



Contract #248488 Tracking # 44540

3304350 PG 1 OF 22

EANN H KILTS, WEBER CTY. RECORDER
6-NOV-23 403 PM FEE \$0.00 DC
EC FOR: UTAH DEPT. OF TRANSPORTATION

SINGLE-PARCEL DRAINAGE AGREEMENT
Between
UTAH DEPARTMENT OF TRANSPORTATION
And
Garff Properties La Quinta LLC



W3304350

County Tax ID No. 507

ds This Single-Parcel Drainage Agreement ("Agreement"), by and between **Utah Department of Transportation** ("Department") and **Garff Properties La Quinta 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 ~~Attached Legal Description~~

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, casualties, 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.



IN WITNESS WHEREOF, the parties hereto have caused this Drainage Agreement to be executed by its duly authorized officers.

Application Property Owner

Company: Garff Properties La Quinta LLC

Signature: [Signature]

Printed Name: Brett Godfrey

Title: Senior Director of Facilities

Date: 7-25-23

ACKNOWLEDGMENT

County of Weber

On this 25 day of July, in the year 2023, before me,

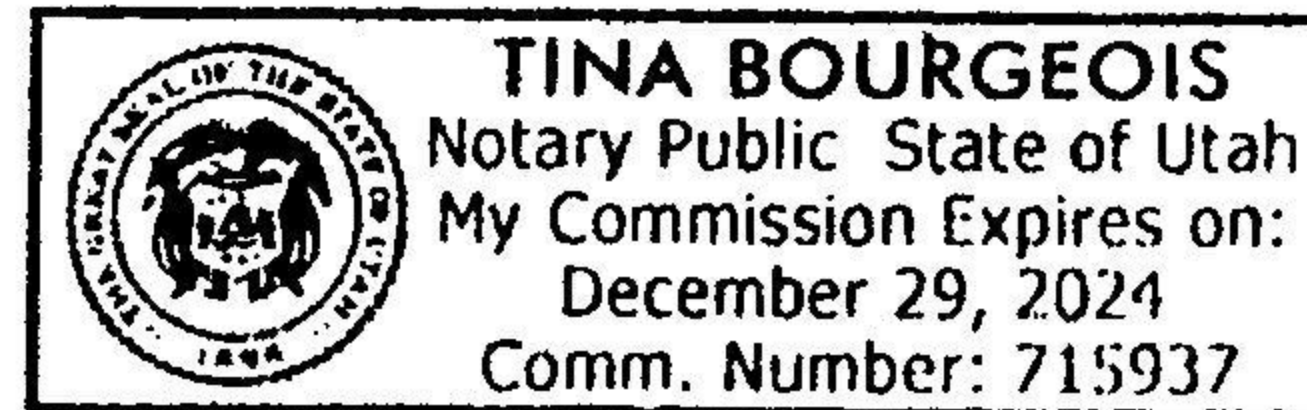
Tina Bourgeois a notary public, personally appeared

Brett Godfrey, 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.

Tina Bourgeois



[Signature] 11/01/2023
CONTRACT ADMINISTRATOR
COMPTROLLERS OFFICE



Send a recorded copy of this agreement
to the UDOT Region Storm Water Coordinator.

Utah Department of Transportation Permits Department

Title: Region Permit Officer

Date: 10-30-2023

Signature: [Signature]

Print Name: Rodger Jay Genereux

ACKNOWLEDGMENT

County of Weber

On this 30 day of October, in the year 20 23, before me,

Cheryl Marz a notary public, personally appeared

Rodger Jay Genereux, 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.

Cheryl S Marz



Title: Region Director

Date: 10-30-23

Signature: [Signature]

Print Name: Rob Wight

ACKNOWLEDGMENT

County of Weber

On this 30 day of October, in the year 20 23, before me,

Cheryl Marz a notary public, personally appeared

Rob Wight, 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.

Cheryl S Marz



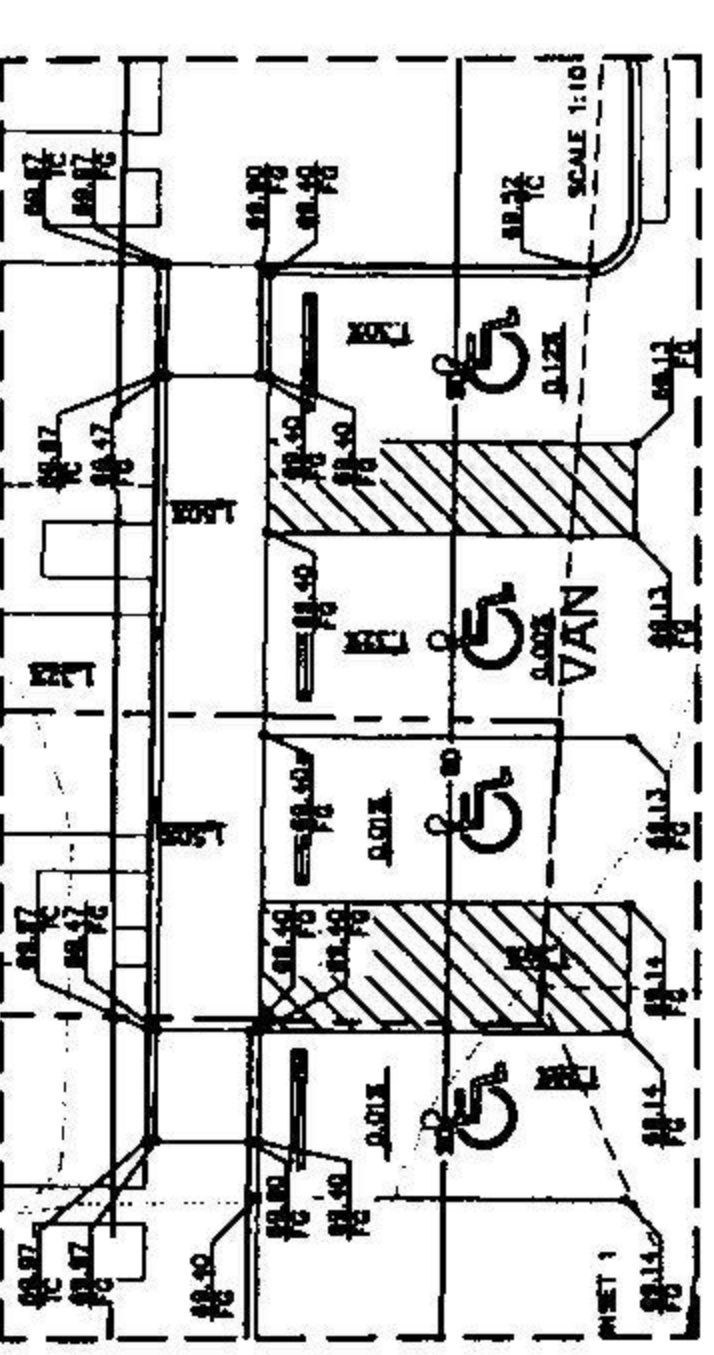


Exhibits

[illegible]

