Livingston City Commission Agenda

March 02, 2021
5:30 PM
Via Zoom
https://us02web.zoom.us/meeting/register/tZ0udO6qrToiHtVBUeMY79U7InQPXCRb845q
Meeting ID: 893 3723 1841 Passcode: 031401 Call In: (669) 900-6833

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1. Call to Order

2. Roll Call

3. Public Comment

Individuals are reminded that public comments should be limited to item over which the City Commission has supervision, control jurisdiction, or advisory power (MCA 2-3-202)

4. Consent Items

5. Proclamations

6. Scheduled Public Comment

7. Public Hearings

8. Ordinances

Calendar of Events

Supplemental Material

Notice

- Public Comment: The public can speak about an item on the agenda during discussion of that item by coming up to the table or podium, signing-in, and then waiting to be recognized by the Chairman. Individuals are reminded that public comments should be limited to items over which the City Commission has supervision, control, jurisdiction, or advisory power (MCA 2-3-202).

- Meeting Recording: An audio and/or video recording of the meeting, or any portion thereof, may be purchased by contacting the City Administration. The City does not warrant the audio and/or video recording as to content, quality, or clarity.

- Special Accommodation: If you need special accommodations to attend or participate in our meeting, please contact the Fire Department at least 24 hours in advance of the specific meeting you are planning on attending.

File Attachments for Item:

A. APPROVE MINUTES FROM FEBRUARY 16, 2021.

LIVINGSTON CITY COMMISSION REGULAR MEETING MINUTES

Tuesday, February 16, 2021 5:30 p.m.

Zoom Online Meeting ID: 890 8543 7403

1 Call to Order

2 Roll Call

Commissioners in attendance: Hoglund, Schwarz, Friedman, Mabie and Nootz.

Staff members present were Michael Kardoes, Faith Kinnick, Courtney Lawellin, Mathieu Menard, and Shannon Holmes.

3 Public Comment: (00:01:52)

*** Sarah Stands asked clarifying question regarding public comment on resolutions.**

4 Consent Items: (00:03:53)

A. Approve minutes from January 19, 2021, regular meeting.
B. Approve minutes from February 2, 2021, regular meeting.
C. Ratify claims paid 01/27/2021-02/01/2021
D. Accept City Tree Board's Recommendation of Maureen Lighthiser to fill vacancy.
Schwarz motioned, second by Friedman
All in favor, motion passes 5-0.

5 Proclamations:

6 Scheduled Public Comment: (00:04:45)

A. Bob Ebinger, Chair of the Livingston URA, with 2021 Budget Presentation.
*** Chair Hoglund motioned to move Action Item A to immediately after the URA's scheduled public comment. Second by Friedman.**
*** Ebinger gave presentation.**
*** Hoglund made comments**

Action Item : Discuss/Approve/Deny: URA's 2021 Budget (00:12:18)

*** Patricia Grabow gave public comment on Action Item A.**
*** Nootz made comment**
Motion by Friedman, second by Nootz
All in favor, motion passes 4-0. Schwarz dropped off call.

B. Tracy Munuez of HRDC, presents Miles Building and Sherwood Apartments affordable housing projects in Livingston, as it pertains to property tax exemptions for property rehab projects. (16:58)
*** Friedman asked clarifying question**
*** Schwarz made comments**
*** Mabie asked questions**

7 Public Hearings: (00:25:42)

A. Opportunity for the public to comment on two affordable HRDC housing projects in Livingston.
*** Patricia Grabow made public comment**
*** Nootz made comment**
*** Hoglund made comment**

B. Ordinance No. 2099: An Ordinance of the City Commission of the City of Livingston, Montana, amending Livingston Municipal Code Article II, by adding language regarding the legalization, possession, and recreational used of marijuana, in accordance with the newly passed Montana Imitative I-90, effective January 1, 2021. (00:32:12)
*** Kardoes gave opening statements**

* Daniella Love gave public comment
* Nootz made comment
* Hoglund made comment
* Motion by Friedman, second by Nootz
  All in favor, motion passes 5-0.

C. Ordinance No. 3000: An Ordinance of the City Commission of the City of Livingston, Montana, amending article IV Chapter 10 Section 10-19-2 of the Livingston Municipal Code as it pertains to carrying concealed weapons in publicly owned buildings. (00:44:39)
* Kardoes gave opening statements
* Hoglund asked clarifying questions
* Patricia Grabow gave public comment
* Bob Ebinger asked clarifying questions
* Daniella Love asked clarifying questions
* Kardoes responded to questions
* Nootz made comments
* Schwarz made comments
* Hoglund made comments
* Motion by Mabie, second by Friedman
  All in favor, motion passes 5-0.

8 Ordinances:
* None

9 Resolutions:

A. Resolution No. 4941: A Resolution of the City Commission of the City of Livingston, Montana, of it's intent to annex certain land which are contiguous to the City of Livingston and are described as 1 Pronghorn Drive and 5 Pronghorn Drive. (01:01:22)
* Kardoes gave opening statement
* Nootz asked clarifying questions
* No public comments
* Hoglund asked clarifying question
  Motion by Schwarz, second by Mabie
  All in favor, motion passes 5-0.

B. Resolution No. 4942: A Resolution of the City Commission of the City of Livingston, Montana, authorizing the City Manager to accept the bid from Montana Correctional Enterprises for furniture for the new City Hall Building located at 220 E. Park St. (01:10:55)
* Kardoes gave opening statement
* Sarah Stands gave public comment
* Nootz made comments
* Hoglund made comments
* Schwarz made comments
* Motion by Friedman, second by Mabie
  Passes 4-1 Nootz against.

5 minute recess taken

C. Resolution No. 4943: A Resolution of the City Commission of the City of Livingston, Montana, authorizing the City Manager to accept the bid from Out of the Box Painting for minor repairs and painting at the new City Hall Building located at 220 E. Park St. (01:37:47)
* Kardoes gave opening statement
* No public comment
* Nootz made comments
* Hoglund made comment
* Motion by Mabie, second by Schwarz

All in favor, motion passes 5-0.

D. Resolution No. 4944: A Resolution of the City Commission of the City of Livingston, Montana, authorizing the City Manager to accept the bid from Pierce Carpet Mill outlet for replacement of flooring at the new City Hall building located at 220 E. Park St. (01:50:16)

* **Kardoes gave opening statement**
* **Sarah Stands gave public comment**
* **Nootz made comments**
* **Hoglund made comments**
* **Schwarz made comments**
* **Motion made by Mabie, second by Schwarz**

All in favor, motion passes 5-0.

E. Resolution No. 4945: A Resolution of the City Commission of the City of Livingston, Montana, authorizing the City Manager to sign a lease with Livingston Rodeo Association, Inc. for Rodeo parking at the old roping arena. (02:01:56)

* **Kardoes gave opening statement**
* **Sarah Stands gave public comment**
* **Nootz made comment**
* **Schwarz made comment**
* **Mabie made comment**
* **Hoglund asked clarifying question**
* **Motion made by Nootz, second by Mabie**

All in favor, motion passes 5-0.

F. Resolution No. 4946: A Resolution of the City Commission of the City of Livingston, Montana, of it's intent to annex certain land which are contiguous to the City of Livingston and are described 5 Rogers Lane. (02: 15:24)

* **Kardoes gave opening statement**
* **No public comment**
* **No Commission comments**
* **Motion by Nootz, second by Mabie**

All in favor, motion passes 5-0.

G. Resolution No. 4947: A Resolution of the City Commission of the City of Livingston, Montana, authorizing the City Manager to sign a General Services Agreement with Bozeman Green Build for Installation of a Solar Array on the new City Hall Building located at 220 E. Park St. (02:18:55)

* **Kardoes gave opening statement**
* **Shannon Holmes made comments**
* **Sarah Stands gave public comment**
* **Andrew Mitchell gave public comment**
* **Mabie made comments**
* **Nootz asked clarifying questions**
* **Hoglund asked clarifying questions**
* **John Palm of Bozeman Green Build answered questions**

Motion by Hoglund, second by Schwarz.
All in favor, motion passes 5-0.

10 Action Items: Moved to beginning of meeting.

11 City Manager Comments: (02:44:36)

* **Gave update on floating island project in the Lagoon. City has reached out to other community partners, would like to look at the lagoon, holistically and see what else it could possibly incorporate, dredging the lagoon, using some loan funds to improve lagoon retaining walls, and ways to address access issues to the lagoon. Goal is to improve the water quality of the lagoon, and habitat issues for fish and trout.**

Including possible educational aspects for the public, as well as preventing some of the storm water runoff coming out of Fleshman creek. Would increase access for the community. More to come later.

12 City Commission Comments: (02:48:42)

* **Nootz would like to see a procurement policy on an upcoming agenda to direct staff to prioritize purchasing locally in Livingston. Made motion to make proclamation thanking YBCC for their leadership in the community. Second by Hoglund.**
* **Mabie made comment**
* **Friedman still having audio issues no comments**
* **Hoglund made comments**

13 Adjournment 8:38 p.m. (03:02:52)

File Attachments for Item:

