MEMORANDUM

TO: **Laramie County Board of Commissioners**

FROM: **Sonny M. Keen, Associate Planner**

DATE: **May 21st, 2024**

TITLE: **PUBLIC HEARING regarding Board Approval and Site Plan for the McRady RV Storage Facility, located on Tract 1, McRady Subdivision, Situated in Section 8, T13N, R66W, of the 6th P.M., Laramie County, WY.**

EXECUTIVE SUMMARY

Steil Surveying Services, on behalf of Chris McRady, has submitted Board Approval and Site Plan applications for the McRady RV Storage Facility located at the northwest corner of E. College Drive and Avenue C, Cheyenne, WY. The two applications have been submitted to approve the use of a surface storage RV facility as required per the Laramie County Land Use Regulations.

Both applications have been combined into one staff report for ease of presentation and discussion, with separate motions required for the two actions.

BACKGROUND

The property underwent a zone change approval under PZ-24-00005 on April 2nd, 2024, from MR – Medium Density Residential to CB – Community Business to accommodate for surface storage use, pending Board Approval. The property consists of 6.72 acres and is bordered by and adjacent from other properties zoned CB – Community Business, MR – Medium Density Residential, and PUD – Planned Unit Development

Pertinent Statutes and Regulations include:

Wyoming State Statute: Section 18-5-101 through 18-5-315.
Section 1-2-100 governing the Board Approval process.
Section 1-2-104 governing Public Notice.
Section 2-2-133 governing Site Plans.
Section 4-2-107 governing the CB – Community Business Zone District.

DISCUSSION

The Laramie County Comprehensive Plan designates this area as URI – Urban Rural Interface (URI), intended to accommodate a mix of more intensive land uses than other areas. These areas may have public water and sewer services, a higher level of vehicular access, and a greater overall level of community services. Higher density residential, intensive commercial, employment centers, and industrial uses are preferred in these areas.

The subject property will be accessed from two access points off Avenue C, with the existing access point on E. College Drive to be removed and a curb and gutter to replace the access point. The County Engineer has concurred with the request for a traffic study waiver as the development will have minimal impacts on traffic generation or alternative transportation network connections.

A drainage report was submitted with the application and addressed adding a detention pond to comply with LCLUR drainage requirements.

All agency comments regarding Board Approval were addressed sufficiently and all other agency review comments, at the time of this report, regarding the Site Plan were still being addressed requiring an approval condition to be met. Public notice was provided, and no comments were received.

RECOMMENDATION and FINDINGS

Based on evidence provided, staff finds that:

- **a.** This application meets the criteria of 1-2-100 of the Laramie County Land Use Regulations for Board Approval; and,
- **b.** This application meets the criteria of section 2-2-133 governing Site Plans.
- **c.** This application is in conformance with Section 4-2-107 of the Laramie County Land Use Regulations governing the CB – Community Business Zone District.

and based on having met the criteria outlined above, the Board of County Commissions may approve the Board Approval and Site Plan for the McRady RV Storage facility with the following condition:

1. **All recommendations of the agency reviews, including public improvements deemed necessary, are addressed prior to the issuance of a Certificate of Review.**

PROPOSED MOTION – BOARD APPROVAL

I move to grant Board Approval for McRady RV Storage facility, located on Tract 1, McRady Subdivision, Situated in Section 8, T13N, R66W, of the 6th P.M., Laramie County, WY, with one condition and adopt the findings of fact a of the staff report.

PROPOSED MOTION – SITE PLAN

I move to grant the Site Plan for McRady RV Storage facility, located on Tract 1, McRady Subdivision, Situated in Section 8, T13N, R66W, of the 6th P.M., Laramie County, WY, with one condition and adopt the findings of facts b and c of the staff report.

ATTACHMENTS

Attachment 1: Location Map
Attachment 2: Agency Review Comments
Attachment 3: Applicant Justification Letter
Attachment 4: Landscaping Plan
Attachment 5: Drainage Report
Attachment 6: Resolution, Site Plan
Attachment 7: Resolution, Board Approval
Attachment 8: Resolution 'Exhibit A' – Site Plan Map

Laramie County Wyoming MapServer

McRady RV Storage facility

Lot 1, McRady Subdivision

PZ-24-00039
PZ-24-00040

URI - Urban Rural Interface, Laramie County Comprehensive Plan.

Fire District 1

School District 1

NORTH

Permit Notes

Permit Number: PZ-24-00039

Parcel Number: 13660840505500

Site Address: UNKNOWN

Laramie County, WY 00000

Submitted: 04/01/2024

Technically Complete: 04/04/2024

Approved:

Issued:

Applicant: HANSEN, MICHEAL SHANE

Owner: McRady Properties, LLC

Project Description: RV STORAGE

Begin Date	End Date	Permit Area	Subject	Note Type	Note Text	Created By
04/05/2024	04/05/2024	Application	PZ-24-00039	GENERAL	Meet the IFC 2024- Lack of information on site plan, parking lay out, gates, ingress and egress specific locations, security features, and water supply location. Chapter 5, Fire Service Features Section 503, Fire Apparatus Access Roads; 503.2 Specifications ALL, section 503.4 Markings, 503.6 Security gates. Section 505, Premises Identification, ALL Section 506, Lock Boxes (Security Gate) Section 507, Fire Protection Water Supplies, REQUIRED. Appendix D Fire Apparatus Access Roads, D101, D102 D103; Specifications, and D103.5 road gates-	DARRICK.MITTLESTADT@LARAMIECOUNTYWY.GOV
04/08/2024		Application	PZ-24-00039	GENERAL	2023 taxes paid in full	TAMMY.DEISCH@LARAMIECOUNTYWY.GOV
04/09/2024	04/09/2024	Workflow	COUNTY REAL ESTATE OFFICE REVIEW	GENERAL	No Comment	LAURA.PATE@LARAMIECOUNTYWY.GOV
04/11/2024		Application	PZ-24-00039	GENERAL	1. It appears the legend for ground surfaces does not match the site plan. No surfacing pattern in shown on the parking area. Please correct. 2. What is the proposal for the access of of College? The map shows a fence crossing the entrance with no gate shown. If the access is to be used, please confirm that WYDOT approves the access use and location. If it is not being used, please consider removal to not promote future unapproved use.	SETH.LLOYD@LARAMIECOUNTYWY.GOV
04/11/2024		Application	PZ-24-00039	GENERAL	1.The Master Street Plan Official Map 2023 (approved by City of Cheyenne and Laramie County) College Dr is shown as a Principal Arterial. The developer needs to talk with WYDOT about right-of-way along College DR needs and existing access to this site to be either removed or the intended use. 2.The Master Street Plan Official Map 2023 (approved by City of Cheyenne and Laramie County) Avenue C is shown as a Minor Arterial. The Laramie County Land use Regulations call for Minor Arterial right-of-way as 100 feet. Currently, Avenue C is 80 feet right-of-way. The MPO would recommend dedicating 10 feet right-of-way for future widening along Avenue C.	CHRISTOPHER.YANEY@LARAMIECOUNTYWY.GOV

Permit Notes

					3.The Laramie County Land Use Regulations for Minor Arterial access will be limited. The MPO recommends aligning the two accesses to line up with accesses across the street to minimize turning movement conflicts. 4.Are both accesses to be full movement or is one going to be the entrance and the other the exit? 5.The two proposed automated electric gates need to be adjusted to accommodate the largest vehicle and trailer to either pull off completely to allow traffic lanes to continue to flow without blocking traffic or pull out of site to allow electric gate to close if Avenue C traffic prevent vehicle with trailer to enter onto Avenue C. Please show turning movement to show largest vehicle and trailer entering into site with storage area not to block Avenue C traffic lanes.	
04/11/2024		Workflow	PLAN REVIEW BY BUILDING	GENERAL	Premises identification shall be in accordance with 2021 IFC section 505 and 2021 IRC section 319. 2021 IFC requires water supplies to be within 400' of all new buildings. Fire apparatus access roads required per IFC 2021 Section 503. Building permits shall be required for all new building construction. Laramie County has adopted the 2021 I-codes and the 2023 NEC.	DANIEL.PETERS@LARAMIECOUNTYWY.GOV
04/11/2024		Workflow	PUBLIC WORKS REVIEW	GENERAL	1. At time of review by Public Works, the review engineer comments had not been submitted. If the comments need further conversation and/or clarification, please do not hesitate to reach out to Public Works. 2. Any internal roadways on the site shall comply with the needs of emergency services. 3. Due to Avenue C being dedicated to the public, access permit applications through Public Works will be required for each access upgrade. Call (307-633-4302) or email (permits@laramiecountywy.gov) Public Works for more information.	MOLLY.BENNETT@LARAMIECOUNTYWY.GOV
04/11/2024		Workflow	UTILITIES REVIEW	GENERAL	This is in Black Hills territory.	DAVID.GOLDEN@LARAMIECOUNTYWY.GOV
04/11/2024	04/11/2024	Workflow	GIS REVIEW	DEFICIENCY	As for 2:20 pm 4/11/2024 Mcrady Subdivision isn't filed. Due to this, the legal description for this site plan doesn't exist as written.	CAMBIA.MCCOLLOM@LARAMIECOUNTYWY.GOV
04/12/2024	04/12/2024	Application	PZ-24-00039	GENERAL	1.I concur that they do not meet the requirements for a Traffic Study. 2.The site plan drawing and the civil plans do not match in all areas. Please revise so both match (i.e., grading/topo,	SCOTT.LARSON@LARAMIECOUNTYWY.GOV

Permit Notes

detention pond area, trees/landscaping, etc.)
3.The hatched surface items in the legend do not match the hatching on the drawing.
4.The adjacent roadways need to be labeled and their ROW widths shown.
5.Vehicle tracking/turning movements (such as AutoTurn) need to be submitted showing that all types of RVs and Fire Trucks can maneuver throughout the site.
6.Per the LCLUR, the minimum width for the accesses shall be 30, both are shown at 25. In addition, the radii need to be labeled. The gates will need to be 30 wide as well.
7.The two gates need to be located further into the site such that there is enough room for a large RV or truck/camper combo to stop at the gate without extending out into Avenue C and blocking traffic while waiting for the gate to open.
8.The existing access off College needs to be labeled on the site plan as existing but to be removed.
9.How will each of the parking stalls be established/designated since painting the stalls is not an option on gravel?
10.Along with comment number 2 above, Sheet 4 of 6 of the civil plans shows parking and a gravel surface in the detention pond area. I assume it is supposed to be grass based on Section A-A?
11.Please provide more information on the rock cobble and how it is to be placed to define the detention pond limits but still allow runoff to easily flow through to get to the detention pond without causing a potential blockage or back up.
12.The landscape plan does not call out the specific type of species of trees to be planted. It only indicates deciduous.
13.Sheet 2 of 6 of the civil plans shows various trees in the detention pond to be removed. However, on the site plan it appears those are to remain I believe. Please clarify on the site plan what, if any, existing trees are to remain and removed. The legend on the site plan drawing doesnt show a symbol for existing trees.
14.Will there be any site lighting? If so, please show the locations and type of lighting.
15.Upon completion of the site, an engineer or land surveyor shall submit a certification letter to the County certifying the as-constructed conditions for the grading, drainage, detention pond, outlet structure, etc. meet the approved plans and indicate what the post construction detention pond volume is compared to the volume requirements in the Drainage Study.
16.Please verify that the outlet end of the existing 36 culvert that crosses Avenue C is not blocked, silted in, etc.; it is difficult to tell on the street view on google. That pipe needs to be completely open to allow for the discharge from the detention pond to be able to flow through it.
17.Please verify that the flow coming out of the detention pond is capable of passing through the sidewalk chase, so