STORM DRAIN NOTES

- 1 FURNISH AND INSTALL 12" PVC STORM DRAIN LINE PER INDIANAPOLIS CITY STANDARDS AND SPECIFICATIONS.
- 2 FURNISH AND INSTALL 12" PVC STORM DRAIN LINE PER INDIANAPOLIS CITY STANDARDS AND SPECIFICATIONS.
- 3 FURNISH AND INSTALL STORM MANHOLE PER INDIANAPOLIS CITY STANDARDS AND SPECIFICATIONS SHOWN ON SHEET C-01.
- 4 CONNECT TO EXISTING STORM DRAIN PER INDIANAPOLIS CITY STANDARDS AND SPECIFICATIONS.
- 5 FURNISH AND INSTALL 6" EXTENSION SYSTEM ON APPROVED EQUIVALENT. SEE SHEET C-03A AND C-04 FOR DETAILS.
- 6 FURNISH AND INSTALL STORM CATCH BASIN AND GRATE PER INDIANAPOLIS CITY STANDARDS AND SPECIFICATIONS SHOWN ON SHEET C-03.
- 7 FURNISH AND INSTALL STORM CATCH BASIN AND GRATE PER INDIANAPOLIS CITY STANDARDS AND SPECIFICATIONS.
- 8 EXISTING STORM CATCH BASIN TO REMAIN.
- 9 EXISTING 10" STORM DRAIN PIPE TO REMAIN.
- 10 FURNISH AND INSTALL INAPPROPRIATE HYDRODYNAMIC SEPARATOR ON APPROVED EQUIVALENT. SEE SHEET C-04 FOR DETAILS.
- 11 FURNISH AND INSTALL ORDNCE PER DETAIL ON SHEET C-04.
- 12 PROPOSED RCP DRAIN CONNECTION AT 3' BELOW FTE.
- 13 FURNISH AND INSTALL 12" PVC STORM DRAIN LINE AT 15' MINIMUM SLOPE. REFER TO INDIANAPOLIS CITY STANDARDS AND SPECIFICATIONS.
- 14 CONNECT TO EXISTING CATCH BASIN ON EXISTING IRRIGATION CANAL STRUCTURE TO REMAIN WITH PROPOSED CONNECTION.
- 15 PROPOSED JUNCTION BOX WITH NO SUMP.
- 16 FURNISH AND INSTALL 12" RCP STORM DRAIN LINE PER INDIANAPOLIS CITY STANDARDS AND SPECIFICATIONS.