B. RATIFY CLAIMS PAID 02/01/2021-02/15/2021.

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
130 NF							
10002	130 NF	2021.2	MAIN HOTEL GRANT	02/05/2021	13,436.00	13,436.00	02/19/2021
	Total 130 NF:				13,436.00	13,436.00	
A-1 MUFFLER, INC.							
2	A-1 MUFFLER, INC.	69431	83 FORD	12/14/2020	1,485.00	1,485.00	02/04/2021
2	A-1 MUFFLER, INC.	69606	STEERING ANGLE SENSOR	01/21/2021	264.00	264.00	02/04/2021
	Total A-1 MUFFLER, INC.:				1,749.00	1,749.00	
AAA CLEANING, LLC							
3727	AAA CLEANING, LLC	2021.1.31	Bennett St cleaning	01/31/2021	500.00	500.00	02/04/2021
3727	AAA CLEANING, LLC	2021.1.31.1	cleaning	01/31/2021	1,300.00	1,300.00	02/04/2021
	Total AAA CLEANING, LLC:				1,800.00	1,800.00	
ALL SERVICE TIRE & ALIGNMENT							
22	ALL SERVICE TIRE & ALIGNME	60982	Flat repair	01/25/2021	15.00	15.00	02/04/2021
22	ALL SERVICE TIRE & ALIGNME	61023	Mount and Balance	01/29/2021	378.56	378.56	02/09/2021
	Total ALL SERVICE TIRE & ALIGNMENT:				393.56	393.56	
BALCO UNIFORM COMPANY, INC.							
3371	BALCO UNIFORM COMPANY, IN	61117	Reserve Uniform	01/27/2021	171.00	171.00	02/04/2021
3371	BALCO UNIFORM COMPANY, IN	61254-1	Uniform	01/22/2021	386.00	386.00	02/04/2021
	Total BALCO UNIFORM COMPANY, INC.:				557.00	557.00	
BIG BEAR CONTRACTING, LLC							
2268	BIG BEAR CONTRACTING, LLC	1338	CONSTRUCTION	02/05/2021	5,000.00	5,000.00	02/09/2021
	Total BIG BEAR CONTRACTING, LLC:				5,000.00	5,000.00	
BOUND TREE MEDICAL, LLC							
2662	BOUND TREE MEDICAL, LLC	83922684	Patient Supplies	01/20/2021	170.29	170.29	02/04/2021
2662	BOUND TREE MEDICAL, LLC	83924701	Patient Supplies	01/21/2021	150.96	150.96	02/04/2021
2662	BOUND TREE MEDICAL, LLC	83931886	Patient Supplies	01/27/2021	48.29	48.29	02/09/2021
2662	BOUND TREE MEDICAL, LLC	83931887	Patient Supplies	01/27/2021	173.79	173.79	02/09/2021
2662	BOUND TREE MEDICAL, LLC	83933440	O2 REGULATOR	01/28/2021	152.99	152.99	02/09/2021
2662	BOUND TREE MEDICAL, LLC	83933441	Patient Supplies	01/28/2021	189.61	189.61	02/09/2021
	Total BOUND TREE MEDICAL, LLC:				885.93	885.93	
BOZEMAN DAILY CHRONICLE							
377	BOZEMAN DAILY CHRONICLE	65280	BID REQUEST	01/14/2021	80.00	80.00	02/09/2021
	Total BOZEMAN DAILY CHRONICLE:				80.00	80.00	
CARQUEST AUTO PARTS							
23	CARQUEST AUTO PARTS	1912-497551	STATION SUPPLIES	01/23/2021	19.26	19.26	02/04/2021
23	CARQUEST AUTO PARTS	1912-497631	LUBE	01/25/2021	25.47	25.47	02/04/2021
23	CARQUEST AUTO PARTS	1912-497912	FILTERS	01/28/2021	106.56	106.56	02/04/2021
23	CARQUEST AUTO PARTS	1912-497916	FILTERS	01/28/2021	167.12	167.12	02/04/2021
23	CARQUEST AUTO PARTS	1912-498005	CABIN AIR	01/29/2021	2.79-	2.79-	02/09/2021
23	CARQUEST AUTO PARTS	1912-498029	FILTERS	01/29/2021	27.48	27.48	02/04/2021
23	CARQUEST AUTO PARTS	1912-498324	BELT DRESSING	02/02/2021	5.51	5.51	02/09/2021

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
	Total CARQUEST AUTO PARTS:				348.61	348.61	
CASELLE							
3763	CASELLE	2021.3	2021.3 MAINTENCE	02/01/2021	2,476.28	2,476.28	02/04/2021
3763	CASELLE	2021.3	2021.3 MAINTENCE	02/01/2021	89.77	89.77	02/04/2021
3763	CASELLE	2021.3	2021.3 MAINTENCE	02/01/2021	89.77	89.77	02/04/2021
3763	CASELLE	2021.3	2021.3 MAINTENCE	02/01/2021	150.81	150.81	02/04/2021
3763	CASELLE	2021.3	2021.3 MAINTENCE	02/01/2021	150.80	150.80	02/04/2021
3763	CASELLE	2021.3	2021.3 MAINTENCE	02/01/2021	240.57	240.57	02/04/2021
	Total CASELLE:				3,198.00	3,198.00	
CENTURYLINK							
162	CENTURYLINK	2021.1.16	406-222-0137 441B	01/16/2021	85.68	85.68	02/04/2021
	Total CENTURYLINK:				85.68	85.68	
CHARTER COMMUNICATIONS							
3440	CHARTER COMMUNICATIONS	019544501182	Phones	01/18/2021	119.97	119.97	02/04/2021
3440	CHARTER COMMUNICATIONS	019544501182	Internet	01/18/2021	124.98	124.98	02/04/2021
	Total CHARTER COMMUNICATIONS:				244.95	244.95	
COFFMAN'S PEAK ELECTRIC, LLC							
3491	COFFMAN'S PEAK ELECTRIC, L	1895 CR	OVERPAY INVOICE 1895	02/01/2021	1,680.00-	1,680.00-	02/09/2021
3491	COFFMAN'S PEAK ELECTRIC, L	1923	16 ELECTRICAL AND LIGHTING	01/28/2021	6,088.00	6,088.00	02/09/2021
	Total COFFMAN'S PEAK ELECTRIC, LLC:				4,408.00	4,408.00	
COMDATA							
2671	COMDATA	20350556	BZR70	01/01/2021	153.54	153.54	02/04/2021
2671	COMDATA	20351317	CG72P	02/01/2021	179.18	179.18	02/09/2021
2671	COMDATA	20351317	CG72R	02/01/2021	140.62	140.62	02/09/2021
2671	COMDATA	20351317	CG73C-PARKS	02/01/2021	433.52	433.52	02/09/2021
2671	COMDATA	20351317	CG73H	02/01/2021	34.19	34.19	02/09/2021
2671	COMDATA	20351317	CG73L SEWER	02/01/2021	329.54	329.54	02/09/2021
2671	COMDATA	20351317	CG73S-WATER	02/01/2021	503.93	503.93	02/09/2021
2671	COMDATA	20351317	CG74G-STREETS	02/01/2021	329.16	329.16	02/09/2021
2671	COMDATA	20351317	CG74G-STREETS	02/01/2021	68.50	68.50	02/09/2021
	Total COMDATA:				2,172.18	2,172.18	
DELTA SIGNS & GRAPHICS							
509	DELTA SIGNS & GRAPHICS	2373	BannER SIGNS	12/17/2020	204.00	204.00	02/04/2021
509	DELTA SIGNS & GRAPHICS	2385	BannER SIGNS	01/13/2021	204.00	204.00	02/04/2021
509	DELTA SIGNS & GRAPHICS	2387	BannER SIGNS	01/15/2021	68.00	68.00	02/04/2021
	Total DELTA SIGNS & GRAPHICS:				476.00	476.00	
DEMCO							
199	DEMCO	6889143	Book Prep Supplies	12/29/2020	266.68	266.68	02/04/2021
	Total DEMCO:				266.68	266.68	
DOG WASTE DEPOT							
10002	DOG WASTE DEPOT	386569	GREEN BAGS	01/15/2021	1,510.99	1,510.99	02/04/2021

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
	Total DOG WASTE DEPOT:				1,510.99	1,510.99	
EMERALD SERVICES INC.							
3380	EMERALD SERVICES INC.	85184302-210	ANTIFREEZE	01/20/2021	318.00	318.00	02/09/2021
	Total EMERALD SERVICES INC.:				318.00	318.00	
ENCODE CORPORATION							
1548	ENCODE CORPORATION	40140	SERVICE	01/21/2021	446.34	446.34	02/04/2021
	Total ENCODE CORPORATION:				446.34	446.34	
ENERGY LABORATORIES, INC.							
424	ENERGY LABORATORIES, INC.	369906	Analysis parameter	01/20/2021	196.00	196.00	02/04/2021
	Total ENERGY LABORATORIES, INC.:				196.00	196.00	
EXEC U CARE SERVICES, INC.							
3298	EXEC U CARE SERVICES, INC.	2497	Janitorial Services	12/31/2020	2,135.00	2,135.00	02/09/2021
	Total EXEC U CARE SERVICES, INC.:				2,135.00	2,135.00	
FETTERHOFF, PAIGE							
3680	FETTERHOFF, PAIGE	2021.1.20	REIM	01/20/2021	16.99	16.99	02/09/2021
3680	FETTERHOFF, PAIGE	2021.1.20	REIMBURSE	01/20/2021	14.79	14.79	02/09/2021
	Total FETTERHOFF, PAIGE:				31.78	31.78	
FINANCIAL SERVICES							
10002	FINANCIAL SERVICES	26456	FLOORING INSTALLATIN FIRMS	01/15/2021	314.34	314.34	02/09/2021
	Total FINANCIAL SERVICES:				314.34	314.34	
FISHER SAND AND GRAVEL							
2904	FISHER SAND AND GRAVEL	31686	Concrete	12/12/2020	129.00	129.00	02/04/2021
2904	FISHER SAND AND GRAVEL	33014	SANDING MAT	12/31/2020	119.91	119.91	02/04/2021
2904	FISHER SAND AND GRAVEL	33691	ROCK	01/09/2021	482.40	482.40	02/04/2021
2904	FISHER SAND AND GRAVEL	33691	BUCKSHOT	01/09/2021	1,717.43	1,717.43	02/04/2021
	Total FISHER SAND AND GRAVEL:				2,448.74	2,448.74	
FOUR CORNERS RECYCLING, LLC							
2919	FOUR CORNERS RECYCLING,	109848	Pull fees	01/28/2021	5,342.50	5,342.50	02/04/2021
2919	FOUR CORNERS RECYCLING,	109848CM	Credit Memo	01/28/2021	3,439.20-	3,439.20-	02/04/2021
2919	FOUR CORNERS RECYCLING,	4780	Pull fees NOV	12/28/2020	4,601.60	4,601.60	02/09/2021
2919	FOUR CORNERS RECYCLING,	4780CM	Credit Memo	12/28/2020	1,583.70-	1,583.70-	02/09/2021
	Total FOUR CORNERS RECYCLING, LLC:				4,921.20	4,921.20	
GATEWAY OFFICE SUPPLY							
54	GATEWAY OFFICE SUPPLY	49963	Office SupplieS-LIBRARY	12/10/2020	5.50	5.50	02/04/2021
54	GATEWAY OFFICE SUPPLY	50063	Office SupplieS-LIBRARY	12/21/2020	27.00	27.00	02/04/2021
54	GATEWAY OFFICE SUPPLY	50150	Office SupplieS-LIBRARY	01/05/2021	22.26	22.26	02/04/2021
54	GATEWAY OFFICE SUPPLY	50900	Office SupplieS-POLICE	01/27/2021	10.30	10.30	02/04/2021
54	GATEWAY OFFICE SUPPLY	50947	Office SupplieS-FIRE	02/02/2021	42.00	42.00	02/09/2021