Permit Notes

					the sidewalk isnt always being overtopped and flooded.	
04/12/2024	04/12/2024 zone change completed board approval completed replat has been recorded	Application	PZ-24-00039	GENERAL	Current zone is MR. Outside storage is not a use by right or a use that the board could approve. This would require a zone change. Do not remember a zone change request. Cannot approve the site plan without a zone change. 714 E. College already has a building, possibly a house on the lot. Much of 714 and 716 of E. College Drive seem to be use as a residence and vehicle storage. Is there a plan to split these two lots in half? Is there a plan to vacate the current plat?	LARAMIECOUNTYATTORNEY@LARAMIECOUNTYWY.GOV
04/15/2024	1. ack 2. ack	Workflow	WYDOT REVIEW	GENERAL	1. The submitted plans show no use of an access on College Dr. Remove the access along College Dr. Any modification to an existing access, including removal, requires an access permit application. Please contact Michael Ginther at michael.ginther@wyo.gov or 307-745-2118 for more information. 2.Developers and landowners should be aware that any work or presence in the right of way created by development/construction for this project will need the appropriate permitting or licensing between the utility owner and WYDOT District 1 Maintenance (access permits are with D1 Traffic). Utility owners, including governmental entities, will be responsible for the licensing and/or permitting of all utility facilities in the WYDOT right-of-way. Other work in the ROW can be approved through a temporary use permit. Permits (except for access permits) and licenses can be acquired by contacting Michael Elliott (Michael.Elliott@wyo.gov, 307-745-2123).Also, the development must maintain historic drainage corridors so that drainage is not diverted to other entry points to the R/W. If drainage is affected in the highway right-of-way, a drainage study needs to demonstrate that post-development discharge rates are metered at or below pre- development rates for 2, 5, 10, 25, 50 and 100 year events and will need to be reviewed by WYDOT Bridge/Hydraulics Program.	TAYLOR.MCCORT@LARAMIECOUNTYWY.GOV

Permit Notes

05/06/2024	1. see the notes 2. see the notes	Application	PZ-24-00039	GENERAL	1. I do not see a revised site plan submitted. I would prefer to see a revised site plan with the following corrections: a. The legend box for "existing/proposed concrete" changed to match the concrete symbol on the map. b. The symbol for "proposed gravel surface" be added to the map where gravel is proposed (in the original, the area is 'blank'). c. The symbol for the ground cover in the detention/landscape area be added to the legend (assumed to be 'native seed') d. The proposed ground cover in the adjacent right-of-way (assumed to be native seed, but since its 'blank' status matches the 'blank' status of the stalls, it could be interpreted that gravel is being proposed in the adjacent rights-of-way). 2. The purpose of the comment above is to provide an accurate representation of what the site is like. An accurate document would make enforcement questions easier to answer (especially should the property be annexed and switch enforcement jurisdictions).	SETH.LLOYD@LARAMIECOUNTYWY.GOV
05/06/2024		Application	PZ-24-00039	GENERAL	LCFD # 1 accepts projects response. Thank you-	DARRICK.MITTLESTADT@LARAMIECOUNTYWY.GOV
05/06/2024		Workflow	GIS REVIEW	GENERAL	McRady Subdivision filed with County Clerk 4/16/2024	CAMBIA.MCCOLLOM@LARAMIECOUNTYWY.GOV
05/08/2024	05/08/2024	Application	PZ-24-00039	GENERAL	no additional comments	LARAMIECOUNTYATTORNEY@LARAMIECOUNTYWY.GOV

Permit Notes

05/09/2024		Application	PZ-24-00039	GENERAL	1.Please provide street names 2.Prefer to see access align with adjacent approaches on the other side of the street. 3.Please show largest truck and RV trailer turning movement that will be entering and exiting from this site. It appears that there might need some adjustments to accommodate truck and RV trailer movements entering, turning with in site, and exiting site to the street. 4.Please provide an area for the largest truck and RV trailer to pull off street and be ready to access through gate to the parking storage area. This will also allow for the largest truck and RV trailer to pull out of parking storage and allow gate to close behind while waiting to pull out onto the street when clear. 5.Prefer to see the following, Avenue C is classified as a Minor Arterial on the Master Street Plan Official Map and the Laramie County Land Use Regulations calls for 100 feet of right-of-way. Currently Avenue C has 80 feet of Right-of-way. This site will need to dedicate 10 feet of right-of-way. 6.Prefer to see the following, College Drive is classified as a Principal Arterial. The developer must contact WYDOT to determine Right-of-Way needs along College Dr for this site. 7.Please remove driveway accesses that will not be used along College Dr. 8.Please provide sight triangles on Landscape plan.	CHRISTOPHER.YANEY@LARAMIECOUNTYWY.GOV
	1. shown 2. existing access being utilized 3. movement template submitted 4. this is a long term parking facility, more than one unit entering the site at any time is highly unlikely. Entries will remain as designed 5. this has already been addressed 6. this has already been addressed 7. ack 8. ack					
05/09/2024	05/09/2024	Application	PZ-24-00039	GENERAL	1.Since the existing access off College Drive will not be used for this site, it needs to be physically removed so that a gate cant be added at a later date and use the existing access. The site plan and construction plans need to call out the complete removal of the existing access and replaced with standard curb and gutter. 2.LCLUR Section 2-2-134 b.i.A.II.a and b (page 124) indicates a minimum of 25% of frontage trees shall be coniferous and a minimum of 25 % of internal trees shall be coniferous. The current site plan only shows ornamental trees and no coniferous trees. 3.All light fixtures shall be pointed in the down direction (90 degrees from the ground surface) and not be pointed such that light is directed outside of the property or upwards. 4.The Legend does not show proposed surface type for asphalt. The hatched area east of each of the gates needs to be labeled as proposed asphalt per the construction drawings. 5.All other previous comments have been adequately addressed with the response, revised site plan drawing, and construction drawings.	SCOTT.LARSON@LARAMIECOUNTYWY.GOV
	1. ack 2. added 3. ack 4. ack 5. ack					

Permit Notes

05/10/2024	Workflow 1. ack	WYDOT REVIEW	GENERAL	Fencing off the access is not an acceptable solution to the removal of an access. The access will need to be removed and replaced with curb and gutter sidewalk. Any modification to an existing access, including removal, requires an access permit application. Please contact Michael Ginther at michael.ginther@wyo.gov or 307-745-2118 for more information.	TAYLOR.MCCORT@LARAMIECOUNTYWY.GOV

Permit Notes

Permit Number: PZ-24-00040

Parcel Number: 13660840505500

Site Address: UNKNOWN

Laramie County, WY 00000

Submitted: 04/05/2024

Technically Complete: 04/05/2024

Approved:

Issued:

Applicant: HANSEN, MICHEAL SHANE

Owner: McRady Properties, LLC

Project Description: surface storage

Begin Date	End Date	Permit Area	Subject	Note Type	Note Text	Created By
04/18/2024	04/18/2024	Application	PZ-24-00040	GENERAL	The Deed to the West Half 99 has the owner of Joseph F. McRady and the rest of the properties are owned by McRady Properties, LLC, but the letter says the owner is Chris McRady.	LARAMIECOUNTYATTORNEY@LARAMIECOUNTYWY.GOV
04/23/2024	04/23/2024	Application	PZ-24-00040	GENERAL	no additional comments	LARAMIECOUNTYATTORNEY@LARAMIECOUNTYWY.GOV
05/06/2024		Workflow	PLAN REVIEW BY PLANNING AND ZONING	GENERAL	ALL PRIOR COMMENTS HAVE BEEN ADDRESSED. NOTHING FURTHER.	SONNY.HOOPS@LARAMIECOUNTYWY.GOV

Steil Surveying Services
Professional Land Surveyors & Development Specialists

April 1, 2024

Laramie County Planning & Development Office
3966 Archer Parkway
Cheyenne, WY 82007
(307) 633-4303

InRe: LETTER OF JUSTIFICATION – McRady RV Storage

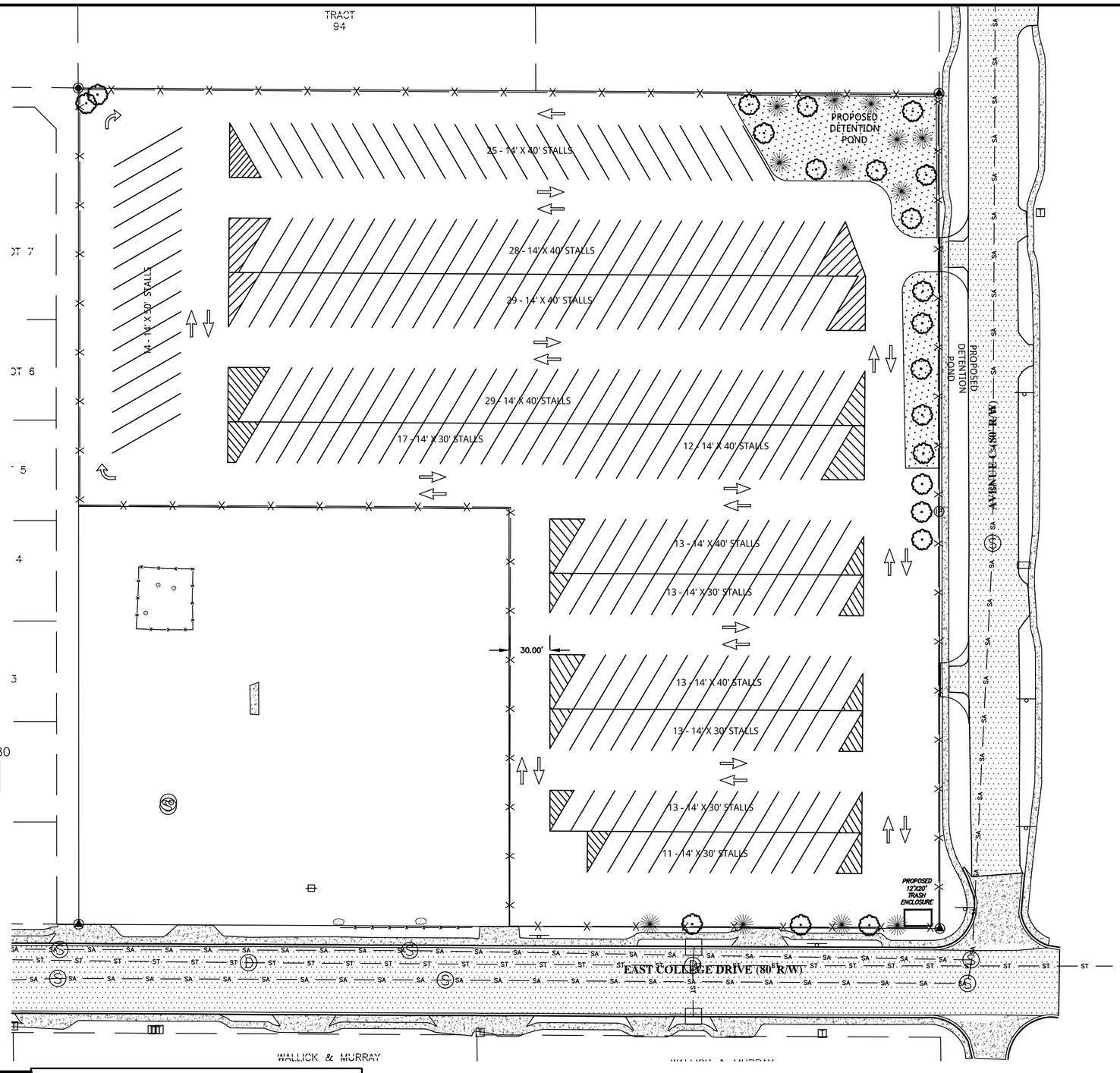
Steil Surveying Services, agent for the owner, submits this site plan on behalf of Chris Mcrady. She wishes to place RV Storage on 6.72 acres of her property.