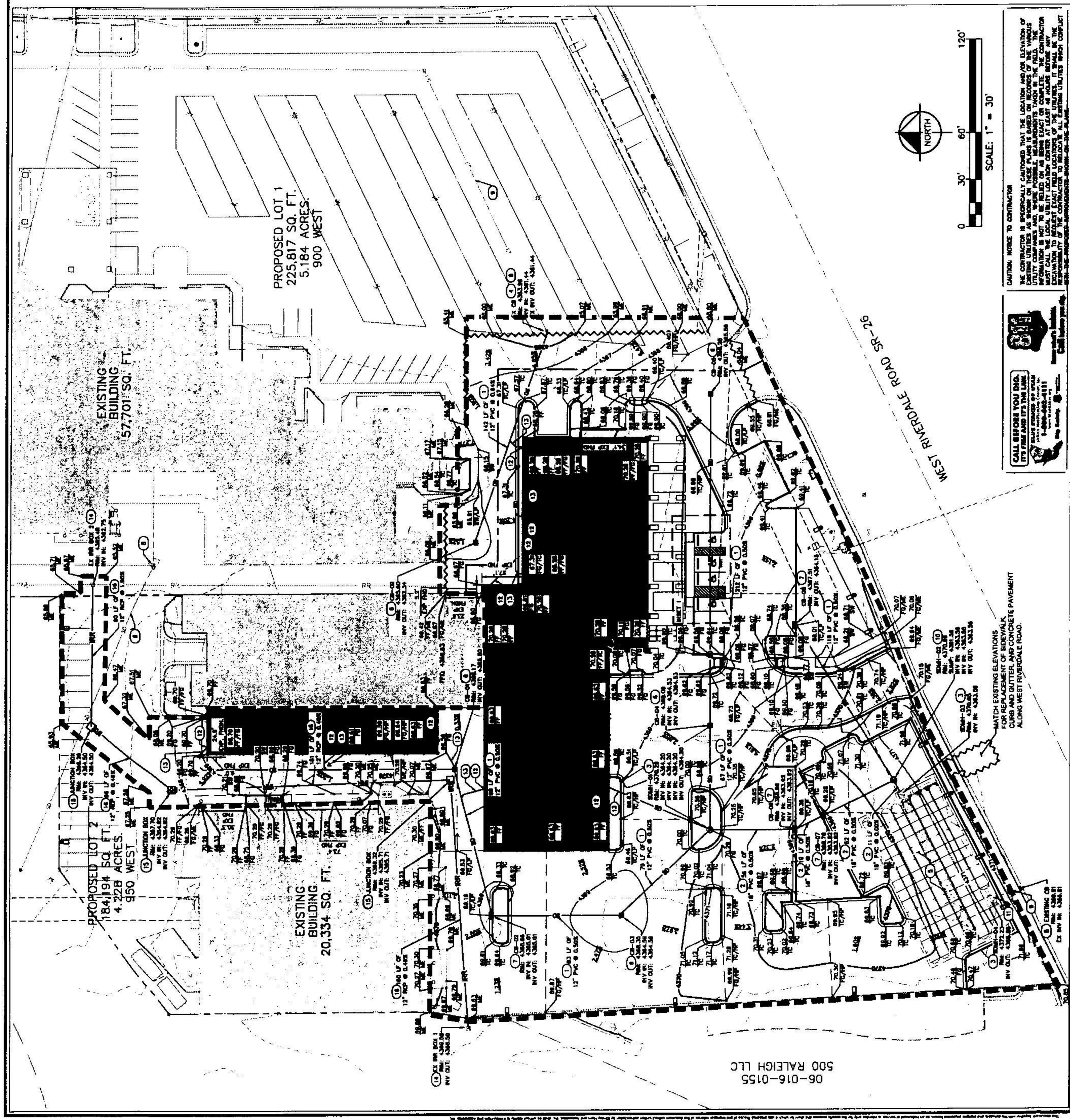


LEGEND

	PROPERTY LINE
	RIGHT-OF-WAY LINE
	ADJACENT PROPERTY LINE
	GRADE BREAK
	LOW POINT FLOW LINE
	EXISTING MAJOR CONTOUR
	EXISTING MAJOR CONTOUR
	PROPOSED MAJOR CONTOUR
	PROPOSED MAJOR CONTOUR
	SANDLOT LINE
	LIMITS OF DISTURBANCES
	PROPOSED STONE LINE

ABBREVIATIONS

FINISHED GRADE SPOT ELEVATION	92.46
FINISHED FLOOR SPOT ELEVATION	92.46
TOP OF CURB SPOT ELEVATION	92.46
HIGH POINT SPOT ELEVATION	92.46
WATCH BENCH SPOT ELEVATION	92.46
LOW POINT SPOT ELEVATION	92.46
SEWERWALK SPOT ELEVATION	92.46
EXPOSED FOUNDATION	92.46
END END	92.46



CAUTION: NOTICE TO CONTRACTOR

CALL BEFORE YOU DIG.
IT'S FREE AND IT'S THE LAW.
CALL 800-4-A-DIG
FOR SLIPS STRIPS OF UP TO
100' OF 1/2" X 1/2" X 1/2" SLIP
1-800-4-A-DIG
FOR SLIPS STRIPS OF UP TO
100' OF 1/2" X 1/2" X 1/2" SLIP

CURB AND GUTTER, AND CONCRETE PAVEMENT
ALONG WEST RIVERDALE ROAD.

06-016-0155
500 RALEIGH LLC

**TECHNICAL DRAINAGE STUDY
for
KEN GARFF HONDA
RIVERDALE, UTAH**

Prepared By:

Kimley-Horn Associates
1850 Ashton Blvd
Suite 150
Lehi, UT 84043

Contact: Chris Bick, P.E.
(385) 235-6536



Job No. 093528015

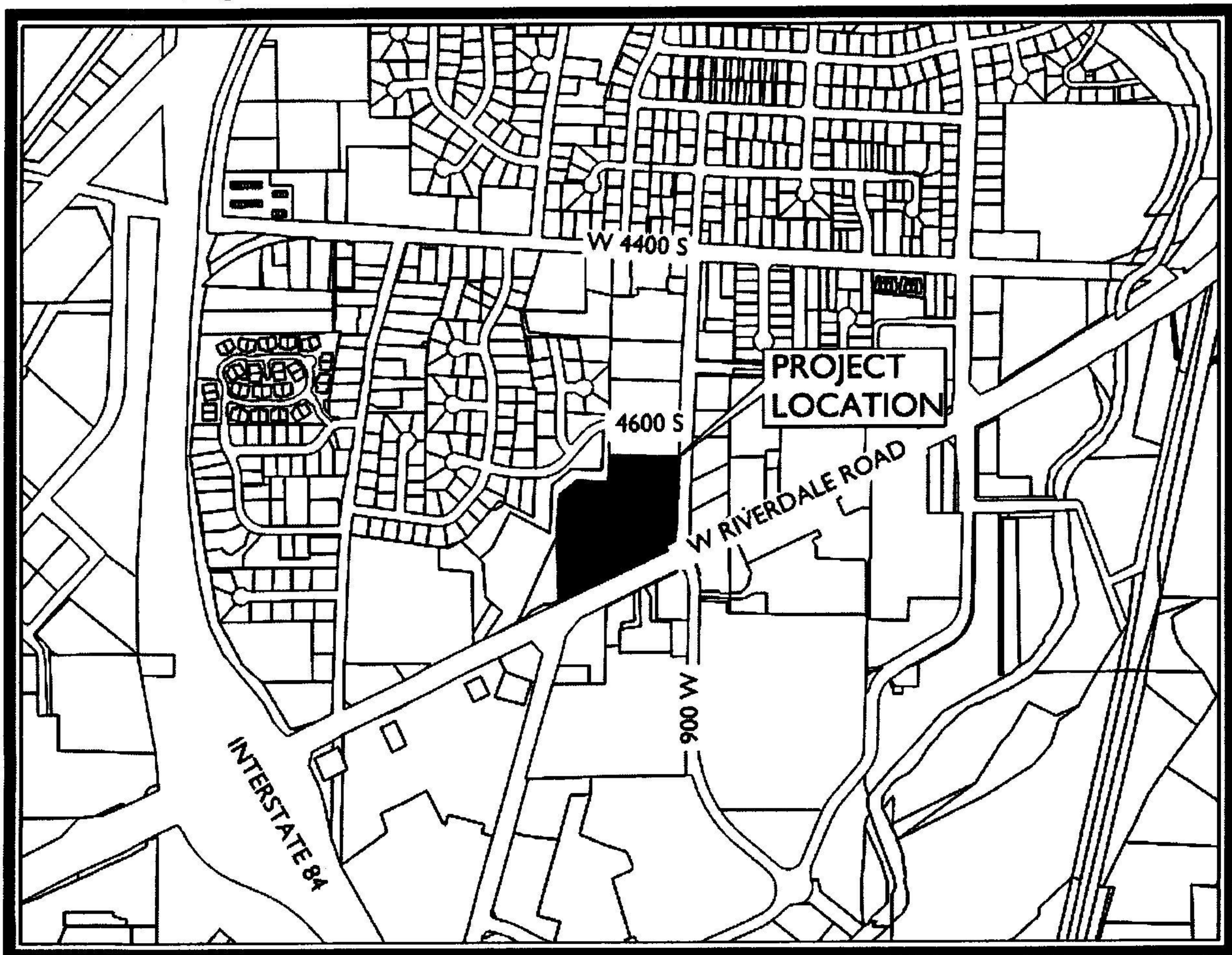
July 2023

I. PURPOSE

The purpose of this study is to describe the existing and proposed drainage conditions for the proposed Ken Garff Honda Expansion project in Riverdale, Utah. This study details the storm water management strategies for the site and demonstrates general compliance with Riverdale City standards and requirements.