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
	Total GATEWAY OFFICE SUPPLY:				107.06	107.06	
GENERAL DISTRIBUTING COMPANY							
1845	GENERAL DISTRIBUTING COM	00961201	Oxygen	01/31/2021	29.14	29.14	02/09/2021
	Total GENERAL DISTRIBUTING COMPANY:				29.14	29.14	
GREAT WEST ENGINEERING							
10002	GREAT WEST ENGINEERING	23260	COL CO-COMPOSTING FACILIT	01/29/2021	6,673.50	6,673.50	02/04/2021
	Total GREAT WEST ENGINEERING:				6,673.50	6,673.50	
HACH COMPANY							
100	HACH COMPANY	12291116	pHOSPHORUS TNT	01/22/2021	92.44	92.44	02/04/2021
	Total HACH COMPANY:				92.44	92.44	
HORIZON AUTO PARTS							
1920	HORIZON AUTO PARTS	899787	BATTERY	01/29/2021	135.09	135.09	02/04/2021
	Total HORIZON AUTO PARTS:				135.09	135.09	
INDUSTRIAL TOWEL							
102	INDUSTRIAL TOWEL	51067	Towel Service	12/31/2020	15.23	15.23	02/04/2021
102	INDUSTRIAL TOWEL	52518	110 s B	01/14/2021	36.90	36.90	02/09/2021
102	INDUSTRIAL TOWEL	53944	110 s B	01/28/2021	36.90	36.90	02/04/2021
	Total INDUSTRIAL TOWEL:				89.03	89.03	
INGRAM LIBRARY SERVICE							
1539	INGRAM LIBRARY SERVICE	50738960	3 BOOKS	01/14/2021	68.06	68.06	02/04/2021
1539	INGRAM LIBRARY SERVICE	50765586	2 Books	01/15/2021	54.25	54.25	02/04/2021
1539	INGRAM LIBRARY SERVICE	50818883	7 BOOKS	01/19/2021	108.27	108.27	02/04/2021
1539	INGRAM LIBRARY SERVICE	50818884	2 Books	01/19/2021	25.61	25.61	02/04/2021
1539	INGRAM LIBRARY SERVICE	50846471	1 Book	01/20/2021	28.49	28.49	02/04/2021
1539	INGRAM LIBRARY SERVICE	50875262	1 Book	01/21/2021	56.61	56.61	02/04/2021
	Total INGRAM LIBRARY SERVICE:				341.29	341.29	
J & H OFFICE EQUIPMENT							
1783	J & H OFFICE EQUIPMENT	28646499	Canon Copier	01/27/2021	270.73	270.73	02/04/2021
	Total J & H OFFICE EQUIPMENT:				270.73	270.73	
KELLEY CONNECT							
10001	KELLEY CONNECT	IN774164	CIVIC CENTER	01/04/2021	278.36	278.36	02/09/2021
	Total KELLEY CONNECT:				278.36	278.36	
KENYON NOBLE							
776	KENYON NOBLE	8150633	WELL HOUSE	01/20/2021	73.39	73.39	02/04/2021
	Total KENYON NOBLE:				73.39	73.39	
KIMBALL MIDWEST							
2863	KIMBALL MIDWEST	8553568	QUICK LINK	01/26/2021	176.40	176.40	02/04/2021

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
	Total KIMBALL MIDWEST:				176.40	176.40	
LEHRKIND'S COCA-COLA							
2830	LEHRKIND'S COCA-COLA	1812006	Water	01/15/2021	33.80	33.80	02/04/2021
	Total LEHRKIND'S COCA-COLA:				33.80	33.80	
LIVINGSTON ACE HARDWARE - #122005							
26	LIVINGSTON ACE HARDWARE -	H90976	CONNECT ARMORED	12/29/2020	9.99	9.99	02/04/2021
26	LIVINGSTON ACE HARDWARE -	H91211	CLOTH HDW	12/30/2020	19.99	19.99	02/04/2021
26	LIVINGSTON ACE HARDWARE -	H91229	FASTNERS	12/30/2020	9.28	9.28	02/04/2021
26	LIVINGSTON ACE HARDWARE -	H91418	Fastners	12/31/2020	37.26	37.26	02/04/2021
26	LIVINGSTON ACE HARDWARE -	H92727	CABLE	01/04/2021	52.21	52.21	02/04/2021
26	LIVINGSTON ACE HARDWARE -	H93965	LED	01/07/2021	19.98	19.98	02/04/2021
26	LIVINGSTON ACE HARDWARE -	H94392	Fastners	01/08/2021	3.78	3.78	02/04/2021
26	LIVINGSTON ACE HARDWARE -	H95522	WHEEL	01/11/2021	7.99	7.99	02/04/2021
26	LIVINGSTON ACE HARDWARE -	H95666	SPRAYPAINT	01/11/2021	56.95	56.95	02/04/2021
26	LIVINGSTON ACE HARDWARE -	H95900	Fastners	01/12/2021	2.00	2.00	02/04/2021
26	LIVINGSTON ACE HARDWARE -	H96260	CHAIN OIL	01/13/2021	26.26	26.26	02/04/2021
26	LIVINGSTON ACE HARDWARE -	H96438	chain	01/13/2021	122.96	122.96	02/04/2021
26	LIVINGSTON ACE HARDWARE -	H98634	CUT WHEEL	01/19/2021	8.58	8.58	02/04/2021
26	LIVINGSTON ACE HARDWARE -	H98681	BLIND/CLOCK	01/19/2021	50.57	50.57	02/04/2021
26	LIVINGSTON ACE HARDWARE -	H99420	SHELF BRACKET	01/21/2021	89.32	89.32	02/04/2021
26	LIVINGSTON ACE HARDWARE -	H99705	TOOLS	01/21/2021	53.90	53.90	02/04/2021
26	LIVINGSTON ACE HARDWARE -	H99920	KEYKRAFTER	01/22/2021	37.27	37.27	02/04/2021
26	LIVINGSTON ACE HARDWARE -	I01013	Chain	01/25/2021	31.99-	31.99-	02/04/2021
26	LIVINGSTON ACE HARDWARE -	I01015	B ST WELL HOUSE	01/25/2021	11.99	11.99	02/04/2021
26	LIVINGSTON ACE HARDWARE -	I01020	B ST WELL HOUSE	01/25/2021	11.99	11.99	02/04/2021
26	LIVINGSTON ACE HARDWARE -	X53246	KEY RACK	01/15/2021	30.75	30.75	02/04/2021
26	LIVINGSTON ACE HARDWARE -	X53391	CAP	01/20/2021	9.99	9.99	02/04/2021
	Total LIVINGSTON ACE HARDWARE - #122005:				641.02	641.02	
LIVINGSTON BUSINESS IMPROVEMENT							
3370	LIVINGSTON BUSINESS IMPRO	2021.1	1ST HALF FY21	01/31/2021	28,700.00	28,700.00	02/04/2021
	Total LIVINGSTON BUSINESS IMPROVEMENT:				28,700.00	28,700.00	
LIVINGSTON ENTERPRISE							
146	LIVINGSTON ENTERPRISE	172027	Public Hearing	12/29/2020	104.00	104.00	02/04/2021
146	LIVINGSTON ENTERPRISE	172113	Public Hearing	12/31/2020	84.00	84.00	02/04/2021
146	LIVINGSTON ENTERPRISE	172114	Public Hearing	12/31/2020	234.00	234.00	02/04/2021
146	LIVINGSTON ENTERPRISE	172134	Public Hearing	01/05/2021	52.00	52.00	02/04/2021
146	LIVINGSTON ENTERPRISE	172219	Public Hearing	01/11/2021	39.00	39.00	02/04/2021
146	LIVINGSTON ENTERPRISE	172220	Public Hearing	01/11/2021	35.75	35.75	02/04/2021
146	LIVINGSTON ENTERPRISE	172309	LEGAL NOTICE	01/15/2021	123.50	123.50	02/04/2021
146	LIVINGSTON ENTERPRISE	172310	Public Hearing	01/15/2021	26.00	26.00	02/04/2021
146	LIVINGSTON ENTERPRISE	172311	REQUEST FOR BIDS	01/15/2021	192.00	192.00	02/04/2021
146	LIVINGSTON ENTERPRISE	172327	Public Hearing	01/19/2021	52.00	52.00	02/04/2021
146	LIVINGSTON ENTERPRISE	172332	TREE BOARD MEETING	01/20/2021	22.75	22.75	02/04/2021
146	LIVINGSTON ENTERPRISE	172445	Public Hearing	01/22/2021	26.00	26.00	02/04/2021
146	LIVINGSTON ENTERPRISE	172503	Public Hearing	01/25/2021	71.50	71.50	02/04/2021
	Total LIVINGSTON ENTERPRISE:				1,062.50	1,062.50	