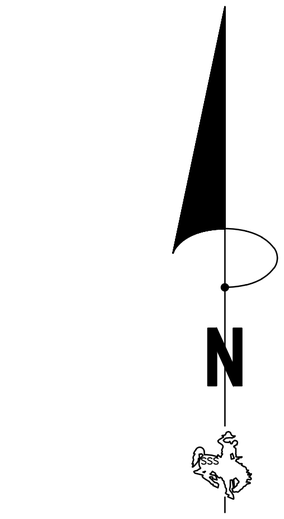
The overall density of the site plan is 6.72 acres. Please contact me with any questions or concerns.

Shane Hansen

Director Planning and Development
Steil Surveying Services, LLC
shansen@steilsurvey.com

EXISTING ZONING - MR
PROPOSED ZONING - CB





60 0 60 120 180

Scale: 1" = 60'

SITE INFORMATION

TOTAL SITE AREA .....6.72 ACRES
PROPOSED IMPERVIOUS SURFACE.....6.42 ACRES
TOTAL LOT COVERAGE .....90% ACRES

LEGEND

—x— PROPOSED 6' SCREENING FENCE

PROPOSED ORNAMENTAL TREE (23)
TO BE A COMBINATION OF:
SPRING SNOW
BUR OAK
AMERICAN LINDEN
HACKBERRY

PROPOSED CONIFEROUS TREE (11)

LANDSCAPE NOTES

PROPOSED 1.5" CALIPER ORNAMENTAL TREES – 23
(23 X 2 PTS = 46 PTS)

PROPOSED CONIFEROUS TREES – 11
(11 X 2 PTS = 22 PTS)

13,654 SF NATIVE SEED GROUND COVER IN PONDS
(.75 PTS PER 500 SF = 20.48 PTS)

REQUIRED LANDSCAPE POINTS = 87

TOTAL PROVIDED = 88.48

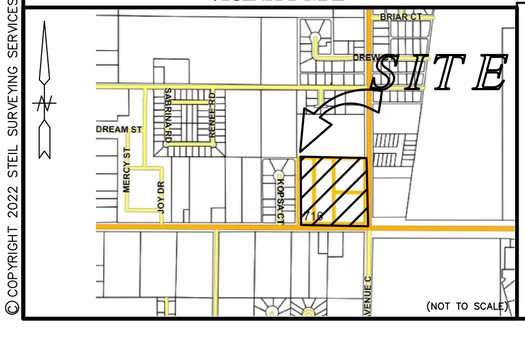
LANDSCAPE NOTES

LANDSCAPE IRRIGATION TO BE A DRIP SYSTEM DESIGNED AND INSTALLED BY A LICENSED LANDSCAPE AND IRRIGATION COMPANY

LANDSCAPE PLAN for CHRIS MCRADY

OF TRACT 1, MCRADY SUBDIVISION,
SITUATE IN SECTION 8, T13N, R66W,
OF THE 6TH P.M.,
LARAMIE COUNTY, WYOMING
PREPARED JANUARY 2024

VICINITY MAP



FOR AGENCY REVIEW ONLY NOT FOR CONSTRUCTION

REVISED: 5/10/2024
24085 LSCAPE.DWG

STEIL SURVEYING SERVICES, LLC
PROFESSIONAL LAND SURVEYORS
PLANNING & DEVELOPMENT SPECIALISTS
1102 WEST 19th ST. CHEYENNE, WY. 82001 ○ (307) 634-7273
756 GILCHRIST ST. WHEATLAND, WY. 82201 ○ (307) 322-9789
www.SteilSurvey.com ○ info@SteilSurvey.com

DRAINAGE REPORT

McRady RV Storage

McRady Subdivision, Tract 1
Laramie County, WY

Prepared for:

McRady Properties, LLC
741 Morning Glory Trail
Cheyenne, WY 82007

Prepared by:

SUMMIT ENGINEERING, LLC
5907 Townsend Place
Cheyenne, Wyoming 82009
307-637-0681

Date:
April 2024

Site Information:

The McRady Properties site that will be developed into RV Storage contains 6.72 acres (292,724 sf±) and is described as Tract 1 of McRady Subdivision, Laramie County, WY. The land for the RV Storage development is currently vacant land with dry land seed cover.

Drainage Information:

The middle of the lot is higher in elevation, with storm water runoff being directed to both the northeast corner of the site and also the southeast corner of the site. The east side of the site is adjacent to Avenue C. Avenue C has ditches on both sides of the road. Storm water coming off of Avenue C, as well as off this site, flows in the ditch to a culvert located under Avenue C at the north end of the property. Storm water conveyed thru the existing culvert flows east towards Allison Draw. Currently very little, storm water from this site does not flow to the College Drive right-of-way, and it is our intent to keep storm water from flowing onto College Drive.

This site is not located within a FEMA floodplain.

It is proposed, as part of this project, to construct a detention pond to comply with current Laramie County drainage requirements.

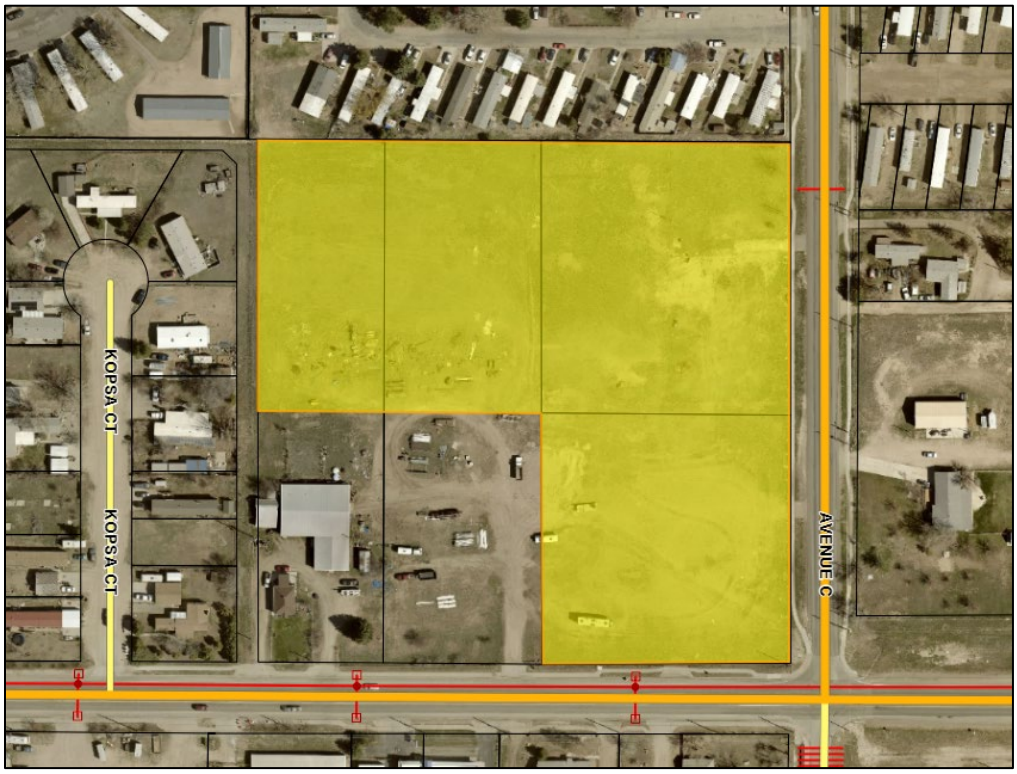


Figure 1: Vicinity Map with Exist. Storm Sewer (in red)

Pre-Development:

Property Area = 292,724 sf = 6.72 acres

Runoff Coefficient

Natural Seed / Pervious area = 292,724 sf (C=0.20)

Time of concentration = Tc, Highpoint on west side of property, flowing east to the existing culvert under Avenue C. (Refer to Exhibit 1)

Tc-1 = Sheet flow

Length (L) = 300'

Fall = 6012.55 – 6002.09 = 10.46'

Slope (S) = 3.5%

$$\text{Tc (Sheet Flow)} = \frac{1.8(1.1-C)(\sqrt{L})}{\sqrt[3]{S}}$$

$$\text{Tc-1} = \frac{1.8(1.1-0.20)(\sqrt{300})}{\sqrt[3]{3.5}} = 18.5 \text{ minutes}$$

Tc-2 = Shallow Concentrated Flow

Length (L) = 432'

Fall = 6002.09 – 5996.16 = 5.93'

Slope = 1.37%

Velocity (V) = 1.85 ft/sec

Tc (Shallow Concentrated Flow) = (L/V)/60

Tc-2 = (432' / 1.85) / 60 = 3.89 minutes

Total Tc = 18.5 minutes + 3.89 minutes = 22.39 minutes

Peak Discharge: see attached printout

Storm Event	Peak Discharge (c.f.s.)
5-year	3.26
10-year	3.93
50-year	6.69
100-year	7.93

Post-Development:

Property Area = 292,724 sf = 6.72 acres

Runoff Coefficient = C

Gravel = 242,731 sf (C=0.50)
Concrete = 800 sf (C=0.95)
Pervious area = 49,193 sf (C=0.20)

$$Cwt = \frac{0.95(800)+0.2(49,193)+0.5(242,731)}{292,724} = 0.45$$

Time of Concentration: Tc post development = Use 5.0 minutes

Peak Discharge: See attached printout (Required Storage = 21,600 cf for a 100 year frequency storm event, released at the 50 year storm event release rate.)