II. GENERAL LOCATION AND DESCRIPTION

This drainage study has been prepared as part of the site plan approval process for the proposed Ken Garff Honda Expansion project in Riverdale, Utah. The site is located at 950 W Riverdale Road, Ogden Utah, 84405, as shown on the vicinity map below.



VICINITY MAP

NOT TO SCALE



The site area is approximately 4.23 acres and is currently developed as an existing Ken Garff Honda Dealership. The site is bounded by 4600 S to the north, 900 W to the east, commercial buildings to the west and Riverdale Road to the south.

Proposed development of the site will consist of an 42,768 total square foot building addition with associated sales floor and auto bays. This addition will require the removal and

replacement of existing stormwater networks. A proposed storm network will capture the flows from 3.6 acres surrounding the building expansion.

The existing site currently slopes to the northeast at an approximate grade of 1.0% however the site is overall fairly level. According to the Flood Insurance Rate Map Number 49057C0417F (effective date of June 02, 2015), the site is in zone "X", which designates areas determined to be outside the 0.2% annual chance floodplain.

III. HISTORIC DRAINAGE

There is no evidence that additional off-site storm water runoff enters the proposed site. Therefore, no offsite storm water will be included in the proposed drainage calculations. Per the ALTA Survey and Geotechnical Report, it is assumed that the storm runoff onsite percolates into the ground. Existing storm networks capture and route the remaining 5.81 acres of the site to the city system.

IV. DRAINAGE DESIGN CRITERIA

a. DETENTION DESIGN

Per the Riverdale City Construction and Development Standards (Standards) effective April, 2018, Riverdale City requires new development to detain 100-year, 24-hour storm event, with an approved release rate of 0.2 cfs per acre. Ken Garff will provide the required detention volume for the 3.6 acres that will be disturbed by the building expansion.

Per city standards, the Curve Number Method will be used to calculate the required detention. Using the rainfall depth and intensity data provided by the NOAA 14 Atlas for the area, the 100-year, 24-hour storm volume was defined for the site. The site was delineated into pavement areas, building areas, and landscape areas and appropriate runoff coefficients were applied. A weighted runoff coefficient was calculated for the site using 74 for landscaping, 98 for building areas, and 98 for pavement areas. The weighted curve number for the site was calculated to be 96.55. An allowed release rate of 0.71 cfs was defined for the site, based on the approved allowable release of 0.2 cfs/acre. The detention volume required for the site was calculated to be 15,965 cubic feet.

b. RETENTION DESIGN

The Riverdale City Construction and Development Standards (Standards) effective April, 2018, also requires a new development to retain the 80th percentile storm event on site. The Utah DWQ standards state that an 80th percentile storm is equivalent to 0.5 inches of storm depth across the site area.

The Water Quality Volume, Reese Equation, was used in calculating the required retention volume for the site. The overall 80th percentile storm requirement for the site is 5,398 cubic feet. The 80th percentile storm volume will be contained in an isolator row inside the stormwater system. The calculations for the retention volume are included in the appendix.

V. PROPOSED DRAINAGE

The proposed drainage design of the site will consist of an on-site storm drain collection system consisting of 12"-18" PVC pipes discharging into an underground 21,373 cubic foot detention system where 5,398 cubic feet of storm water will be retained. A 18" PVC pipe will then discharge the remaining 15,975 cubic feet of storm water into the existing overall development storm drain system.

The storm water discharge rate will be controlled by a weir with an orifice at the bottom. The provided detention calculations show that using the Riverdale City's storm water discharge standards of .02 cfs/ac, the diameter of the orifice plate would need to be sized to 4.6". A standard size of 4.5" will be used for constructability. Using a 4.5" diameter orifice, the storm water will discharge at a rate of 0.67 cfs. If the orifice is clogged, the weir will then act as the primary outfall control. The height of the weir is sized for the 100-year storm with a height of 0.7'. Refer to appendix for orifice and flow calculations.

VI. CONCLUSION

The stormwater facility provides sufficient storage to retain the 80th percentile storm as well as detain the 100-year, 24-hour storm at a discharge rate of 0.67 cfs. The stormwater system has been designed to comply with the Riverdale City Standard Specifications. All stormwater from the development is conveyed through surface or piped flow to an underground detention system, which retains storm water and appropriately releases the water into the existing city system.

IV. APPENDIX

- 1. GRADING PLAN**
- 2. SITE SURVEY**
- 3. FEMA FIRMETTE**
- 4. RETENTION CALCULATIONS**
- 5. DETENTION CALCULATIONS**
- 6. RECTANGULAR WEIR CALCULATIONS**
- 7. OVERALL DRAINAGE AREA MAP**