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
LIVINGSTON FIRE SERVICE, INC							
468	LIVINGSTON FIRE SERVICE, IN	AR001248	CITY SHOPS	01/29/2021	245.50	245.50	02/09/2021
468	LIVINGSTON FIRE SERVICE, IN	AR001249	Annual extinguisher-CIVIC CENT	01/29/2021	273.50	273.50	02/09/2021
468	LIVINGSTON FIRE SERVICE, IN	AR001250	Annual extinguisher - TS	01/26/2021	578.50	578.50	02/09/2021
468	LIVINGSTON FIRE SERVICE, IN	AR001254	FIRE DEPARTMENT	01/26/2021	321.40	321.40	02/09/2021
Total LIVINGSTON FIRE SERVICE, INC:					1,418.90	1,418.90	
LIVINGSTON FLOORING AND CARPET CENTER							
10000	LIVINGSTON FLOORING AND C	1632	PUBLIC WORKS FLOORING	11/25/2020	1,215.61	1,215.61	02/09/2021
10000	LIVINGSTON FLOORING AND C	1632	PUBLIC WORKS FLOORING	11/25/2020	1,215.61	1,215.61	02/09/2021
Total LIVINGSTON FLOORING AND CARPET CENTER:					2,431.22	2,431.22	
LIVINGSTON HEALTH CARE							
55	LIVINGSTON HEALTH CARE	17332	Patient Supplies	01/21/2021	42.05	42.05	02/04/2021
Total LIVINGSTON HEALTH CARE:					42.05	42.05	
LIVINGSTON UTILITY BILLING							
147	LIVINGSTON UTILITY BILLING	2021.2.1	UtilitIES	01/05/2021	91.80	91.80	02/04/2021
Total LIVINGSTON UTILITY BILLING:					91.80	91.80	
LIVINGSTONMONTANA.COM							
10000	LIVINGSTONMONTANA.COM	1716	YELLOW PAGES LISTING	02/01/2021	40.00	40.00	02/04/2021
Total LIVINGSTONMONTANA.COM:					40.00	40.00	
MACINNES, KEN							
3622	MACINNES, KEN	102200003991	Station Supplies-REIMB	01/22/2021	59.94	59.94	02/04/2021
Total MACINNES, KEN:					59.94	59.94	
MARLIN BUSINESS BANK							
3651	MARLIN BUSINESS BANK	18730038	contract payment	01/25/2021	1,273.21	1,273.21	02/04/2021
Total MARLIN BUSINESS BANK:					1,273.21	1,273.21	
MEYER ELECTRIC AND GROUNDS REPAIR, LLC							
3812	MEYER ELECTRIC AND GROUN	571	NEW SHOP	01/26/2021	3,849.89	3,849.89	02/04/2021
Total MEYER ELECTRIC AND GROUNDS REPAIR, LLC:					3,849.89	3,849.89	
MISC							
99999	MISC	2021.2	OVER PAYMENT ON ACCT	02/08/2021	23.63	23.63	02/09/2021
99999	MISC	2021.2.1	BAILIFF JURY TRIAL	02/01/2021	45.00	45.00	02/09/2021
99999	MISC	2021.2.1.1	JURY DUTY	02/01/2021	25.00	25.00	02/09/2021
99999	MISC	2021.2.1.10	JURY DUTY	02/10/2021	12.00	12.00	02/09/2021
99999	MISC	2021.2.1.11	JURY DUTY	02/01/2021	12.00	12.00	02/09/2021
99999	MISC	2021.2.1.12	JURY DUTY	02/01/2021	12.00	12.00	02/09/2021
99999	MISC	2021.2.1.13	JURY DUTY	02/01/2021	12.00	12.00	02/09/2021
99999	MISC	2021.2.1.2	JURY DUTY	02/01/2021	25.00	25.00	02/09/2021
99999	MISC	2021.2.1.3	JURY DUTY	02/01/2021	25.00	25.00	02/09/2021
99999	MISC	2021.2.1.4	JURY DUTY	02/01/2021	25.00	25.00	02/09/2021
99999	MISC	2021.2.1.5	JURY DUTY	02/01/2021	25.00	25.00	02/09/2021
99999	MISC	2021.2.1.6	JURY DUTY	02/01/2021	25.00	25.00	02/09/2021

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
99999	MISC	2021.2.1.7	JURY DUTY	02/01/2021	12.00	12.00	02/09/2021
99999	MISC	2021.2.1.8	JURY DUTY	02/01/2021	12.00	12.00	02/09/2021
99999	MISC	2021.2.1.9	JURY DUTY	02/01/2021	12.00	12.00	02/09/2021
99999	MISC	2021.2.2	OVER PAYMENT ON ACCT	02/02/2021	52.02	52.02	02/04/2021
99999	MISC	2021.2.8	OVER PAYMENT ON ACCT	02/08/2021	59.55	59.55	02/09/2021
99999	MISC	2021.2.9	Restitution payment	02/09/2021	100.00	100.00	02/09/2021
99999	MISC	HUTDE000	Refund Deborah Hutchins	01/08/2021	1,035.20	1,035.20	02/01/2021
99999	MISC	LINTH000	Refund Thea Lingle-Dubyak	01/08/2021	24.00	24.00	02/01/2021
99999	MISC	TK2020-0351	Bond Release - J. Rapos	02/09/2021	1,455.00	1,455.00	02/10/2021
Total MISC:					3,028.40	3,028.40	
MONTANA AIR CARTAGE							
3808	MONTANA AIR CARTAGE	LVQ123120	Courier CONTRACT	01/01/2021	186.00	186.00	02/04/2021
Total MONTANA AIR CARTAGE:					186.00	186.00	
MONTANA MUNICIPAL INTERLOCAL AUTHORITY							
10002	MONTANA MUNICIPAL INTERLO	DR1005063	EV2019006587	02/02/2021	404.00	404.00	02/09/2021
Total MONTANA MUNICIPAL INTERLOCAL AUTHORITY:					404.00	404.00	
MOUNTAIN WIND CONSTRUCTION							
10002	MOUNTAIN WIND CONSTRUCTI	1183	INSIDE WALLS NEW SHOP	02/01/2021	5,089.00	5,089.00	02/09/2021
Total MOUNTAIN WIND CONSTRUCTION:					5,089.00	5,089.00	
MURDOCH'S RANCH & HOME SUPPLY							
3688	MURDOCH'S RANCH & HOME S	K00190/37	COUPLER	01/27/2021	88.46	88.46	02/04/2021
3688	MURDOCH'S RANCH & HOME S	K01270/37	Propane TANK	01/25/2021	98.59	98.59	02/04/2021
3688	MURDOCH'S RANCH & HOME S	K01282/37	WHEEL	01/28/2021	79.96	79.96	02/04/2021
Total MURDOCH'S RANCH & HOME SUPPLY:					267.01	267.01	
NORTHWEST PIPE FITTINGS, INC							
423	NORTHWEST PIPE FITTINGS, I	5454318	Parts	01/19/2021	2,632.84	2,632.84	02/04/2021
Total NORTHWEST PIPE FITTINGS, INC:					2,632.84	2,632.84	
NORTHWESTERN ENERGY							
151	NORTHWESTERN ENERGY	2021.1.12	228 W CALLENDER	01/12/2021	1,285.78	1,285.78	02/04/2021
Total NORTHWESTERN ENERGY:					1,285.78	1,285.78	
OPPORTUNITY BANK OF MONTANA							
3519	OPPORTUNITY BANK OF MONT	2021.3	Office Rent-MARCH	02/02/2021	1,775.00	1,775.00	02/04/2021
Total OPPORTUNITY BANK OF MONTANA:					1,775.00	1,775.00	
O'REILLY AUTOMOTIVE, INC							
2437	O'REILLY AUTOMOTIVE, INC	1558-228627	ANTIFREZ	01/07/2021	37.94	37.94	02/04/2021
2437	O'REILLY AUTOMOTIVE, INC	1558-230125	2PK KEYLESS	01/22/2021	7.99	7.99	02/04/2021
Total O'REILLY AUTOMOTIVE, INC:					45.93	45.93	
PARISI WESTERN PLUMBING & HEATING							
16	PARISI WESTERN PLUMBING &	T55077	GALV COUP AND PLUG	01/27/2021	36.00	36.00	02/04/2021

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
	Total PARISI WESTERN PLUMBING & HEATING:				36.00	36.00	
PARK COUNTY							
272	PARK COUNTY	2021.2.1	2ND QUARTER GIS	02/01/2021	11,038.65	11,038.65	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER GIS	02/01/2021	1,576.95	1,576.95	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER GIS	02/01/2021	1,576.95	1,576.95	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER GIS	02/01/2021	1,576.95	1,576.95	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER SANITARIAN	02/01/2021	7,218.71	7,218.71	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER BUILDING MAIN	02/01/2021	4,919.15	4,919.15	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER MRDTF	02/01/2021	3,125.00	3,125.00	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	1,020.16	1,020.16	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	408.06	408.06	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	204.03	204.03	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	204.03	204.03	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	234.64	234.64	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	408.06	408.06	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	204.03	204.03	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	816.13	816.13	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	2,856.43	2,856.43	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	1,530.23	1,530.23	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	173.43	173.43	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	204.03	204.03	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	612.09	612.09	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	1,836.28	1,836.28	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	124.46	124.46	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	612.09	612.09	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	169.35	169.35	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	510.08	510.08	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	204.03	204.03	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	173.43	173.43	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	102.02	102.02	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	816.13	816.13	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	204.03	204.03	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	144.86	144.86	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	816.13	816.13	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	204.03	204.03	02/04/2021
272	PARK COUNTY	2021.2.1	2ND QUARTER	02/01/2021	1,530.23	1,530.23	02/04/2021
	Total PARK COUNTY:				47,354.86	47,354.86	
POWERPLAN							
1868	POWERPLAN	W1116216	Backhoe loader 410L	01/21/2021	3,504.20	3,504.20	02/09/2021
	Total POWERPLAN:				3,504.20	3,504.20	
REDSTONE LEASING							
3842	REDSTONE LEASING	2021.2.1	Lease 29 OF 60	02/01/2021	203.07	203.07	02/04/2021
	Total REDSTONE LEASING:				203.07	203.07	
RIVERSIDE HARDWARE LLC							
3659	RIVERSIDE HARDWARE LLC	125797	HANGER STRIP	01/19/2021	3.79	3.79	02/04/2021
3659	RIVERSIDE HARDWARE LLC	126184	TOOLS	01/27/2021	420.00	420.00	02/04/2021
3659	RIVERSIDE HARDWARE LLC	126205	FSTA	01/27/2021	3.27	3.27	02/04/2021

