e) If any portion of this Agreement is held to be invalid or unenforceable for any reason by a court of competent jurisdiction, such invalidity or unenforceability shall not affect any other provision, and this Agreement shall be construed as if such invalid or unenforceable provision had never been included.

f) The effective date of this Agreement is the date signed by the last party.

****

IN WITNESS WHEREOF, the parties hereto have caused this Cross Access Easement Agreement to be executed by its duly authorized officers.

Applicant Property Owner Signature: _____

Date: _____ Print Name: _____

ACKNOWLEDGMENT

County of _____

On this _____ day of _____, in the year 20_____, before me,

_____ a notary public, personally appeared

_____, proved on the basis of satisfactory evidence to be the

person whose name is subscribed to this instrument, and acknowledged (he/she) executed the same.

Witness my hand and official seal.

_____

Adjacent Property Owner **Signature:** _____

Date: _____ **Print Name:** _____

ACKNOWLEDGMENT

County of _____

On this _____ day of _____, in the year 20_____, before me,

_____ a notary public, personally appeared

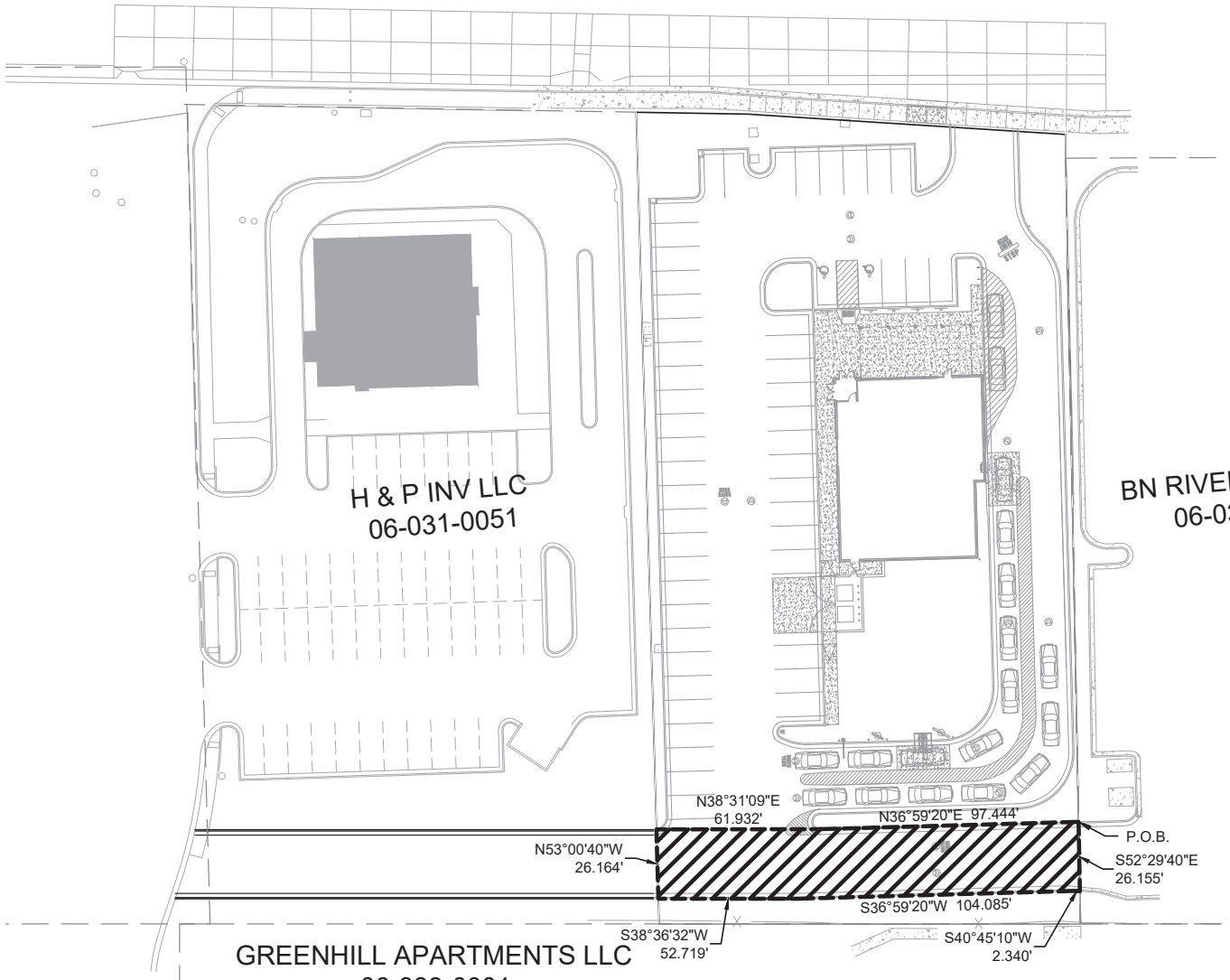
_____, proved on the basis of satisfactory evidence to be the

person whose name is subscribed to this instrument, and acknowledged (he/she) executed the same.

Witness my hand and official seal.

_____

EXHIBIT



CROSS ACCESS EXHIBIT
PANERA RIVERDALE

PERIGEE CONSULTING

DATE:
TIME:
NETWORK:
PATH:
DWG NAME:
LAYOUT:
DESIGNER:
MGR:

SHEET NUMBER

JOB NUMBER
00909

XREFS:

N:\00909 Panera Riverdale\Documents\Cross Access Agreement\Panera Cross Access Agreement Exhbit.dwg, 11/14/2023 4:23:07 PM, DWG To PDF.pc3

Beginning at a point that lies North 89°26'02" West 1349.53 feet and and South 1029.09 feet (Basis of bearings is North 89°26'02" West 2272.355 feet between North Quarter Corner of Section 8, T5N, R1W, SLB&M and a Reference Monument to the Northwest Corner of said Section 8) from said North Quarter Corner of Section 8, Township 5 North, Range 1 West, Salt Lake Base and Meridian and running thence South 52°29'40" East 26.15 feet; thence South 40°45'10" West 2.34 feet; thence South 36°59'20" West 104.08 feet; thence South 38°36'32" West 52.72 feet; thence North 53°00'40" West 26.16 feet; thence North 38°31'09" East 61.93 feet; thence North 36°59'20" East 97.44 feet to the point of beginning.

Property contains 0.095 acres, 4152 square feet.