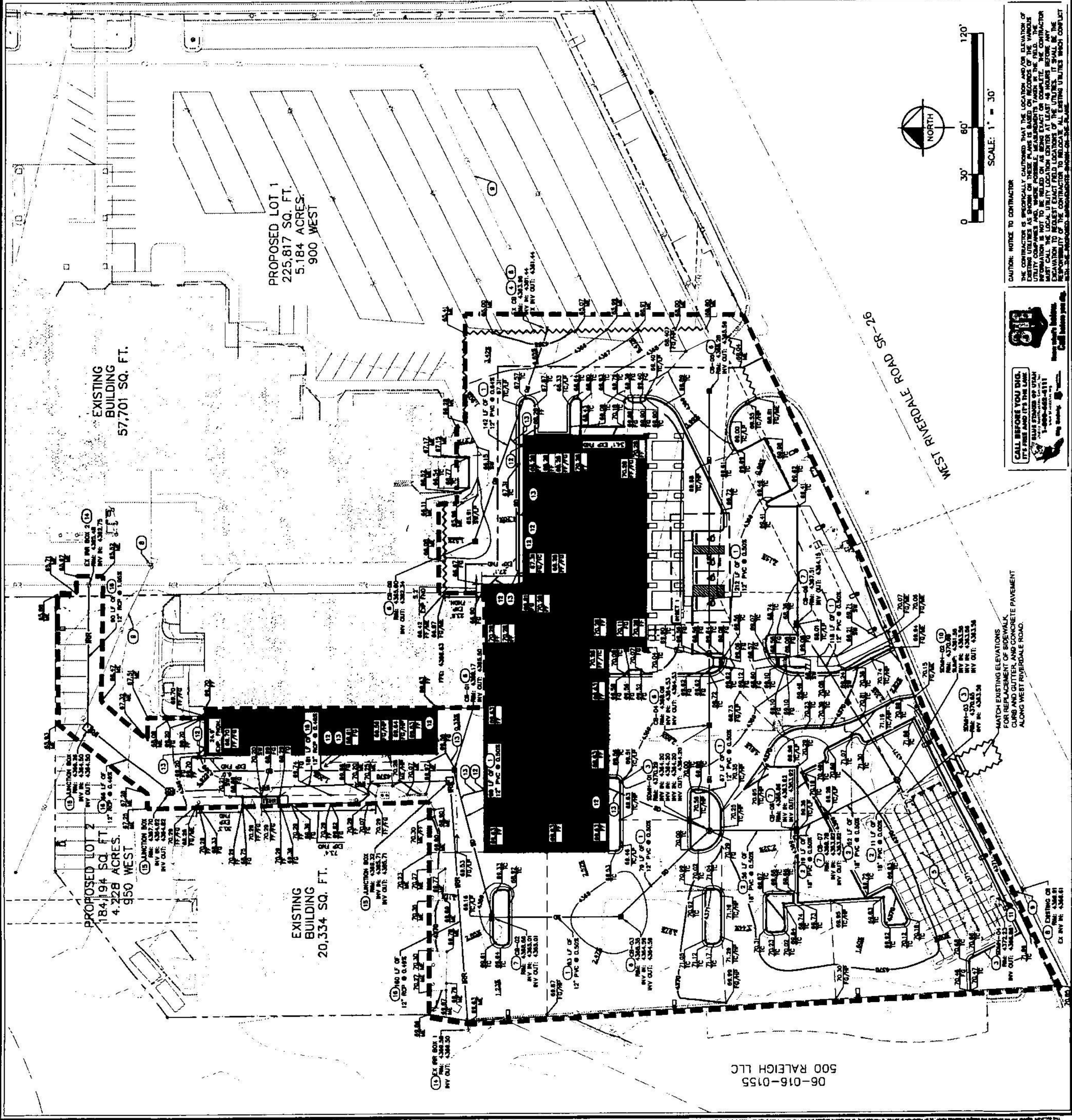
1. CONTRACTOR TO VERIFY EXISTING GRADINGS SHOWN ON THE PLAN.
2. CONTRACTOR TO INSURE POSITIVE DRAINAGE IF A CONDUIT PASSES BETWEEN THESE PLANS AND FIELD CONDITIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
3. ALL GRADING AND EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEERING REPORT.

ENGINEER: BRYAN H. ROBERTS, P.E.
ADDRESS: 2714 S. REDWOOD ROAD, WEST VALLEY CITY, UT 84118
PHONE: (801) 363-0044
FAX: (801) 363-0044
PROJECT NO.: GEOTENR PROJECT No. 20150
4. ALL EXISTING UTILITY LOCATIONS SHOWN HEREIN ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO COMMENCING HEREON. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR UTILITIES NOT SHOWN OR UTILITIES NOT SHOWN IN THEIR PROPER LOCATION.
5. ALL IDENTIFIED, DAMAGED, OR MISSING SURFACE IMPROVEMENTS SURROUNDING THE PERMITSITE OF THE DEVELOPMENT WILL NEED TO BE REPLACED OR INSTALLED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR OR REPLACE ALL EXISTING CURBS AND GUTTERS, SIDEWALKS, LANDSCAPING AND TREE TRIMMING, STREET LIGHTS, ETC.
6. ALL CONSTRUCTION AND MATERIALS SHALL MEET MINORUMATE CITY STANDARDS.
7. RETENTION/DETENTION STRUCTURE SHALL BE DESIGNED AFTER CONSTRUCTION.

- (1) FURNISH AND INSTALL 12" PVC STORM DRAIN LINE PER RIVERDALE CITY STANDARDS AND SPECIFICATIONS.
- (2) FURNISH AND INSTALL 16" PVC STORM DRAIN LINE PER RIVERDALE CITY STANDARDS AND SPECIFICATIONS.
- (3) FURNISH AND INSTALL STORM MANHOLE PER RIVERDALE CITY STANDARDS AND SPECIFICATIONS SHOWN ON SHEET C8.10.
- (4) CONNECT TO EXISTING STORM DRAIN PER RIVERDALE CITY STANDARDS AND SPECIFICATIONS.
- (5) FURNISH AND INSTALL 40' DETENTION BATTERY OR APPROVED EQUIVALENT. SEE SHEET C8.30 AND C8.40 FOR DETAILS.
- (6) FURNISH AND INSTALL STORM CATCH BASIN AND GRATE PER RIVERDALE CITY STANDARDS AND SPECIFICATIONS SHOWN ON SHEET C8.20.
- (7) FURNISH AND INSTALL STORM CATCH BASIN AND GRATE PER RIVERDALE CITY STANDARDS AND SPECIFICATIONS.
- (8) EXISTING STORM CATCH BASIN TO REMAIN.
- (9) EXISTING 10" STORM DRAIN PIPE TO REMAIN.
- (10) FURNISH AND INSTALL BARRICADE HYDRODYNAMIC SEPARATION OR APPROVED EQUIVALENT. SEE SHEET C8.40 FOR DETAILS.
- (11) FURNISH AND INSTALL ORDNCE PER DETAIL ON SHEET C8.40.
- (12) PROPOSED ROOF DRAIN CONNECTION AT 3" BELOW FFE.
- (13) FURNISH AND INSTALL 12" PVC STORM DRAIN AT 1% MINIMUM SLOPE. REFER TO RIVERDALE CITY STANDARDS AND SPECIFICATIONS.
- (14) CONNECT TO EXISTING CATCH BASIN ON EXISTING IRRIGATION CANAL. STRUCTURE TO REMAIN WITH PROPOSED CONNECTION.
- (15) PROPOSED JUNCTION BOX WITH NO SWAP.
- (16) FURNISH AND INSTALL 12" ROOF STORM DRAIN LINE PER RIVERDALE CITY STANDARDS AND SPECIFICATIONS.