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
	Total RIVERSIDE HARDWARE LLC:				427.06	427.06	
STORY DISTRIBUTING							
3353	STORY DISTRIBUTING	93906	Diesel 347G	01/25/2021	854.09	854.09	02/04/2021
3353	STORY DISTRIBUTING	94012	Diesel 143G	01/29/2021	315.78	315.78	02/04/2021
	Total STORY DISTRIBUTING:				1,169.87	1,169.87	
TD&H ENGINEERING, INC							
3390	TD&H ENGINEERING, INC	23576	I&I STUDY REPORT	02/03/2021	10,794.00	10,794.00	02/04/2021
3390	TD&H ENGINEERING, INC	23577	NORTHTOWN SUBDIVISION	02/03/2021	95.43	95.43	02/04/2021
3390	TD&H ENGINEERING, INC	23577	NORTHTOWN SUBDIVISION	02/03/2021	95.43	95.43	02/04/2021
3390	TD&H ENGINEERING, INC	23577	NORTHTOWN SUBDIVISION	02/03/2021	95.44	95.44	02/04/2021
3390	TD&H ENGINEERING, INC	23577	B STREET WELL BACK UP POW	02/03/2021	3,830.75	3,830.75	02/04/2021
3390	TD&H ENGINEERING, INC	23577	CLARENCE WELL DEQ APPROV	02/03/2021	234.50	234.50	02/04/2021
3390	TD&H ENGINEERING, INC	23578	B15-081 LIVINGSTON ON CALL	11/18/2020	3,500.00	3,500.00	02/09/2021
3390	TD&H ENGINEERING, INC	23579	DOWNTOWN PHASE V & V1	02/03/2021	11,564.58	11,564.58	02/04/2021
3390	TD&H ENGINEERING, INC	23579	DOWNTOWN PHASE V & V1	02/03/2021	3,854.86	3,854.86	02/04/2021
3390	TD&H ENGINEERING, INC	23579	DOWNTOWN PHASE V & V1	02/03/2021	3,854.86	3,854.86	02/04/2021
3390	TD&H ENGINEERING, INC	23869	I&I STUDY REPORT	02/03/2021	4,180.15	4,180.15	02/04/2021
3390	TD&H ENGINEERING, INC	23870	ON CALL CIVIL SERVICES	02/03/2021	200.42	200.42	02/04/2021
3390	TD&H ENGINEERING, INC	23870	ON CALL SERVICES	02/03/2021	200.42	200.42	02/04/2021
3390	TD&H ENGINEERING, INC	23870	ON CALL SERVICES	02/03/2021	200.41	200.41	02/04/2021
3390	TD&H ENGINEERING, INC	23870	NORTHTOWN	02/03/2021	46.33	46.33	02/04/2021
3390	TD&H ENGINEERING, INC	23870	NORTHTOWN SUBDIVISION	02/03/2021	46.33	46.33	02/04/2021
3390	TD&H ENGINEERING, INC	23870	NORTHTOWN SUBDIVISION	02/03/2021	46.34	46.34	02/04/2021
3390	TD&H ENGINEERING, INC	23870	WELL BACKUP POWER	02/03/2021	272.00	272.00	02/04/2021
3390	TD&H ENGINEERING, INC	23870	5TH ST SEWER REPLACEMENT	02/03/2021	169.75	169.75	02/04/2021
3390	TD&H ENGINEERING, INC	23872	DOWNTOWN PHASE V & V1	02/03/2021	4,310.17	4,310.17	02/04/2021
3390	TD&H ENGINEERING, INC	23872	DOWNTOWN PHASE V & V1	02/03/2021	1,436.73	1,436.73	02/04/2021
3390	TD&H ENGINEERING, INC	23872	DOWNTOWN PHASE V & V1	02/03/2021	1,436.73	1,436.73	02/04/2021
	Total TD&H ENGINEERING, INC:				50,465.63	50,465.63	
TEAR IT UP L.L.C.							
2999	TEAR IT UP L.L.C.	47169	Shredding City Attorney	01/02/2021	75.20	75.20	02/09/2021
	Total TEAR IT UP L.L.C.:				75.20	75.20	
THE KNOX COMPANY							
10002	THE KNOX COMPANY	INVO2333776	MED VAULT	01/20/2021	3,125.00	3,125.00	02/04/2021
	Total THE KNOX COMPANY:				3,125.00	3,125.00	
TRI-COUNTY HEATING & COOLING							
757	TRI-COUNTY HEATING & COOLI	144045	MTN VIEW CEM	12/30/2020	178.50	178.50	02/04/2021
	Total TRI-COUNTY HEATING & COOLING:				178.50	178.50	
UPS STORE #2420, THE							
292	UPS STORE #2420, THE	1943	ShipPING	01/22/2021	8.31	8.31	02/04/2021
292	UPS STORE #2420, THE	9600	ShipPING	01/28/2021	11.19	11.19	02/04/2021
	Total UPS STORE #2420, THE:				19.50	19.50	

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
US BANK EQUIPMENT FINANCE							
10001	US BANK EQUIPMENT FINANCE	432969285	PRINTER-LIBRARY	01/05/2021	255.47	255.47	02/04/2021
	Total US BANK EQUIPMENT FINANCE:				255.47	255.47	
US BANK St. Paul							
845	US BANK St. Paul	6008552	URBAN RENEWAL	01/25/2021	350.00	350.00	02/04/2021
	Total US BANK St. Paul:				350.00	350.00	
US POST OFFICE							
2596	US POST OFFICE	2021.2	Postage for Utility Bills	02/04/2021	2,500.00	2,500.00	02/04/2021
2596	US POST OFFICE	2021.2	Postage for Utility Bills	02/04/2021	2,500.00	2,500.00	02/04/2021
2596	US POST OFFICE	2021.2	Postage for Utility Bills	02/04/2021	2,500.00	2,500.00	02/04/2021
	Total US POST OFFICE:				7,500.00	7,500.00	
UTILITIES UNDERGROUND LOCATION							
3472	UTILITIES UNDERGROUND LO	1015089	Excavation Notifica	01/31/2021	27.73	27.73	02/09/2021
3472	UTILITIES UNDERGROUND LO	1015089	Excavation Notifica	01/31/2021	27.74	27.74	02/09/2021
3472	UTILITIES UNDERGROUND LO	1015089	Excavation Notifica	01/31/2021	27.74	27.74	02/09/2021
	Total UTILITIES UNDERGROUND LOCATION:				83.21	83.21	
WHISTLER TOWING, LLC							
3237	WHISTLER TOWING, LLC	5148	2020 RAM	01/18/2021	3,998.59	3,998.59	02/04/2021
3237	WHISTLER TOWING, LLC	5241	2012 FREIGHTLINER	01/28/2021	1,024.19	1,024.19	02/09/2021
	Total WHISTLER TOWING, LLC:				5,022.78	5,022.78	
	Grand Totals:				229,819.05	229,819.05	

Dated: _____

Mayor: _____

City Council: _____

_____

_____

_____

_____

_____

City Recorder: _____

File Attachments for Item:

C. JUDGE'S MONTHLY REPORT JANUARY 2021

LIVINGSTON CITY COURT
FINANCIAL REPORT Jan-21

Date PD Monthly Report Received from City of Livingston Finance Offic 2/11/2021

Tickets/Criminal Complaints Cleared: **41**

Dismissed-Plea Areement:	3		
Dismissed-Pretrial Diversion/Deferred:	8		
Dismissed-Miscellaneous:	14		
Paid-Bond Forfeit/Fine:	6		$1,865.00
Paid-Time Payments:	10		$3,177.00
Warrant Fees:			
		Total	$5,042.00
		Parking Tickets:	$1,850.00
		Total:	$6,892.00

Surcharges/Costs/Fees:

MLEA Surcharge:		$140.00	
TECH Surcharge:		$110.00	
Victim/Witness Surcharge:		$362.01	
MISD Surcharge:		$210.00	
Court Costs:		$65.00	
Public Defender Fee:			
Public Defender Fee:	$	-	
Jury Fees	$	-	
Interpreter	$	-	
		Total	**($887.01)**

Total amount credited to City of Livingston General Fund: **$6,004.99**

I hereby certify that this is a true and correct statement of the amount of fines/fees/costs which were fully paid and credited with the Livingston City Court during the month of: **Jan. 2021**

Prepared by: _____ Date: 2-11-21

Hon. Holly Happe
Livingston City Judge

File Attachments for Item:

A. Michael DeChellis, Chair of City Conservation Board with draft recommendations to City's Night Sky Ordinance.

December 9, 2020

Recommendations for Updating the Night Sky Protection Municipal Code (Section 18)

Dear Commissioners,

Per your request, the City of Livingston Conservation Board has researched and produced recommendations for updating the Night Sky section of the city municipal code, which was adopted in 2006. Our recommendations are in the following attachments to this memo:

- Attachment 1 – Introduction to Dark Skies
    - Introduces the concepts to better understand Dark Sky ordinances.
    - Identifies primary sources for our recommendations.
- Attachment 2 – Dark Sky Ordinance Recommendations
    - Includes general recommendations on updated ordinance text:
        - New lighting ratings and definitions
        - Updates to specific sections
        - Provides specific lighting zone recommendations
        - Defines lighting zones and specific requirements
        - Identifies lighting zone recommendations based on land-use and zoning
- Attachment 3 - Model Lighting Ordinance presented by the International Dark Sky Association (IDA) and the Illuminating Engineering Society (IES)

We recommend the following next steps to update the ordinance:

1. City Commission discusses and approves these changes at a City Commission meeting, including a presentation by City Conservation Board members.
2. City Commission directs the city staff to incorporate these recommendations into new draft ordinance text.
3. City staff submits draft text to the City Conservation Board.
4. City Conservation Board edits and approves draft text and submits to City Commission for approval.
5. City Commission adopts new ordinance text as update to Municipal Code Section 18.
6. After new Municipal Code Section 18 update, ensure that the zoning regulations are updated to reflect the new code.