Storm Event	Allowable Discharge (cfs)	Peak Inflow Rate (cfs)
5-year	3.26	14.39
10-year	3.93	17.27
50-year	6.69	29.08
100-year	6.69	34.35

Detention Pond:

Water Quality Capture Volume (WQCV):

Property area = 292,724 sf = 6.72 acres
Impervious Area =
Gravel = 242,731 sf (use 50% impervious)
Concrete = 800 sf (use 100% impervious)
Pervious area = 49,193 sf (use 0% impervious)

Weighted: $\frac{0.5(242,731) + 1.0(800) + 0}{292,724 \text{ sf}} = 0.42$, use 42% impervious

Water Quality Depth (WQD) =

$$a\ (0.91I^3 - 1.19I^2 + 0.78I)$$

Where a = coefficient for drain time = 1.0 for 40 hours
I = Imperviousness = 0.42 (42%)

WQD = 0.188 inches

Water Quality Capture Volume (WQCV) = $\frac{WQD}{12}\ A(43,560)$

Where A = Area = 6.58 acres
WQD = 0.185 inches
WQCV = 4,515 cf

WQCV total discharge rate = $\frac{2(WQCV)}{Drain\ Time}$ = $\frac{2(4{,}515)}{40\ hours / 3{,}600\ seconds/hour}$ = 0.063 c.f.s.

Required Detention Pond Capacity:

The complete spreadsheet for required storage volumes is included in the Appendix.

Storm Event (year)	Required Storage (cubic-feet)	WQCV Storage (cubic-feet)	Total Required Storage (cubic-feet)
5-year	5,599	4,515	10,114
10-year	7,182	4,515	11,697
50-year	13,744	4,515	18,259
100-year	17,964	N/A	USE 18,259

PRISMOIDAL METHOD (NORTH POND)					SOUTH POND		DISCHARGE			
POND VOLUME = 1/3(A1+A2+(A1*A2)^0.5)*D										
DETENTION POND		INCREM	CUMM.	CUMM.	CUMM.	COMBINED	WQCV	DETENTION	*TOTAL	
ELEV	AREA	VOLUME	VOLUME	VOLUME	VOLUME	VOLUME	DISCHARGE	DISCHARGE	DISCHARGE	DESCRIPTION
FT	SQ FT	CU FT	CU FT	ACRE-FT	CU FT	CU FT	CFS	CFS	CFS	
5996.20	108	0	0	0.00		0				
5996.30	1,186	55	55	0.00		55				
5996.40	2,865	196	252	0.01		252				
5996.50	4,240	353	605	0.01		605				
5996.60	5,618	491	1,096	0.03		1,096				
5996.70	6,995	629	1,725	0.04		1,725				
5996.80	8,095	754	2,479	0.06	1	2,480				
5996.90	8,668	838	3,317	0.08	9	3,326				
5997.00	8,848	876	4,193	0.10	37	4,230				
5997.10	9,002	892	5,085	0.12	91	5,176	0.055	0.00	0.055	WCQV
5997.20	9,104	905	5,991	0.14	176	6,167				
5997.30	11,553	1,030	7,021	0.16	305	7,326				
5997.40	14,398	1,295	8,316	0.19	488	8,804				
5997.50	17,661	1,600	9,916	0.23	734	10,650	0.067	2.95	3.02	5-year
5997.60	21,108	1,936	11,852	0.27	1,052	12,904	0.069	3.70	3.77	10-year
5997.70	24,541	2,280	14,132	0.32	1,454	15,586				
5997.79	27,197	2,327	16,460	0.38	1,826	18,286		6.20	6.20	50-year
5997.90	30,635	13,169	19,160	0.44	2,335	21,495	N/A	6.20	6.20	100-year

Stage/Storage Provided: The site has two areas to be used as detention, these areas are joined via a culvert under the access road. The stage/storage for each location has been added together in the table below. Total Storage Provided = 21,808 c.f.
Release Rate Calculations:

Water Quality release will be controlled by a 1.5" diameter hole at the bottom of the outlet structure.

* Orifice Equation $Q = C_d A\sqrt{2gh}$

Where C_d = Coef. of Discharge = 0.6
A = area of orifice
g = acceleration of gravity (32.2 ft/sec^2)
h = head

WQCV: 1.5" diameter hole at invert = 5996.16
Centroid Elev = 5996.16 + [(1.5")/2] = 5916.22
A = 0.012 s.f.
h= (5997.10- 5996.16) = .88'
Q = 0.055 cfs < 0.062 cfs Allowable

5-Year: WQCV: 1.5" diameter hole at invert = 5996.16, Centroid Elev = 5916.22
A = 0.012 s.f.
h =(5997.50 – 5996.22) = 1.28'
Q=0.067 cfs

10-Year: WQCV: 1.5" diameter hole at invert = 5996.16, Centroid Elev = 5916.22
A = 0.012 s.f.
h =(5997.60 – 5996.22) = 1.28'
Q=0.069 cfs

Detention Pond allowable release will be controlled by a rectangular weir notched in the outlet structure for the 5-year and 10-year events, and will be controlled by the outlet pipe for larger events.

For a rectangular contracted weir:

$$Q = 3.247\ x\ L\ x\ H^{1.48} - \frac{0.566L^{1.9}}{1 + 2L^{1.87}}\ x\ H^{1.9}$$

Where: Q = Flow rate in cfs
L = Bottom width of weir in feet (2' long weir/notch in outlet structure)
H = Height of the upstream water above the weir crest in feet (notch will be made at elevation 5996.90.)

5-year Detention Weir Release: L = 2', H = (5997.50 – 5996.90) = 0.60'
Q_5 = 2.95 cfs

$Q_{5\ WQCV}$ = 0.067 cfs

Q_5 total = 2.95 + 0.067 = 3.017 cfs < 3.26 cfs Allowable

10-year Detention Release: L = 2', H = (5997.60 – 5996.90) = 0.70'

Q_{10} = 3.70 cfs

$Q_{10\ WQCV}$ = 0.069 cfs

Q_{10} total = 3.70 + 0.069 = 3.767 cfs < 3.93 cfs Allowable

The outlet to the detention pond will be an 18" CMP pipe. The outlet pipe will be laid at a 0.5% slope out of the outlet structure. The invert elevation out of the outlet structure will be 5996.15. Flow out of this pipe is controlled by the headwater elevation within the detention pond, which has a maximum elevation of 5997.90. HY-8 was used to determine the flow rate. The complete HY-8 report is included in the appendix.

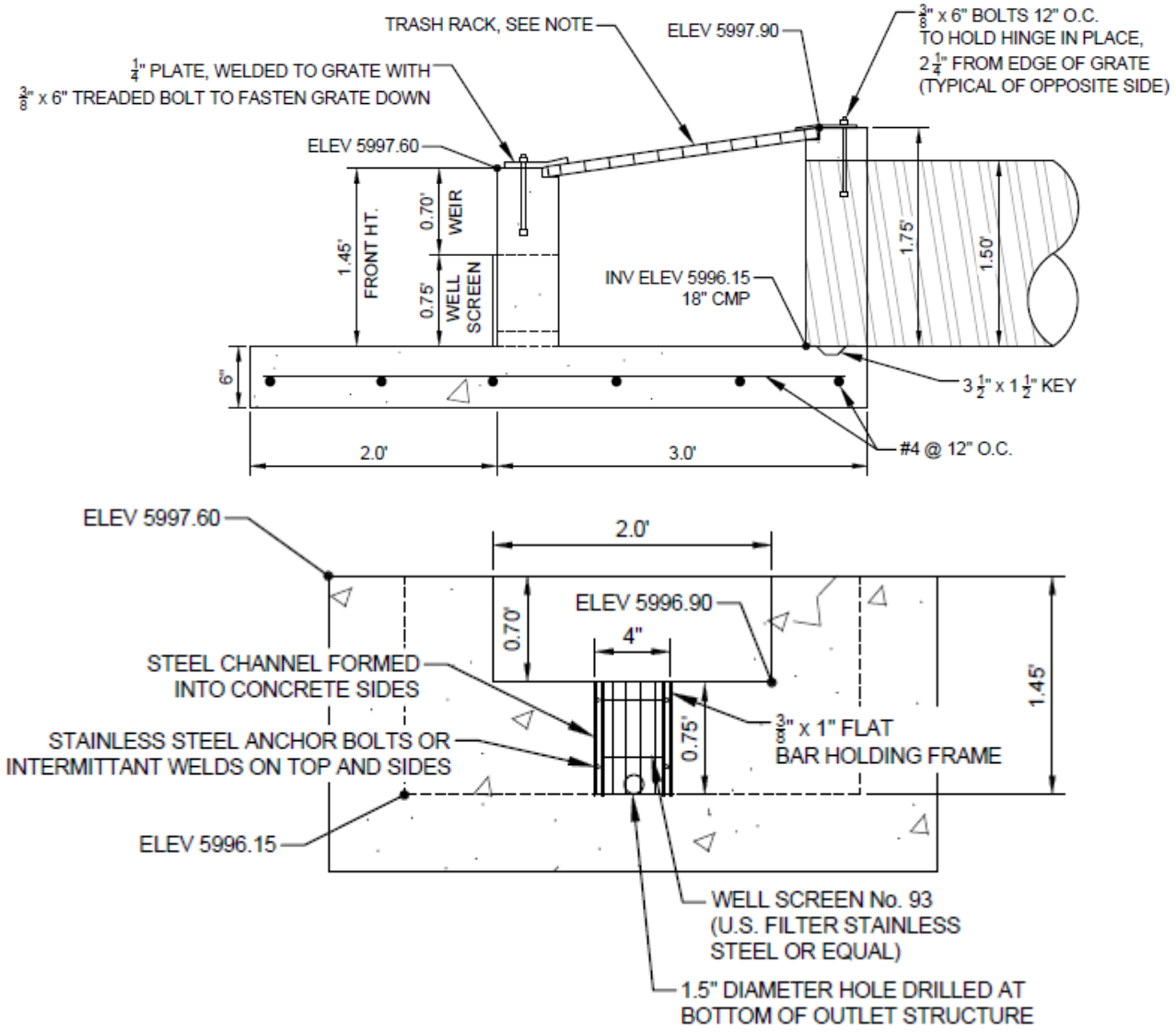
Headwater Elevation (ft)	Culvert 1 Discharge (cfs)
5996.15 (CULVERT INVERT)	0.00
5996.63	0.67
5996.85	1.34
5997.02	2.01
5997.17	2.68
5997.31	3.35
5997.44	4.01
5997.56	4.68
5997.68	5.35
5997.8	6.02
5997.91	6.63
5997.9 (TOP OF POND)	6.55

50-year and 100-year pond volumes are achieved at 5997.79. The 18" CMP outlet pipe can only discharge at 6.55 cfs. Q of 6.55 cfs < 7.93 cfs Allowable for 100-year and < 6.69 cfs Allowable for 50-year. A portion of the detention pond is contained within the parking area, but will back up to a depth no greater than 9" before overtopping the pond and spilling out into Avenue C.