PROPERTY LINE	=====
RIGHT-OF-WAY LINE	=====
ADJACENT PROPERTY LINE	=====
GRADE BREAK	----->-----
LOT POINT FLOW LINE	----->-----
EXISTING MAJOR CONTOUR	-----4.75'-----
EXISTING MINOR CONTOUR	-----4.50'-----
PROPOSED MAJOR CONTOUR	-----5.00'-----
PROPOSED MINOR CONTOUR	-----4.80'-----
WADOUT LINE	=====
LIMITS OF DISTURBANCE	=====
PROPOSED STONE LINE	=====

FINISHED GRADE SPOT ELEVATION	77.68
FINISHED FLOOR SPOT ELEVATION	77.68
TOP OF CURB SPOT ELEVATION	77.68
HIGH POINT SPOT ELEVATION	77.68
NATCH EXISTING SPOT ELEVATION	77.68
LOW POINT SPOT ELEVATION	77.68
SIDEWALK SPOT ELEVATION	77.68
EXPOSED FOUNDATION	EXP. FIN.

[illegible]

CALL BEFORE YOU DIG.
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underground utilities are located.
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FOR REPLACEMENT OF SIDEWALK,
CURB AND GUTTER, AND CONCRETE PAVEMENT

06-016-0155
500 RALEIGH LLC

National Flood Hazard Layer FIRMette



112°02'59"W 41°10'56"N



111°59'52"W 41°10'29"N

250 500 1,000 1,500 2,000 Feet 1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

	SPECIAL FLOOD HAZARD AREAS
	Without Base Flood Elevation (BFE) Zone A, V, A99
	With BFE or Depth Zone AE, AO, AH, VE, AP
	Regulatory Floodway
	0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
	Future Conditions 1% Annual Chance Flood Hazard Zone X
	Area with Reduced Flood Risk due to Levee. See Notes, Zone X
	Area with Flood Risk due to Levee Zone X
	NO SCREEN
	Area of Minimal Flood Hazard Zone X
	Effective LOMRs
	Area of Undetermined Flood Hazard Zone X
	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
	Cross Sections with 1% Annual Chance Water Surface Elevation
	Coastal Transect
	Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	Digital Data Available
	No Digital Data Available
	Unmapped
	MAP PANELS

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/12/2023 at 12:06 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Project: Ken Garff Honda of Riverdale
Description Developed Site - 80th Percentile Storm Retention Sizing
Date: July 12, 2023

80th Percentile Storm Retention Sizing

80th Percentile = 0.5" Rainfall

i	0.940	
Rv	0.835	(Runoff Coefficient)
d [ft]	0.042	(80th Percentile Precipitation Depth = 0.5 inches for Riverdale)
A [sf]	155230	(Drainage Area)
WQV [cf]	5398	

Project: Ken Garff Honda Riverdale, UT
 Description: Developed Site - 100 Year Detention Sizing
 Date: October 16, 2023

A =	3.564	ac	Total project area.	
Pavement Area	98,563	98	C (Curve Number)	
Building	47,294	98	C (Curve Number)	*This includes all proposed building area + over 50% of existing building area to account for roof drainage. See appendix for visual.
Landscape	9,373	74	C (Curve Number)	
CN =	96.55		Weighted for development.	
Q _{allow} =	0.71	cfs	Allowable discharge based on 0.20 cfs/acre.	
100-Yr, 24-Hr Precip	3.12	inches	From NOAA 14 Atlas	
S	0.36	inches		

Required Storage

Time Elapsed (min.)	Rainfall Total (in.)	Runoff (cu.ft.)	Allow. Discharge (cu.ft.)	Storage Req'd (cu.ft.)	* Rainfall Totals From NOAA
5	0.57	3757	214	3543	
10	0.87	7137	428	6709	
15	1.08	9634	641	8993	
30	1.45	14163	1283	12880	
60	1.80	18531	2566	15965	
120	1.99	20922	5132	15791	
180	2.05	21680	7697	13982	
360	2.27	24465	15395	9070	
720	2.81	31338	30789	548	
1440	3.12	35299	61579	-26280	

Required Storage = 15965 cu.ft.

Orifice Size

$$Q = CdAo(2gh)^{1/2}$$

Cd = 0.62

Flow (Q) (North) = 0.71

Head (h) (North) = 1.5

Area (in²) (North) = 16.8422

Dia (in) (North) = 4.6

4.5 in.

Retention Facility Volume = 15975 cu.ft.