In addition, we recommend the commission direct the City Manager to use the latest Roadway Lighting Design Guide by the American Association of State Highway and Transportation Officials (AASHTO) to develop a Master Lighting Plan. This plan may or may not be part of the ordinance update this time. The straight-forward plan can provide further section changes that address important topics including:

- Spacing and timing of streetlights – establishing “dark hours” during which some streetlights are turned off if public safety is maintained.
- Compliance schedule – Section 18-8 B (Nonconforming Streetlights) includes a deadline of January 1, 2017 for all streetlights to be fully Dark Sky compliant per the current code. As this deadline was not achieved, the city needs a new plan that considers streetlights and costs.
- Updating Neighborhood Zoning ordinances for streetlights as the city grows, including spacing and temperatures.

Streetlights deserve mention in our ordinance discussion moving forward. Except for some of the newer Northwestern Energy fixtures, most of the fixtures in our city are not compliant. There must be a plan to make this a meaningful ordinance that includes streetlights, and how the ordinance is communicated and enforced as our community grows and replaces fixtures.

Thank you for the opportunity to serve the city,
Your Conservation Board of the City of Livingston

Michael DeChellis, Chair	Bill Edwards, Vice-Chair	Johnathan Hettinger, Secretary	Amy Bowser, Member	Danielle Miska, Member

Attachment 1: Introduction to Dark Skies

Artificial light, or light not produced from the sun, is used everywhere in our modern society. We light indoor areas, including our homes, offices, and public spaces. We light outdoor areas including streets, parks, sporting venues, and billboards. While lighting has benefited our society, the inappropriate use of artificial light, or light pollution, has become a critical problem. Light pollution occurs in several different ways including sky glow, light trespass, glare, and over-illumination. Light pollution has negative impacts on human health, the environment, wildlife, climate, and wastes a considerable amount of energy. Thankfully, light pollution can be reduced by using modern lighting technologies at specific color ranges, only using lights when they are needed and controlling the direction of the light when in use.

Definitions:

- Sky glow – the brightening of the night sky over urban areas.
- Light trespass – light falling where it is not intended, wanted or needed.
- Glare – excessive brightness which causes visual discomfort.
- Over-illumination – excessive grouping of lights which contributes to sky glow, light trespass and glare.

Human Health

Artificial light at night negatively impacts human health by disrupting the circadian rhythm of our sleep-wake pattern and many physiologic processes, including brain wave patterns, cell regulation, and suppressing production of the hormone melatonin, among others. Melatonin helps humans get to sleep, boosts the immune system, lowers cholesterol and helps functioning of the thyroid, pancreas, ovaries, testes and adrenal glands. Disruption of the circadian clock is linked to depression, obesity, insomnia, cardiovascular disease, and cancer. Not to mention a good night's sleep helps to reduce weight gain, stress, depression, and the onset of diabetes (IDA, 2009), which is reduced by exposure to artificial light at night.

Many studies have found that decreasing night melatonin production increases the risk of developing cancer. One global study (Al-Naggar and Anil, 2016) measured the increase of cancer rates correlated with light pollution and found statistically significant increases in cancer rates in all cancers, including lung, breast, prostate, and colorectal cancers, with breast and colorectal having the highest rates. Another study found there is a 30-50% increased risk of breast cancer between countries with the highest incidence of light pollution and countries with the lowest amount of light pollution (Spivey, 2010).

Climate and Energy

Light fixtures that emit too much light or don't properly focus their light on their targets waste energy. The IDA estimates that 30% of all outdoor lighting in the US is wasted, resulting in losses of $3.3 billion and the release of 21 million tons of carbon dioxide per year.

Environment

Earth's ecosystems have evolved with regular day and night cycles, which help to regulate behaviors such as reproduction, nourishment, sleep, migration, and protection from predators. With the increase in light pollution from humans, these processes are disrupted. According to a review by Longcore and Rich (2004), artificial light at night negatively affects many animals including amphibians, birds, mammals, and insects. Light at night greatly disrupts nocturnal predator-prey relationships as the predator uses light for hunting and prey use the dark for hiding. Birds use light to help navigate during migration and artificial light can cause them to wander off course, migrate too early or too late causing them to miss critical climate conditions. Plants can even be affected by light pollution by changing their growth and development, impacting the relationship with pollinators, their health and yield, and impacts to circadian rhythms such as seasonal changes (Singhal and Bose, 2019). Even small changes in lighting can greatly impact the entire ecosystem.

Safety

It is logical that people would be concerned over the safety of people and property at night when they are less lit. However, while humans may feel safer at night in highly lighted places, a study by Steinbach et al. (2015) found reduced street lighting at night had little effect on crime or collisions. A study done in Chicago after increasing alley lighting in order to reduce crime found that crime increased with the additional lighting which was attributed to increased reporting of crimes; regardless there seemed to be little evidence that the change in lighting reduced criminal activity (Murrow and Hutton, 2000). Additionally, glare from lights at night can affect drivers and reduce contrast sensitivity, color perception and the ability to see contrasts making everything but the light difficult to see (Blask et al., 2012). Fully shielded lighting reduces this effect and increases roadway safety at night. There are safe and effective ways to light spaces at night, while also decreasing the impacts of light pollution on humans and the environment.

Reduce Light Pollution

There are simple ways to reduce light pollution and negative effects including:

- Outdoor lights should be fully shielded to minimize glare and light trespass;
- Install new and more efficient lighting technologies;
- Turn off unnecessary indoor lighting like nighttime lights in office buildings;
- Use dimmers, motion sensors and timers to reduce lighting use;
- Outdoor lighting should be 3000K color temperature and below.

References

Al-Naggar RA, Anil Sh. Artificial Light at Night and Cancer: Global Study. Asian Pac J Cancer Prev. 2016;17(10):4661-4664. Published 2016 Oct 1. doi:10.22034/apjcp.2016.17.10.4661
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5454613/

Blask, D. Brainard, G., Gibbons, R., Lockley, S., Stevens, R., Motta, M. 2012. Light Pollution: Adverse Health Effects of Nighttime Lighting. Report 4 of the Council on Science and Public Health. American Medical Association. https://circadianlight.com/images/pdfs/newscience/American-Medical-Association-2012-Adverse-Health-Effects-of-Light-at-Night.pdf

Chepesiuk R. Missing the dark: health effects of light pollution. Environ Health Perspect. 2009;117(1):A20-A27. doi:10.1289/ehp.117-a20. https://ehp.niehs.nih.gov/doi/full/10.1289/ehp.117-a20

IDA. Light Pollution Wastes Energy and Money. https://www.darksky.org/light-pollution/energy-waste/

IDA. Lighting, Crime and Safety. https://www.darksky.org/light-pollution/lighting-crime-and-safety/

IDA. 2009. Light Pollution and Human Health. https://www.globeatnight.org/dsr/dsee/IDA%20Resources/IDA%20Light%20Pollution%20Brochures/IDA%20Light%20Pollution%20and%20Human%20Health%20Brochure.pdf

Longcore and Rich. 2004. Ecological light pollution. Frontiers in Ecology and the Environment. https://esajournals.onlinelibrary.wiley.com/doi/full/10.1890/1540-9295%282004%29002%5B0191%3AELP%5D2.0.CO%3B2

Murrow, E. and Hutton, S. 2000. The Chicago Alley Lighting Project: Final Evaluation Report. https://www.darksky.org/wp-content/uploads/2014/09/Chicago-Alley-Lighting-Project.pdf

Singhal, R.K., Kumar, M. & Bose, B. Eco-physiological Responses of Artificial Night Light Pollution in Plants. Russ J Plant Physiol 66, 190–202 (2019). https://doi.org/10.1134/S1021443719020134

Spivey A. Light at night and breast cancer risk worldwide. Environ Health Perspect. 2010;118(12):a525. doi:10.1289/ehp.118-a525. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3002207/#:~:text=Several%20studies%20over%20the%20last,that%20require%20hormones%20to%20grow.

Steinbach R, Perkins C, Tompson L, et al
The effect of reduced street lighting on road casualties and crime in England and Wales: controlled interrupted time series analysis. J Epidemiol Community Health 2015;69:1118-1124. https://jech.bmj.com/content/69/11/1118

Attachment 2: Dark Sky Ordinance Recommendations

Purpose

These recommendations are intended to be adopted into new ordinance text by city staff.

Recommendations Overview

We leaned extensively on the IDA and IES model ordinance to update our own to modern standards. The following key areas need to be updated or added to the ordinance text:

- Public Health Intent
- Lighting Zones
- Lighting Curfew
- Residential and non-Residential Lighting ratings
- Exceptions
- Enforcement
- Temperature

Public Health Intent

As illustrated in Attachment 1: Introduction to Dark Skies, recent science has demonstrated the impact of good sleep on human health; additionally, sleep can be adversely impacted by intense and/or blue light after the sun sets. Since the lighting of our streets can directly impact residents' sleep patterns, we recommend the following purpose is added to the ordinance:

- To increase the health of citizens by promoting good sleep through exposure to low levels of warm light after dark.

Lighting Zones

According to best practices laid out by the IDA and the IES, identifying lighting zones is one of the best ways to provide a measured comprehensive approach to lighting ordinance. It acknowledges simply that more lighting is needed where there are more people and where safety is particularly concerned. It also allows for much less light where land-use is lower.

Lighting Zone Definitions

We recommend this approach where the lighting zones are defined in the ordinance per the following:

> *LZ1: Low ambient lighting*
> Areas where lighting might adversely affect flora and fauna or disturb the character of the area. The vision of human residents and users is adapted to low light levels. Lighting may be used for safety and convenience, but it is not necessarily uniform or continuous. After curfew, most lighting should be extinguished or reduced as activity levels decline.

LZ2: Moderate ambient lighting
Areas of human activity where the vision of human residents and users is adapted to moderate light levels. Lighting may typically be used for safety and convenience, but it is not necessarily uniform or continuous. After curfew, lighting may be extinguished or reduced as activity levels decline.

LZ3: Moderately high ambient lighting
Areas of human activity where the vision of human residents and users is adapted to moderately high light levels. Lighting is generally desired for safety, security and/or convenience and it is often uniform and/or continuous. After curfew, lighting may be extinguished or reduced in most areas as activity levels decline.

LZ4: High ambient lighting
Areas of human activity where the vision of human residents and users is adapted to high light levels. Lighting is generally considered necessary for safety, security and/or convenience and it is mostly uniform and/or continuous. After curfew, lighting may be extinguished or reduced in some areas as activity levels decline.