Outlet Structure:

The outlet structure is detailed on sheet 5 of the construction plan set, and shown on the following page. The outlet structure consists of a concrete box with the previously described 1.5" hole at the bottom, a weir near the top of the box, and a trash rack on top of the open box. An 18" CMP outlet pipe controls water releasing from the pond. Storm water released from the pond is then directed to the existing 36" culvert under Avenue C.

Outlet Structure Detail:



Certification:

I hereby attest that this report for the drainage design McRady RV Storage was prepared by me, or under my direct supervision, in accordance with the provisions of the LARAMIE COUNTY LAND USE REGULATIONS for the responsible parties thereof. I understand that Laramie County does not and shall not assume liability for drainage facilities designed by others.

4-27-2024

Darci Hendon, PE
State of Wyoming No. 10154

McRady RV Storage

APPENDICES

1. Exhibit 1
2. Detention Pond Required Storage
3. Average Velocity Chart
4. Detention Pond Outlet Pipe HY-8 Report

Tc (EXISTING)

432 LF OF SHALLOW CONCENTRATED FLOW AT 1.37%

300 LF OF SHEET FLOW AT 3.5%

EXISTING 36" CULVERT DIRECTS FLOW TO THE EAST, UNDER AVENUE C TO ALLISON DRAW

3
6010.73
CP
N=220141.62
E=759357.7

2
6005.97
CP
N=219998.11
E=759702.50

1
6002.29
CP
N=219745.30
E=759778.44

KOPSA CT.

AVENUE C

COLLEGE DR.

80 0 80 160 240

REV	BY	DESCRIPTION OF REVISION	DATE

SUMMIT ENGINEERING, LLC
5907 TOWNSEND PLACE
CHEYENNE, WY. 82009
307-637-0681

DESIGNED:	DMH
DRAWN:	DMH
CHECKED:	LRG
PROJECT MANAGER:	DMH
DATE:	APRIL 2024

MCRADY RV STORAGE

DRAINAGE EXHIBIT 1

DRAWING 1 OF 1

Drawing Name: D:\SUMMIT 2024\MCRADY RV STORAGE\MCRADY(BASE).DWG Saturday, April 27, 2024 9:19 AM By: DARCI HENDON

PROJECT: McRady RV Storage, DRAINAGE REPORT

Pre-Project

Parameter	5-Year	10-Year	20-Year	50-Year	100-Year
Drainage Area, A =	6.72 acres	6.72 acres	6.72 acres	6.72 acres	6.72 acres
Rational Method C =	0.20	0.20	0.20	0.20	0.20
Correction Coefficient, Cf =	1.00	1.00	1.08	1.20	1.25
Time of Concentration, Tc =	22.39 minutes	22.39 minutes	22.39 minutes	22.39 minutes	22.39 minutes
Intensity, I =	2.425 in/hr	2.923 in/hr	3.431 in/hr	4.147 in/hr	4.719 in/hr
Allowable Release Rate, Q =	3.26 cfs	3.93 cfs	4.98 cfs	6.69 cfs	7.93 cfs

Post-Project

Parameter	5-Year	10-Year	20-Year	50-Year	100-Year
Drainage Area, A =	6.72 acres	6.72 acres	6.72 acres	6.72 acres	6.72 acres
Rational Method C =	0.45	0.45	0.45	0.45	0.45
Correction Coefficient, Cf =	1.00	1.00	1.08	1.20	1.25
Time of Concentration, Tc =	5.00 minutes	5.00 minutes	5.00 minutes	5.00 minutes	5.00 minutes
Intensity, I =	4.750 in/hr	5.700 in/hr	6.668 in/hr	8.000 in/hr	9.070 in/hr
Peak Inflow Rate, Q =	14.39 cfs	17.27 cfs	21.82 cfs	29.08 cfs	34.35 cfs

5 <= Time Step

5-Year

Rainfall Duration (minutes)	Rainfall Intensity (inches / hr)	Inflow Volume (cubic feet)	Adjustment Factor "m"	Average Outflow (cfs)	Outflow Volume (cubic feet)	Storage Volume (cubic feet)
0	0	0	0	0	0	0
5	4.750	4,317	1.00	3.26	978	3,339
10	3.660	6,653	1.00	3.26	1,955	4,697
15	3.040	8,289	1.00	3.26	2,933	5,356
20	2.603	9,463	1.00	3.26	3,911	5,552
25	2.230	10,134	0.95	3.09	4,633	5,501
30	1.960	10,688	0.87	2.85	5,122	5,566
35	1.762	11,210	0.82	2.67	5,611	**5,599**
40	1.582	11,502	0.78	2.54	6,100	5,403
45	1.422	11,631	0.75	2.44	6,588	5,043
50	1.287	11,697	0.72	2.36	7,077	4,620
55	1.178	11,777	0.70	2.29	7,566	4,211
60	1.100	11,997	0.69	2.24	8,055	3,942
65	1.039	12,276	0.67	2.19	8,544	3,732
70	0.981	12,482	0.66	2.15	9,032	3,450
75	0.925	12,610	0.65	2.12	9,521	3,089
80	0.872	12,680	0.64	2.09	10,010	2,670
85	0.823	12,716	0.63	2.06	10,499	2,217
90	0.779	12,744	0.62	2.03	10,988	1,756
95	0.739	12,761	0.62	2.01	11,477	1,285
100	0.704	12,796	0.61	1.99	11,965	831
105	0.676	12,902	0.61	1.98	12,454	448
110	0.653	13,056	0.60	1.96	12,943	113
115	0.638	13,336	0.60	1.95	13,432	-95
120	0.630	13,742	0.59	1.93	13,921	-179

Storage, cubic feet = 5,599
acre feet = 0.129

10-Year

Rainfall Duration (minutes)	Rainfall Intensity (inches / hr)	Inflow Volume (cubic feet)	Adjustment Factor "m"	Average Outflow (cfs)	Outflow Volume (cubic feet)	Storage Volume (cubic feet)
0	0	0	0	0	0	0
5	5.700	5,180	1.00	3.93	1,178	4,002
10	4.380	7,961	1.00	3.93	2,357	5,605
15	3.600	9,815	1.00	3.93	3,535	6,280
20	3.114	11,321	1.00	3.93	4,714	6,607
25	2.714	12,333	0.95	3.72	5,585	6,748
30	2.420	13,196	0.87	3.43	6,174	7,022
35	2.192	13,945	0.82	3.22	6,763	**7,182**
40	1.982	14,411	0.78	3.06	7,352	7,058
45	1.795	14,682	0.75	2.94	7,942	6,741
50	1.634	14,850	0.72	2.84	8,531	6,319
55	1.504	15,036	0.70	2.76	9,120	5,916
60	1.410	15,378	0.69	2.70	9,709	5,668
65	1.336	15,785	0.67	2.64	10,299	5,486
70	1.264	16,083	0.66	2.59	10,888	5,195
75	1.196	16,305	0.65	2.55	11,477	4,827
80	1.131	16,446	0.64	2.51	12,066	4,380
85	1.070	16,532	0.63	2.48	12,656	3,876
90	1.015	16,605	0.62	2.45	13,245	3,360
95	0.966	16,681	0.62	2.43	13,834	2,847
100	0.923	16,777	0.61	2.40	14,423	2,354
105	0.887	16,929	0.61	2.38	15,013	1,916
110	0.859	17,175	0.60	2.36	15,602	1,573
115	0.840	17,559	0.60	2.35	16,191	1,368
120	0.830	18,104	0.59	2.33	16,780	1,324

Storage, cubic feet = 7,182
acre feet = 0.165

20-Year

Rainfall Duration (minutes)	Rainfall Intensity (inches / hr)	Inflow Volume (cubic feet)	Adjustment Factor "m"	Average Outflow (cfs)	Outflow Volume (cubic feet)	Storage Volume (cubic feet)
0	0	0	0	0	0	0
5	6.668	6545	1.00	4.98	1494	5,051
10	5.151	10112	1.00	4.98	2988	7,124
15	4.179	12306	1.00	4.98	4483	7,823
20	3.611	14176	1.00	4.98	5977	8,199
25	3.235	15879	0.95	4.72	7081	8,798
30	2.903	17095	0.87	4.35	7828	9,267
35	2.605	17897	0.82	4.08	8575	**9,322**
40	2.367	18584	0.78	3.88	9322	9,262
45	2.171	19180	0.75	3.73	10069	9,111
50	2.008	19710	0.72	3.61	10816	8,893
55	1.871	20198	0.70	3.50	11563	8,635
60	1.755	20669	0.69	3.42	12310	8,359
65	1.656	21131	0.67	3.35	13058	8,074
70	1.570	21577	0.66	3.29	13805	7,772
75	1.495	22007	0.65	3.23	14552	7,455
80	1.428	22422	0.64	3.19	15299	7,123
85	1.368	22824	0.63	3.15	16046	6,778
90	1.314	23213	0.62	3.11	16793	6,420
95	1.265	23591	0.62	3.08	17540	6,051
100	1.220	23958	0.61	3.05	18287	5,671
105	1.180	24315	0.61	3.02	19034	5,281
110	1.142	24664	0.60	3.00	19781	4,883
115	1.108	25005	0.60	2.98	20528	4,477
120	1.076	25340	0.59	2.95	21276	4,065