Check Q 0.67 cfs

Rectangular Weir Calculations

Project Description

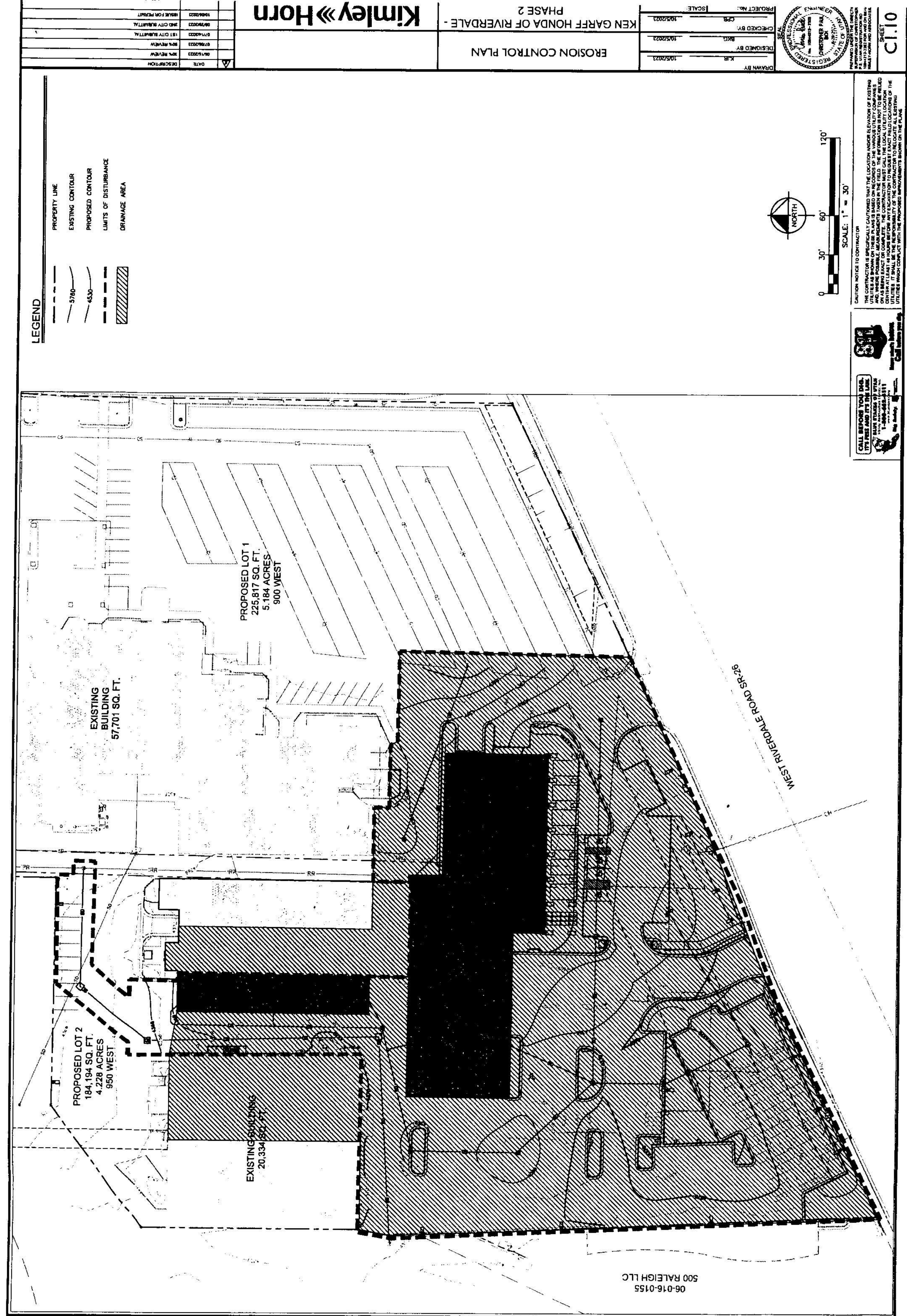
Solve For	Crest Elevation
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Input Data

Discharge	0.71 cfs
Headwater Elevation	0.83 ft
Tailwater Elevation	0.30 ft
Weir Coefficient	$3.00 \text{ ft}^{(1/2)}/\text{s}$
Crest Length	3.5 ft
Number Of Contractions	0

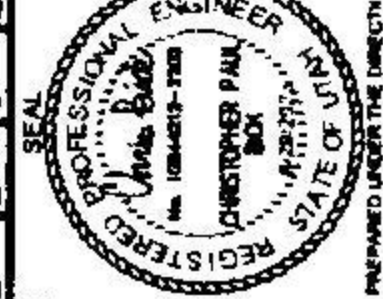
Results

Crest Elevation	0.66 ft
Headwater Height Above Crest	0.17 ft
Tailwater Height Above Crest	-0.36 ft
Flow Area	0.6 ft ²
Velocity	1.22 ft/s
Wetted Perimeter	3.8 ft
Top Width	3.50 ft



CALL BEFORE YOU DIG
IT'S FREE AND IT'S THE LAW
MISSOURI STATE OF UTILITY
1-800-444-4311
www.missouri.gov

CAUTION: NOTICE TO CONTRACTOR
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND FIELD SURVEY DATA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO ANY EXCAVATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATING ALL UTILITIES WHICH COME IN CONTACT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS.



PROJECT NO.	10000-10000
CHECKED BY	CJR
DESIGNED BY	BKG
DRAWN BY	KJR
DATE	10/15/2023

KEN GARFF HONDA OF RIVERDALE - PHASE 2
EROSION CONTROL PLAN

Kimley-Horn

DATE	08/15/2023	DESCRIPTION
10/15/2023	30% REVIEW	
07/26/2023	30% REVIEW	
07/14/2023	181 CITY SUBMITTAL	
08/29/2023	2ND CITY SUBMITTAL	
10/05/2023	ISSUE FOR PERMIT	

Legal Description

PARCEL 1: 06-016-0029 ^{ds} PCV

PART OF THE SOUTHWEST QUARTER OF SECTION 7, TOWNSHIP 5 NORTH, RANGE 1 WEST, SALT LAKE MERIDIAN, U.S. SURVEY: BEGINNING AT A POINT ON THE NORTH LINE OF STATE ROAD (RIVERDALE 27.20 FEET SOUTH 0°20' WEST (26.95 FEET SOUTH 0°19'57" WEST ALONG THE SECTION LINE) AND NORTH 64°15' EAST (NORTH 64°16'49" EAST ALONG THE NORTH LINE OF RIVERDALE ROAD) 912.70 FEET AND NORTH 2°25' WEST 389.05 FEET FROM THE SOUTHWEST CORNER OF SAID SOUTHWEST QUARTER SECTION, THENCE NORTH 10°13'09" EAST 26.34 FEET TO THE SOUTHWEST CORNER OF A METAL BUILDING, AND THENCE NORTH 0°28'12" EAST 169.05 FEET ALONG THE WEST WALL OF SAID METAL BUILDING AND THE EXTENSION OF SAID WEST WALL, THENCE NORTH 53°26'14" EAST 116.80 FEET, THENCE SOUTH 89°15'45" EAST 175.53 FEET TO THE WEST PROPERTY LINE OF PETERSON INVESTMENT II, THENCE (3) THREE COURSES ALONG SAID WEST LINE AS FOLLOWS: SOUTH 0°44'15" WEST 387.18 FEET, NORTH 89°32' WEST 22.74 FEET, THENCE NORTH 4.85 FEET, THENCE NORTH 64°30' WEST 273.97 FEET TO THE BEGINNING.