Mapping Lighting Zones to Zoning Districts or Land Use

The conservation board has created two tables:

1. Lighting zones mapped to zoning districts (Table 1)
2. Lighting zones mapped to land use (Table 2)

The city has the discretion to implement this mapping in either method per their preference in the ordinance text. Tables are available at the end of this document.

Lighting Curfew

The current ordinance section 18-5 bullet C already establishes “permitted use hours” as between 11 pm and sunrise (excepting residential lighting, streetlights, security lighting, and businesses open during that time). Due to the changing time of sunrise throughout the year, and dusk lifts late in the morning in the winter, we recommend the lighting curfew be defined as 11 pm to 5 am. We recommend maintaining the exceptions in the current version of the ordinance. We recommend exempting the Business Improvement District.

Residential Uses and Lumens Ratings

Residential lighting has changed significantly in the past decade. There should be no reference to wattage, as different lighting technologies use energy much more efficiently than incandescent bulbs. Instead, the best practice is lumens, which are clearly marked on most consumer bulb packaging. Since luminaires (light fixtures) can often contain multiple bulbs, we recommend the ordinance adopt a lumen rating per luminaire. Residents and city officials can easily identify if they comply by adding up the lumens per luminaire without the need for expensive light density meters. We recommend the commission officially adopt the table and lumen values included in Table G of the Model Lighting Ordinance presented by the IDA/IES

with two notable exceptions listed below. This should wholly replace any other standards on residential lighting that are included in the current standard.

The notable exceptions are:

- No LZ0 will be defined.
- Low Voltage Landscape Lighting should be allowed at 525 lumens in LZ1.
- LED or equivalent strip lighting should be considered as one luminaire per four feet of strip lighting. Therefore, if someone has 32 feet of LED strip lighting, they should be able to emit the lumens equivalent of eight luminaires if they comply with shielded/unshielded specifications.

Non-Residential Uses and Backlight, Uplight, and Glare (BUG) ratings

Since the original ordinance was written in 2006, a new rating standard is now widely available in all commercial fixtures called the BUG rating. It is easily calculated and enforced without expensive light density meters. We recommend the commission officially adopt the table and lumen values included in Tables A through F of the model lighting ordinance presented by the IDA/IES.

Temperature

We recommend the ordinance text include maximum perceived temperatures (i.e. 2700K, 3000K, etc.) for all streetlamps and parking and hardscape lighting. According to the IDA, warmer temperature color spectrums do not disrupt circadian rhythms and interfere less with Dark Sky goals. The ordinance text should specify a preferred temperature and a maximum temperature. These ratings are included in all consumer and commercial lighting already, so they are easy to comply with.

Exceptions

In general, the exceptions outlined in the current form of the ordinance should be continued.

Enforcement

We believe by not requiring special equipment like light density meters and leveraging on-packaging ratings from both commercial and residential fixtures, the ordinance will be clear and enforceable. That said, enforcement of this ordinance has been lax – particularly regarding streetlights and commercial businesses. We recommend the ordinance text address how the enforcement of these rules will be incorporated into city permitting, zoning, and project planning.

Attachment 2 Tables

Table 1. Lighting Zones Mapped to Zoning Districts

District	Designation	Lighting Zone
Low Density Residential	R-I	1
Medium Density Residential	R-II	1
Medium Density Residential: Mobile Home	R-II (MH)	1
High Density Residential	R-III	1
Mobile Home Residential	RMO	1
Public	P	1 - depends on use
Industrial	I	1
Light Industrial	LI	1
Highway Commercial	H.C.	2
Neighborhood Commercial	N.C.	1
Central Business District	C.B.D.	2
Preservation Zoning District	PZD	1 - depends on use

Table 2. Lighting Zones Mapped to Land Use

Land Use	Recommended Lighting Zone
Single-Family Dwellings*	1
Duplexes	1
Multifamily Dwellings	1
Accessory Buildings	1
Mobile Homes	1
Churches	1
Schools, Public and Commercial	1
Schools, Trade	1
Hospitals	2
Clinics	1
Adult Foster Care Center	1
Nursing Homes	1
Personal Care Center	1
Child Care Center	1
Veterinarian Clinics	1
Kennels and Catterys	2
Self-Service Laundry	1
Bed and Breakfasts	1
Motels/Hotels	2
Travel Trailer Parks	1
Business and Professional Offices	2
Retail Stores	2
Barber Shop and Beauty Parlors	2
Restaurants	2
Bars	2
Drive-In Restaurants	2
Banks	2
Mortuary	2
Wholesale Businesses	2
Commercial Greenhouses	2
Gasoline Service Stations	2
Auto Repair Garage	2
Automobile Dealerships	2
Auto Salvage and Storage	1

Warehouse and Enclosed Storage	2
Machine Shop	2
Light Manufacturing	2
Heavy Manufacturing	2
Lumberyards	2
Transportation Terminals	2
Utility Substations	2
Armory	2
Cemetery	1
Government Offices	2
Public Recreation Facility	2
Medical Marijuana Facility	2

Attachment 3: Model Lighting Ordinance (IDA/IES)

Illuminating
ENGINEERING SOCIETY

INTERNATIONAL DARK-SKY ASSOCIATION

JOINT IDA - IES

MODEL LIGHTING ORDINANCE (MLO)

with USER'S GUIDE

June 15, 2011

The User Notes

The User Notes are intended to clarify the sections of the MLO for the various audiences who will use it: lighting designers, city officials, engineers, citizen groups, and others. Every effort has been made to keep the language technically accurate and clear, but since different disciplines may use the same term in different ways, or have different interpretations, some guidance may be helpful. While these Notes can not be a full tutorial on modern lighting design, it is hoped that the Notes will help facilitate the dialogue necessary to adopt the MLO.

Background

The problems of light pollution first became an issue in the 1970s when astronomers identified the degradation of the night sky due to the increase in lighting associated with development and growth. As more impacts to the environment by lighting have been identified, an international "dark sky" movement is advocating for the precautionary approach to outdoor lighting design.

Many communities have passed anti-light-pollution laws and ordinances. However, there is little or no agreement among these laws, and they vary considerably in language, technical quality, and stringency. This is confusing for designers, engineers, and code officials. The lack of a common basis prevents the development of standards, educational programs, and other means of achieving the goal of effective lighting control.

This MLO will allow communities to drastically reduce light pollution and glare and lower excessive light levels. The recommended practices of the IES can be met using readily available, reasonably priced lighting equipment. However, many conventional lighting practices will no longer be permitted, or will require special permits.

This Model Lighting Ordinance (MLO) is the result of extensive efforts by the International Dark Sky Association (IDA) and the Illuminating

Engineering Society of North America (IES). Among its features is the use of lighting zones (LZ0-4) which allow each governing body to vary the stringency of lighting restrictions according to the sensitivity of the area as well as accommodating community intent. In this way, communities can fine-tune the impact of the MLO without having to customize the MLO. The MLO also incorporates the Backlight-Uplight-Glare (BUG) rating system for luminaires, which provides more effective control of unwanted light.

Joint IDA-IESNA Model Outdoor Lighting Ordinance (MLO)

June 15, 2011

CONTENTS

General Notes in Adopting this Model Ordinance

Adoption of this ordinance should follow the established development, review, and approval processes of the adopting authority. If no such processes are in place, this ordinance may be adopted as a new independent section of the Municipal Code.

The MLO is probably best adopted as an "overlay zoning" ordinance. This means that it overlays, but is different from, land-use zoning. It can be added to or integrated into existing ordinances or codes and cross-referenced to other applicable codes and ordinances such as the electrical code, the sign code, planning ordinances, etc.

The MLO may best be managed by assigning it to planning officials and using existing administrative structures.

Because of the diverse community and lighting needs across large areas, this MLO is not intended for adoption as a state, provincial or national ordinance. Regional coordination is encouraged. Light pollution knows no boundaries, and the effects of polluting light persist as far as 200 kilometers (about 120 miles) from the source. One large city could adopt the MLO and dramatically affect a region, but adoption in suburbs and small towns must be part of a regional effort to achieve significant improvements in the overall quality of the night sky.

Adopting agencies should also consider that the MLO, like all other modern codes, is designed to evolve over time. Lighting technology will change, and MLO changes will be needed every few years. On-going renewal cycles are strongly recommended as any part of an adopting ordinance.

MLO Development and Task Force Members

This Model Lighting Ordinance has been developed as a joint undertaking by the Illuminating Engineering Society and the International Dark-Sky Association.

The Joint Task Force responsible for developing the MLO include

IDA	IES
Co-Chair: Jim Benya	Naomi Miller
Co-Chair: Nancy Clanton	Cheryl English
Leslie Lipstein	Denis Lavoie
Leo Smith	Eric Gibson
Michael Mutmansky	

John Walter representing the electric utility industry also contributed as a member of the Joint Task Force.

I. PREAMBLE - User's Guide

In general, the preamble is part of the ordinance but is typically not part of the code. It establishes the reasons why the municipality is undertaking these regulations.

Local governments may add other purposes to the Preamble including established local government environmental or energy goals that support the model lighting ordinance. The environmental impacts of outdoor lighting fall into two categories: carbon footprint (energy used in the life of a lighting product) and obtrusive light.

CARBON FOOTPRINT	OBTRUSIVE LIGHT
Cost & Impact of Mining the Materials Used	Impact on Humans
Energy Used in Production	Impact on the Environment
Energy Used during Product Life	
Disposal/Recylcing Costs	

II. LIGHTING ZONES - User's Guide

Lighting zones reflect the base (or ambient) light levels desired by a community. The use of lighting zones (LZ) was originally developed by the International Commission on Illumination (CIE) and appeared first in the US in IES Recommended Practice for Exterior Environmental Lighting, RP-33-99.

It is recommended that lower lighting zone(s) be given preference when establishing zoning criteria. Selection of lighting zone or zones should be based not on existing conditions but rather on the type of lighting environments the jurisdiction seeks to achieve. For instance, new development on previously rural or undeveloped land may be zoned as LZ-1.Using lighting zones allows a great deal of flexibility and customization without the burden of excessive regulation. For example, a jurisdiction may choose to establish vertical lighting zones with the lighting zone at street level at a higher zone than the residential housing on upper levels.