Storage, cubic feet = 9,322
acre feet = 0.214

50-Year

Rainfall Duration (minutes)	Rainfall Intensity (inches / hr)	Inflow Volume (cubic feet)	Adjustment Factor "m"	Average Outflow (cfs)	Outflow Volume (cubic feet)	Storage Volume (cubic feet)
0	0	0	0	0	0	0
5	8.000	8,725	1.00	6.69	2,006	6,719
10	6.120	13,349	1.00	6.69	4,013	9,336
15	4.960	16,228	1.00	6.69	6,019	10,209
20	4.367	19,051	1.00	6.69	8,025	11,026
25	3.906	21,300	0.95	6.34	9,508	11,792
30	3.560	23,295	0.87	5.84	10,511	12,784
35	3.274	24,995	0.82	5.48	11,514	13,480
40	3.010	26,262	0.78	5.22	12,517	**13,744**
45	2.771	27,199	0.75	5.01	13,521	13,678
50	2.565	27,974	0.72	4.84	14,524	13,450
55	2.396	28,744	0.70	4.71	15,527	13,217
60	2.270	29,708	0.69	4.59	16,530	13,178
65	2.168	30,738	0.67	4.50	17,533	13,205
70	2.070	31,606	0.66	4.41	18,536	13,070
75	1.975	32,309	0.65	4.34	19,539	12,770
80	1.886	32,910	0.64	4.28	20,543	12,368
85	1.802	33,410	0.63	4.22	21,546	11,864
90	1.725	33,863	0.62	4.18	22,549	11,314
95	1.656	34,315	0.62	4.13	23,552	10,763
100	1.595	34,790	0.61	4.09	24,555	10,235
105	1.544	35,362	0.61	4.06	25,558	9,804
110	1.504	36,086	0.60	4.02	26,562	9,525
115	1.476	37,024	0.60	3.99	27,565	9,459
120	1.460	38,215	0.59	3.97	28,568	9,647

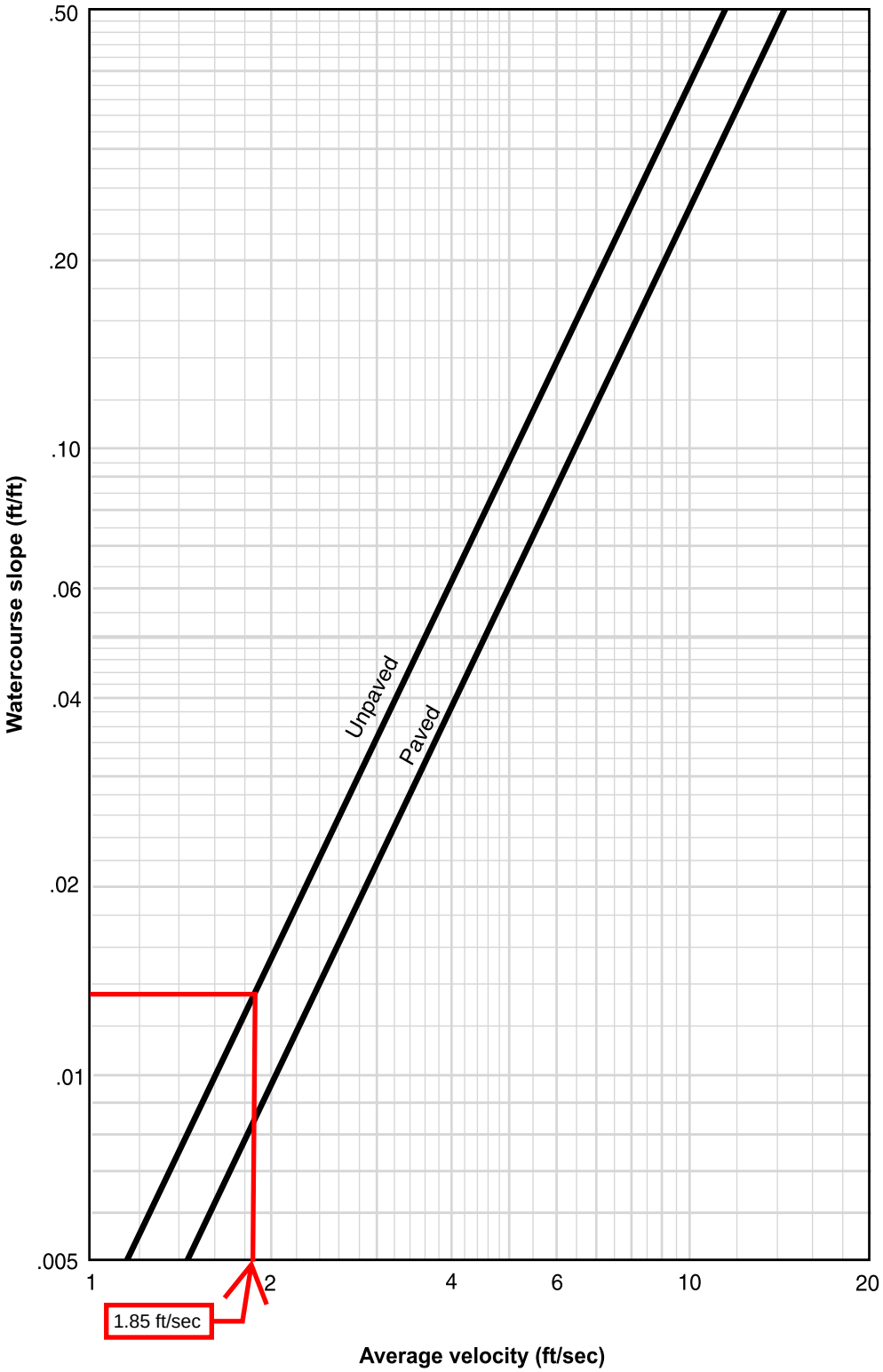
Storage, cubic feet = 13,744
acre feet = 0.316

100-Year

Rainfall Duration (minutes)	Rainfall Intensity (inches / hr)	Inflow Volume (cubic feet)	Adjustment Factor "m"	Average Outflow (cfs)	Outflow Volume (cubic feet)	Storage Volume (cubic feet)
0	0	0	0	0	0	0
5	9.070	10,304	1.00	7.93	2,378	7,926
10	6.900	15,678	1.00	7.93	4,757	10,921
15	5.560	18,949	1.00	7.93	7,135	11,815
20	4.942	22,457	1.00	7.93	9,513	12,944
25	4.475	25,419	0.95	7.51	11,271	14,149
30	4.120	28,083	0.87	6.92	12,460	15,623
35	3.816	30,346	0.82	6.50	13,649	16,697
40	3.532	32,100	0.78	6.18	14,838	17,262
45	3.275	33,485	0.75	5.94	16,027	17,458
50	3.051	34,661	0.72	5.74	17,216	17,445
55	2.868	35,840	0.70	5.58	18,405	17,435
60	2.730	37,217	0.69	5.44	19,595	17,623
65	2.619	38,679	0.67	5.33	20,784	17,896
70	2.511	39,937	0.66	5.23	21,973	**17,964**
75	2.408	41,034	0.65	5.15	23,162	17,872
80	2.310	41,988	0.64	5.07	24,351	17,637
85	2.218	42,836	0.63	5.01	25,540	17,296
90	2.134	43,638	0.62	4.95	26,729	16,909
95	2.058	44,422	0.62	4.90	27,918	16,503
100	1.991	45,238	0.61	4.85	29,108	16,130
105	1.935	46,163	0.61	4.81	30,297	15,867
110	1.891	47,262	0.60	4.77	31,486	15,776
115	1.859	48,574	0.60	4.74	32,675	15,899
120	1.840	50,168	0.59	4.70	33,864	16,304

Storage, cubic feet = 17,964
acre feet = 0.412

Figure 3-1 Average velocities for estimating travel time for shallow concentrated flow



HY-8 Culvert Analysis Report

Crossing Discharge Data

Discharge Selection Method: Specify Minimum, Design, and Maximum Flow

Minimum Flow: 0.00 cfs

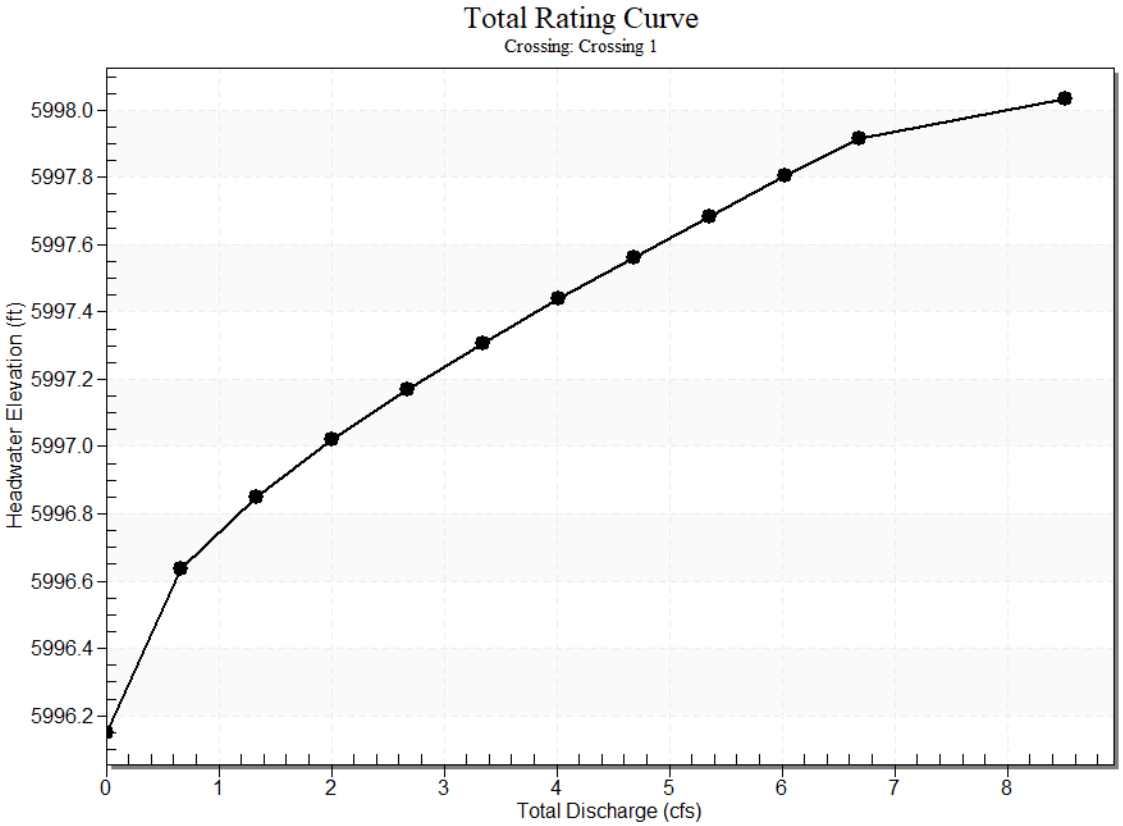
Design Flow: 6.69 cfs

Maximum Flow: 6.69 cfs

Table 1 - Summary of Culvert Flows at Crossing: Crossing 1

Headwater Elevation (ft)	Total Discharge (cfs)	Culvert 1 Discharge (cfs)	Roadway Discharge (cfs)	Iterations
5996.15	0.00	0.00	0.00	1
5996.63	0.67	0.67	0.00	1
5996.85	1.34	1.34	0.00	1
5997.02	2.01	2.01	0.00	1
5997.17	2.68	2.68	0.00	1
5997.31	3.35	3.35	0.00	1
5997.44	4.01	4.01	0.00	1
5997.56	4.68	4.68	0.00	1
5997.68	5.35	5.35	0.00	1
5997.80	6.02	6.02	0.00	1
5997.91	6.69	6.63	0.04	11
5997.90	6.55	6.55	0.00	Overtopping