06-016-0120 & 0119 NP

^{ds} PARCEL 2: ~~06-016-0026~~ PCV

PART OF THE SOUTHWEST QUARTER OF SECTION 7, TOWNSHIP 5 NORTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN, U.S. SURVEY: BEGINNING AT A POINT SOUTH 0°18'31" WEST 26.95 FEET, NORTH 64°15" EAST 1181.69 FEET ALONG THE NORTH LINE OF RIVERDALE ROAD, NORTH 0°30' EAST 180.95 FEET, SOUTH 66°30' EAST 11.41 FEET AND NORTH 0°44'15" EAST 879.54 FEET ALONG AN OLD EXISTING FENCE FROM THE SOUTHWEST CORNER OF SAID QUARTER SECTION, RUNNING THENCE NORTH 0°44'15" EAST 220.07 FEET ALONG SAID FENCE; THENCE SOUTH 87°26'48" EAST 393.47 FEET TO THE WEST LINE OF 900 WEST STREET; THENCE SOUTH 2°23'12" WEST 219.93 FEET ALONG SAID STREET, THENCE NORTH 87°26'48" WEST 393.47 FEET, MORE OR LESS, TO THE POINT OF BEGINNING.

PARCEL 3: 06-016-0120 PCV

PART OF THE SOUTHWEST QUARTER OF SECTION 7, TOWNSHIP 5 NORTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN, U.S. SURVEY: BEGINNING ON THE WEST LINE OF 900 WEST STREET, SAID POINT BEING 26.95 FEET SOUTH 0°18'31" WEST 1455.14 FEET, NORTH 64°15' EAST ALONG THE NORTH LINE OF RIVERDALE ROAD 41.60 FEET, NORTH 87°00' WEST 197.64 FEET, NORTH 64°15' EAST TO THE SAID WEST LINE OF 900 WEST STREET 318.00 FEET, NORTH 0°38'20" EAST ALONG SAID WEST LINE AND 324.72 FEET NORTH 2°33'12" EAST ALONG SAID WEST LINE FROM THE SOUTHWEST CORNER OF SAID SECTION 7, RUNNING THENCE NORTH 89°22'30" WEST 378.19 FEET ALONG THE NORTH LINE OF 4600 SOUTH STREET, THENCE NORTH 0°44'15" EAST 202.67 FEET, MORE OR LESS, THENCE SOUTH 87°26'48" EAST 393.47 FEET, MORE OR LESS, TO THE WEST LINE OF 900 WEST STREET, THENCE SOUTH 2°23'12" WEST 189.52 FEET, MORE OR LESS, TO THE POINT OF BEGINNING.

PART OF THE SOUTHWEST QUARTER OF SECTION 7, TOWNSHIP 5 NORTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN, U.S. SURVEY: BEGINNING ON THE NORTH LINE OF RIVERDALE ROAD, SAID POINT BEING 26.95 FEET SOUTH 0°18'31" WEST (SOUTH 0°19'57" WEST ALONG SECTION LINE) AND 1168.00 FEET NORTH 64°15' EAST ALONG THE NORTH LINE OF RIVERDALE ROAD FROM THE SOUTHWEST CORNER OF SAID SECTION 7, SAID POINT ALSO BEING ON THE SOUTHEAST CORNER OF THE PROPERTY CONVEYED TO C.C. PINGREE BY WARRANTY DEED IN BOOK 402 OF RECORDS, AT PAGE 507; RUNNING THENCE NORTH 64°15' EAST 438.65 FEET ALONG THE NORTH LINE OF RIVERDALE ROAD TO THE WEST LINE OF 900 WEST STREET; THENCE TWO COURSES ALONG SAID WEST LINE AS FOLLOWS: NORTH 0°38'20" EAST 340.34 FEET, AND NORTH 2°33'12" EAST 264.69 FEET TO THE SOUTH LINE OF AN EXISTING STREET, BEING 4600 SOUTH STREET; THENCE NORTH 89°22'30" WEST 378.40 FEET ALONG SAID SOUTH LINE OF SAID EXISTING STREET, BEING 4600 SOUTH STREET; THENCE SOUTH 0°44'15" WEST 259.27 FEET; THENCE NORTH 89°15'45" WEST 175.53 FEET; THENCE SOUTH 53°26'14" WEST 116.80 FEET TO THE EXTENSION OF THE WEST WALL OF A METAL BUILDING; THENCE SOUTH 0°28'12" WEST 169.05 FEET ALONG SAID EXTENSION OF THE WEST WALL AND THE WEST WALL OF A METAL BUILDING TO THE SOUTHWEST CORNER OF SAID METAL BUILDING; THENCE SOUTH 10°13'09" WEST 26.34 FEET; THENCE SOUTH 2°25' EAST 389.05 FEET, MORE OR LESS, (389.20 FEET TO CLOSE) TO THE NORTH LINE OF RIVERDALE ROAD (A STATE ROAD); THENCE NORTH 64°15' EAST 255.30 FEET (255.37 FEET TO CLOSE) TO THE POINT OF BEGINNING.

LESS AND EXCEPTING THEREFROM THE FOLLOWING

PART OF THE SOUTHWEST QUARTER OF SECTION 7, TOWNSHIP 5 NORTH, RANGE 1 WEST, SALT LAKE MERIDIAN, U.S. SURVEY: BEGINNING AT A POINT ON THE NORTH LINE OF STATE ROAD (RIVERDALE ROAD) 27.20 FEET SOUTH 0°20' WEST (26.95 FEET SOUTH 0°19'57" WEST ALONG THE SECTION LINE) AND NORTH 64°15' EAST (NORTH 64°16'49" EAST ALONG THE NORTH LINE OF RIVERDALE ROAD) 912.70 FEET AND NORTH 2°25' WEST 389.05 FEET FROM THE SOUTHWEST CORNER OF SAID SOUTHWEST QUARTER SECTION, THENCE NORTH 10°13'09" EAST 26.34 FEET TO THE SOUTHWEST CORNER OF A METAL BUILDING, AND THENCE NORTH 0°28'12" EAST 169.05 FEET ALONG THE WEST WALL OF SAID METAL BUILDING AND THE EXTENSION OF SAID WEST WALL, THENCE NORTH 53°26'14" EAST 116.80 FEET, THENCE SOUTH 89°15'45" EAST 175.53 FEET TO THE WEST PROPERTY LINE OF PETERSON INVESTMENT II, THENCE (3)