Rating Curve Plot for Crossing: Crossing 1



Culvert Data: Culvert 1

Table 1 - Culvert Summary Table: Culvert 1

Total Discharge (cfs)	Culvert Discharge (cfs)	Headwater Elevation (ft)	Inlet Control Depth (ft)	Outlet Control Depth (ft)	Flow Type	Normal Depth (ft)	Critical Depth (ft)	Outlet Depth (ft)	Tailwater Depth (ft)	Outlet Velocity (ft/s)	Tailwater Velocity (ft/s)
0.00 cfs	0.00 cfs	5996.15	0.00	0.000	0-NF	0.00	0.00	0.00	0.00	0.00	0.00
0.67 cfs	0.67 cfs	5996.63	0.44	0.485	2-M2c	0.39	0.30	0.30	0.09	2.61	2.62
1.34 cfs	1.34 cfs	5996.85	0.64	0.698	2-M2c	0.57	0.43	0.43	0.13	3.16	3.41
2.01 cfs	2.01 cfs	5997.02	0.79	0.870	2-M2c	0.71	0.53	0.53	0.17	3.56	3.98
2.68	2.68	5997.1	0.94	1.02	2-	0.84	0.62	0.6	0.20	3.88	4.43

cfs	cfs	7		0	M2c			2			
3.35 cfs	3.35 cfs	5997.31	1.07	1.158	2-M2c	0.98	0.70	0.70	0.23	4.16	4.80
4.01 cfs	4.01 cfs	5997.44	1.20	1.288	2-M2c	1.12	0.77	0.77	0.26	4.42	5.13
4.68 cfs	4.68 cfs	5997.56	1.33	1.413	2-M2c	1.34	0.83	0.83	0.29	4.66	5.43
5.35 cfs	5.35 cfs	5997.68	1.46	1.534	7-M2c	1.50	0.89	0.89	0.31	4.89	5.69
6.02 cfs	6.02 cfs	5997.80	1.60	1.655	7-M2c	1.50	0.95	0.95	0.34	5.12	5.93
6.69 cfs	6.63 cfs	5997.91	1.74	1.764	7-M2c	1.50	1.00	1.00	0.36	5.32	6.16

Culvert Barrel Data

Culvert Barrel Type Straight Culvert

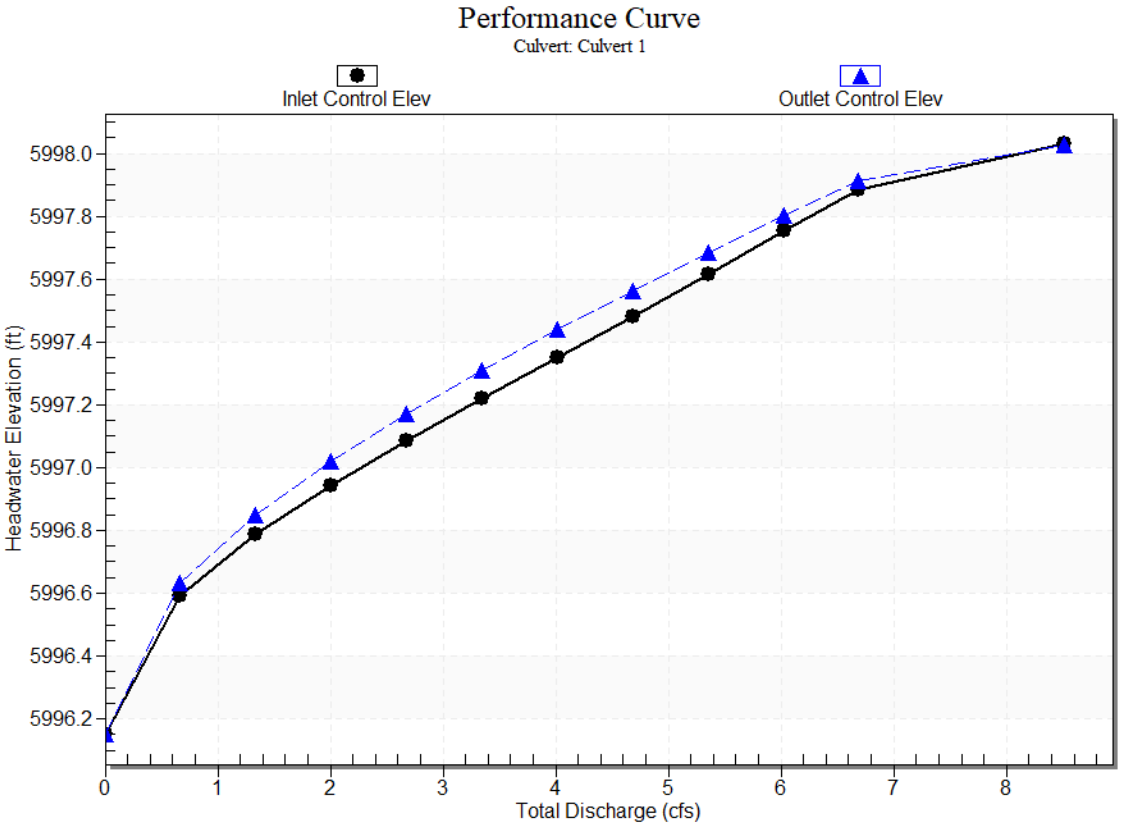
Inlet Elevation (invert): 5996.15 ft,

Outlet Elevation (invert): 5996.12 ft

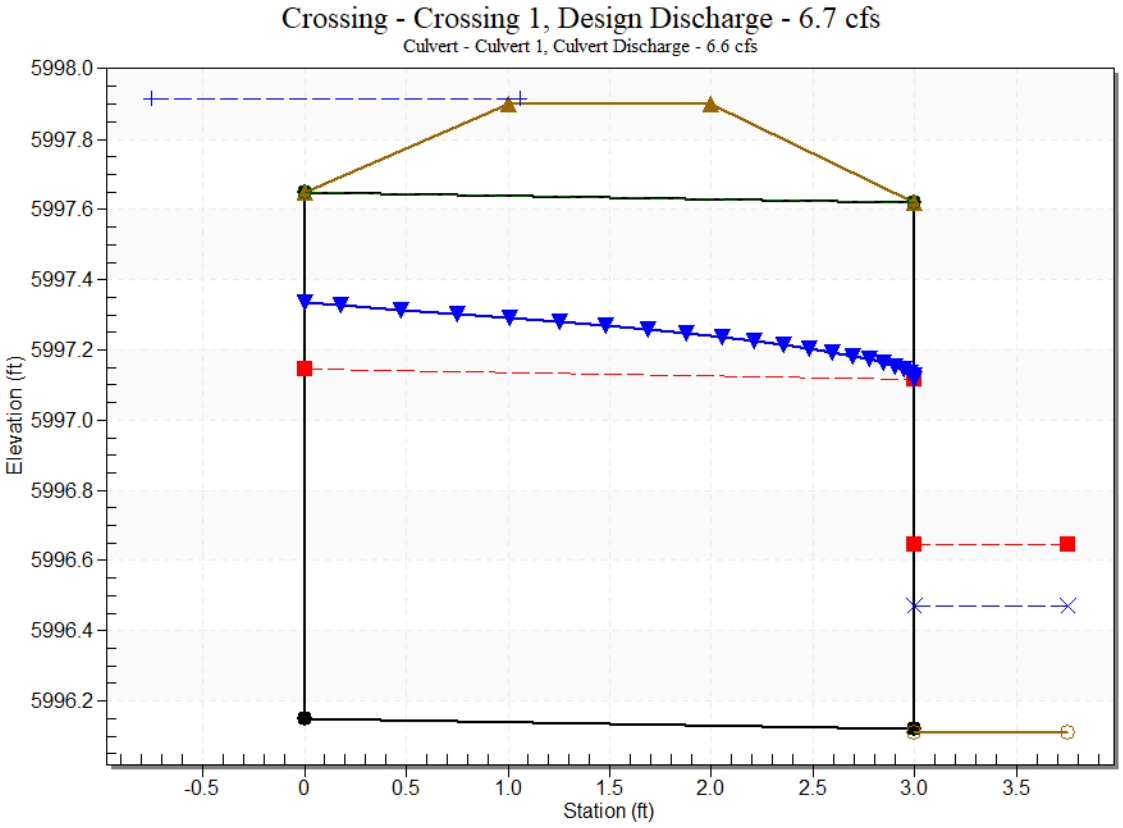
Culvert Length: 3.00 ft,

Culvert Slope: 0.0100

Culvert Performance Curve Plot: Culvert 1



Water Surface Profile Plot for Culvert: Culvert 1



Site Data - Culvert 1

Site Data Option: Culvert Invert Data

Inlet Station: 0.00 ft

Inlet Elevation: 5996.15 ft

Outlet Station: 3.00 ft

Outlet Elevation: 5996.12 ft

Number of Barrels: 1

Culvert Data Summary - Culvert 1

Barrel Shape: Circular

Barrel Diameter: 1.50 ft

Barrel Material: Corrugated Aluminum

Embedment: 0.00 in

Barrel Manning's n: 0.0310

Culvert Type: Straight

Inlet Configuration: Thin Edge Projecting (Ke=0.9)

Inlet Depression: None

Tailwater Data for Crossing: Crossing 1

Table 2 - Downstream Channel Rating Curve (Crossing: Crossing 1)

Flow (cfs)	Water Surface Elev (ft)	Velocity (ft/s)	Depth (ft)	Shear (psf)	Froude Number
0.00	5996.11	0.00	0.00	0.00	0.00
0.67	5996.20	0.09	2.62	0.08	1.58
1.34	5996.24	0.13	3.41	0.12	1.66
2.01	5996.28	0.17	3.98	0.16	1.71
2.68	5996.31	0.20	4.43	0.19	1.74
3.35	5996.34	0.23	4.80	0.22	1.76
4.01	5996.37	0.26	5.13	0.24	1.77
4.68	5996.40	0.29	5.43	0.27	1.78
5.35	5996.42	0.31	5.69	0.29	1.79
6.02	5996.45	0.34	5.93	0.32	1.80
6.69	5996.47	0.36	6.16	0.34	1.80

Tailwater Channel Data - Crossing 1

Tailwater Channel Option: Rectangular Channel

Bottom Width: 3.00 ft

Channel Slope: 0.0150

Channel Manning's n: 0.0130

Channel Invert Elevation: 5996.11 ft

Roadway Data for Crossing: Crossing 1

Roadway Profile Shape: Constant Roadway Elevation

Crest Length: 10.00 ft

Crest Elevation: 5997.90 ft

Roadway Surface: Gravel

Roadway Top Width: 1.00 ft

RESOLUTION # _____

A RESOLUTION FOR APPROVAL OF A SITE PLAN FOR THE MCRADY RV STORAGE FACILITY, LOCATED ON TRACT 1, MCRADY SUBDIVISION, SITUATED IN SECTION 8, T13N, R66W, OF THE 6TH P.M., LARAMIE COUNTY, WY.

WHEREAS, Wyoming State Statutes §18-5-101 to 18-5-107; §18-5-201 to 18-5-208; §18-5-301 to 18-5-315 authorize Laramie County, in promoting the public health, safety, morals and general welfare of the county, to regulate the use of land through zoning in unincorporated Laramie County; and

WHEREAS, the Laramie County Board of Commissioners have adopted the Laramie County Land Use Regulations; and

WHEREAS, this application meets the criteria for a Site Plan pursuant to section 2-2-133 of the Laramie County Land Use Regulations; and

WHEREAS, this application is in conformance with section 4-2-107 governing the CB – Community Business Zone District.

NOW THEREFORE BE IT RESOLVED BY THE GOVERNING BODY OF LARAMIE COUNTY, WYOMING, as follows:

The Laramie County Board of Commissioners finds that:

a. This application is in conformance with Section 2-2-133 governing Site Plans; and,

b. This application is in conformance with Section 4-2-107 governing the CB – Community Business Zone District.

And the Board approves the McRady RV Storage Facility Site Plan, located on Tract 1, McRady Subdivision, situated in section 8, T13N, R66W, of the 6th p.m., Laramie County, WY, as shown on the attached 'Exhibit A' – Site Plan Map, on the condition that:

1. All recommendations of the agency reviews, including any public improvements deemed necessary, are addressed prior to issuance of a Certificate of Review.

PRESENTED, READ, PASSED, this _____ day of _____, 2024.

LARAMIE COUNTY BOARD OF COMMISSIONERS

_____
Brian Lovett, Chairman

ATTEST:

_____
Debra K. Lee, Laramie County Clerk

Reviewed and approved as to form:

_____
Laramie County Attorney's Office

RESOLUTION # _____

A RESOLUTION FOR BOARD APPROVAL FOR THE MCRADY RV STORAGE FACILITY, LOCATED ON TRACT 1, MCRADY SUBDIVISION, SITUATED IN SECTION 8, T13N, R66W, OF THE 6TH P.M., LARAMIE COUNTY, WY.

WHEREAS, Wyoming State Statutes §18-5-101 to 18-5-107; §18-5-201 to 18-5-208; §18-5-301 to 18-5-315 authorize Laramie County, in promoting the public health, safety, morals and general welfare of the county, to regulate the use of land through zoning in unincorporated Laramie County; and

WHEREAS, the Laramie County Board of Commissioners have adopted the Laramie County Land Use Regulations; and

WHEREAS, this application meets the criteria for a Board Approval pursuant to section 1-2-100 of the Laramie County Land Use Regulations; and

WHEREAS, this application is in conformance with section 4-2-107 governing the CB – Community Business Zone District.

NOW THEREFORE BE IT RESOLVED BY THE GOVERNING BODY OF LARAMIE COUNTY, WYOMING, as follows:

The Laramie County Board of Commissioners finds that:

a. This application meets the criteria for Board Approval pursuant to section 1-2-100(a) governing Board Approval; and,

b. This application is in conformance with Section 4-2-107 governing the CB – Community Business Zone District.

And the Board approves the McRady RV Storage Facility as a use, located on Tract 1, McRady Subdivision, situated in section 8, T13N, R66W, of the 6th p.m., Laramie County, WY, as shown on the attached 'Exhibit A' – Board Approval Map.

PRESENTED, READ, PASSED, this _____ day of _____, 2024.

LARAMIE COUNTY BOARD OF COMMISSIONERS

_____

Brian Lovett, Chairman

ATTEST:

_____

Debra K. Lee, Laramie County Clerk

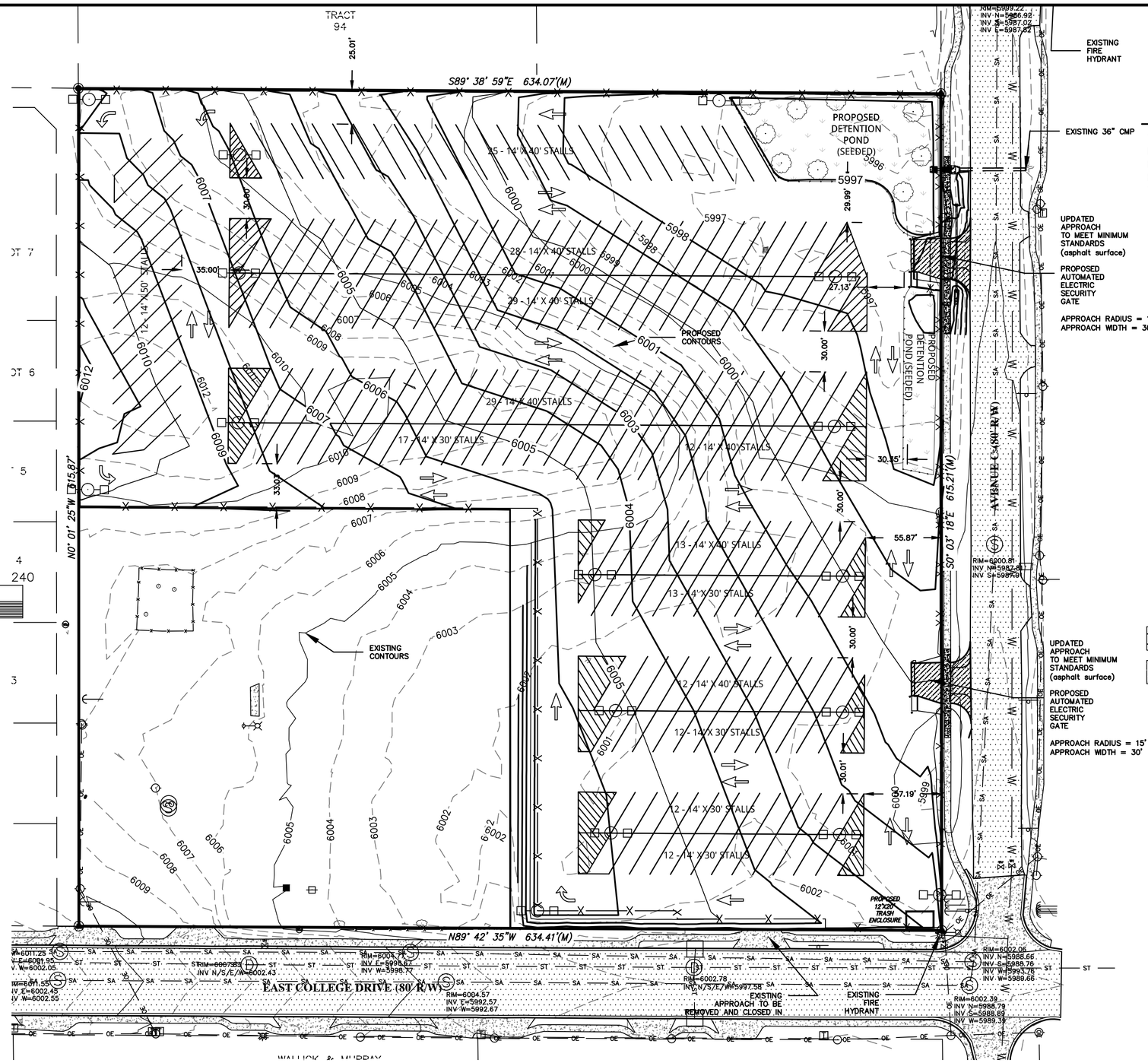
Reviewed and approved as to form:

_____

Laramie County Attorney's Office

EXHIBIT A

EXISTING ZONING - MR
PROPOSED ZONING - CB



80 0 80 160 240
Scale: 1" = 80'

SITE INFORMATION

TOTAL SITE AREA	6.72 ACRES
EXISTING BUILDING	0 SF
EXISTING IMPERVIOUS SURFACE	0 SF
PROPOSED IMPERVIOUS SURFACE	6.72 ACRES
TOTAL LOT COVERAGE	6.72 ACRES

LEGEND

- FOUND 1½" ALUMINUM CAP STAMPED "SSS P.L.S. 5910"
- FOUND 1½" ALUMINUM CAP STAMPED "SSS P.L.S. 2500"
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING ELECTRIC BOX
- EXISTING LIGHT POLE
- EXISTING UTILITY POLE
- EXISTING GUY WIRE
- EXISTING STORM SEWER MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- EXISTING OVERHEAD ELECTRIC LINES
- EXISTING FENCE LINE
- EXISTING WATER LINE
- EXISTING SANITARY SEWER LINE
- EXISTING STORM SEWER LINE
- EXISTING CATCH BASIN
- EXISTING SINGLE POST SIGN
- EXISTING TELEPHONE PEDESTAL
- EXISTING ASPHALT SURFACE
- EXISTING CONCRETE SURFACE
- EXISTING SHRUB
- PROPOSED 1.5" ORNAMENTAL TREE
- PROPOSED LIGHT STANDARD

NOTE:
SURFACE STORAGE GROUND COVER TO BE GRAVEL SURFACE.

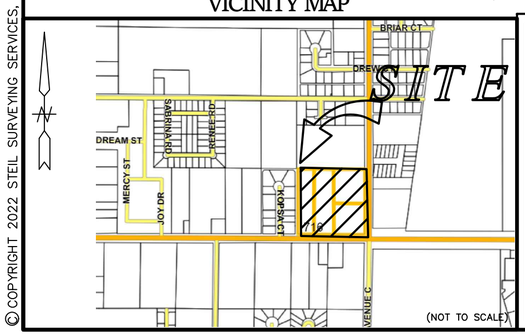
DETENTION PONDS TO BE DRY LAND SEED

DISTURBED RIGHT OF WAY AREAS TO BE DRY LAND SEED

SITE PLAN for CHRIS MCRADY

OF TRACT 1, MCRADY SUBDIVISION,
SITUATE IN SECTION 8, T13N, R66W,
OF THE 6TH P.M.,
LARAMIE COUNTY, WYOMING
PREPARED JANUARY 2024

VICINITY MAP



FOR AGENCY REVIEW ONLY NOT FOR CONSTRUCTION

REVISED: 5/10/2024
24085 SP.DWG

STEIL SURVEYING SERVICES, LLC
PROFESSIONAL LAND SURVEYORS
PLANNING & DEVELOPMENT SPECIALISTS
1102 WEST 19th ST. CHEYENNE, WY. 82001 ○ (307) 634-7273
756 GILCHRIST ST. WHEATLAND, WY. 82201 ○ (307) 322-9789
www.SteilSurvey.com ○ info@SteilSurvey.com