I. PREAMBLE - Ordinance Text

The purpose of this Ordinance is to provide regulations for outdoor lighting that will:

a. Permit the use of outdoor lighting that does not exceed the minimum levels specified in IES recommended practices for night-time safety, utility, security, productivity, enjoyment, and commerce.

b. Minimize adverse offsite impacts of lighting such as light trespass, and obtrusive light.

c. Curtail light pollution, reduce skyglow and improve the nighttime environment for astronomy.

d. Help protect the natural environment from the adverse effects of night lighting from gas or electric sources.

e. Conserve energy and resources to the greatest extent possible.

II. LIGHTING ZONES - Ordinance Text

The Lighting Zone shall determine the limitations for lighting as specified in this ordinance. The Lighting Zones shall be as follows:

LZ0: No ambient lighting

Areas where the natural environment will be seriously and adversely affected by lighting. Impacts include disturbing the biological cycles of flora and fauna and/or detracting from human enjoyment and appreciation of the natural environment. Human activity is subordinate in importance to nature. The vision of human residents and users is adapted to the darkness, and they expect to see little or no lighting. When not needed, lighting should be extinguished.

II. LIGHTING ZONES (cont.) - User's Guide

However, if an adjacent use could be adversely impacted by allowable lighting, the adopting authority may require that a particular site meet the requirements for a lower lighting zone. For example, the authority could specify Lighting Zone 1 or 2 requirements if a commercial development were adjacent to a residence, hospital or open space, or to any land assigned to a lower zone.

Lighting zones are best implemented as an overlay to the established zoning especially in communities where a variety of zone districts exists within a defined area or along an arterial street. Where zone districts are cohesive, it may be possible to assign lighting zones to established land use zoning. It is recommended that the lighting zone includes churches, schools, parks, and other uses embedded within residential communities.

Zone	Recommended Uses or Areas	Zoning Considerations
LZ-0	Lighting Zone 0 should be applied to areas in which permanent lighting is not expected and when used, is limited in the amount of lighting and the period of operation. LZ-0 typically includes undeveloped areas of open space, wilderness parks and preserves, areas near astronomical observatories, or any other area where the protection of a dark environment is critical. Special review should be required for any permanent lighting in this zone. Some rural communities may choose to adopt LZ-0 for residential areas.	Recommended default zone for wilderness areas, parks and preserves, and undeveloped rural areas. Includes protected wildlife areas and corridors.
LZ-1	Lighting Zone 1 pertains to areas that desire low ambient lighting levels. These typically include single and two family residential communities, rural town centers, business parks, and other commercial or industrial/ storage areas typically with limited nighttime activity. May also include the developed areas in parks and other natural settings.	Recommended default zone for rural and low density residential areas. Includes residential single or two family; agricultural zone districts; rural residential zone districts; business parks; open space include preserves in developed areas.

II. LIGHTING ZONES (cont.) - Ordinance Text

LZ1: Low ambient lighting

Areas where lighting might adversely affect flora and fauna or disturb the character of the area. The vision of human residents and users is adapted to low light levels. Lighting may be used for safety and convenience but it is not necessarily uniform or continuous. After curfew, most lighting should be extinguished or reduced as activity levels decline.

LZ2: Moderate ambient lighting

Areas of human activity where the vision of human residents and users is adapted to moderate light levels. Lighting may typically be used for safety and convenience but it is not necessarily uniform or continuous. After curfew, lighting may be extinguished or reduced as activity levels decline.

LZ3: Moderately high ambient lighting

Areas of human activity where the vision of human residents and users is adapted to moderately high light levels. Lighting is generally desired for safety, security and/or convenience and it is often uniform and/or continuous. After curfew, lighting may be extinguished or reduced in most areas as activity levels decline.

LZ4: High ambient lighting

Areas of human activity where the vision of human residents and users is adapted to high light levels. Lighting is generally considered necessary for safety, security and/or convenience and it is mostly uniform and/or continuous. After curfew, lighting may be extinguished or reduced in some areas as activity levels decline.

II. LIGHTING ZONES (cont.) - User's Guide

Zone	Recommended Uses or Areas	Zoning Considerations
LZ-2	**Lighting Zone 2 pertains to areas with moderate ambient lighting levels. These typically include multifamily residential uses, institutional residential uses, schools, churches, hospitals, hotels/motels, commercial and/or businesses areas with evening activities embedded in predominately residential areas, neighborhood serving recreational and playing fields and/or mixed use development with a predominance of residential uses. Can be used to accommodate a district of outdoor sales or industry in an area otherwise zoned LZ-1.**	**Recommended default zone for light commercial business districts and high density or mixed use residentialdistricts.** Includes neighborhood business districts; churches, schools and neighborhood recreation facilities; and light industrial zoning with modest nighttime uses or lighting requirements.
LZ-3	**Lighting Zone 3 pertains to areas with moderately high lighting levels. These typically include commercial corridors, high intensity suburban commercial areas, town centers, mixed use areas, industrial uses and shipping and rail yards with high night time activity, high use recreational and playing fields, regional shopping malls, car dealerships, gas stations, and other nighttime active exterior retail areas.**	**Recommended default zone for large cities' business district.** Includes business zone districts; commercial mixed use; and heavy industrial and/or manufacturing zone districts.
LZ-4	**Lighting zone 4 pertains to areas of very high ambient lighting levels. LZ-4 should only be used for special cases and is not appropriate for most cities. LZ-4 may be used for extremely unusual installations such as high density entertainment districts, and heavy industrial uses.**	**Not a default zone**. Includes high intensity business or industrial zone districts.

III. GENERAL REQUIREMENTS - User's Guide

This Section sets out the requirements that apply to all lighting, both residential and non-residential.

Each adopting jurisdiction should incorporate their existing standards as to when compliance with new regulations is required, when repair or remodeling triggers compliance and if the new ordinance will be retroactive to existing development. The Applicability section of this model ordinance should serve as a guide if the adopting jurisdiction does not have standards or policies in place. Likewise, the adopting jurisdiction should use their existing policies and definitions of what constitutes public monuments, and temporary and/or emergency lighting. Community attitudes and precedents should be taken into account in deciding to regulate seasonal holiday lighting.

EXEMPTIONS - User's Guide

This is standard language intended to prevent conflict of laws and to give the community the ability to set specific lighting requirements in special plans and under use permits. It can be amended to conform to similar language in other ordinances. For example, while public monuments, statuary, and flags should be lighted, the lighting also should be limited to avoid excess.

Lighting for streets, roads, and highways is usually regulated by a street lighting ordinance, and is not covered by this model ordinance. However, since street lighting can affect nearby areas, some recognition of its effect is appropriate. (See Section XI)

SIGN LIGHTING - User's Guide

A sign lighting ordinance is strongly recommended if not already in place. It should carefully limit lighting to prevent over-lighted signs from being used to circumvent lighting ordinances.

III. GENERAL REQUIREMENTS - Ordinance Text

A. Conformance with All Applicable Codes

All outdoor lighting shall be installed in conformance with the provisions of this Ordinance, applicable Electrical and Energy Codes, and applicable sections of the Building Code.

B. Applicability

Except as described below, all outdoor lighting installed after the date of effect of this Ordinance shall comply with these requirements. This includes, but is not limited to, new lighting, replacement lighting, or any other lighting whether attached to structures, poles, the earth, or any other location, including lighting installed by any third party.

Exemptions from III.(B.) The following are not regulated by this Ordinance

a. Lighting within public right-of-way or easement for the principal purpose of illuminating streets or roads. No exemption shall apply to any lighting within the public right of way or easement when the purpose of the luminaire is to illuminate areas outside the public right of way or easement, unless regulated with a streetlighting ordinance.

Note to adopting agency: if using the street lighting ordinance (Section XI), this exemption should read as follows:

Lighting within the public right-of-way or easement for the principal purpose of illuminating roads and highways. No exemption shall apply to any street lighting and to any lighting within the public right of way or easement when the purpose of the luminaire is to illuminate areas outside of the public right of way or easement.

b. Lighting for public monuments and statuary.

c. Lighting solely for signs (lighting for signs is regulated by the Sign Ordinance).

d. Repairs to existing luminaires not exceeding 25% of total installed luminaires.

LIGHTING CONTROLS - User's Guide

This section requires all outdoor lighting to have lighting controls that prohibit operation when sufficient daylight is available, and to include the capability, either through circuiting, dimming or alternating sources, to be able to reduce lighting without necessarily turning all lighting off.

III. GENERAL REQUIREMENTS (cont.) - Ordinance Text

e. Temporary lighting for theatrical, television, performance areas and construction sites;

f. Underwater lighting in swimming pools and other water features

g. Temporary lighting and seasonal lighting provided that individual lamps are less than 10 watts and 70 lumens.

h. Lighting that is only used under emergency conditions.

i. In lighting zones 2, 3 and 4, low voltage landscape lighting controlled by an automatic device that is set to turn the lights off at one hour after the site is closed to the public or at a time established by the authority.

Exceptions to III. (B.) All lighting shall follow provisions in this ordinance; however, any special requirements for lighting listed in a) and b) below shall take precedence.

a. Lighting specified or identified in a specific use permit**.**

b. Lighting required by federal, state, territorial, commonwealth or provincial laws or regulations.

C. Lighting Control Requirements

1. Automatic Switching Requirements
   Controls shall be provided that automatically extinguish all outdoor lighting when sufficient daylight is available using a control device or system such as a photoelectric switch, astronomic time switch or equivalent functions from a programmable lighting controller, building automation system or lighting energy management system, all with battery or similar backup power or device.

CURFEW REQUIREMENTS - User's Guide

The intent is to reduce or eliminate lighting after a given time. Benefits include reduced environmental impact, longer hours of improved astronomy, energy savings, and improved sleeping conditions for residents. Additionally, some police departments have indicated that post-curfew light reductions make drive-by patrolling easier because it allows them to see further into and through a site.

The authority should determine the time of curfew and the amount of lighting reduction based on the character, norms and values of the community.

Typically, curfews go into effect one hour after the close of business. Restaurants, bars and major entertainment facilities such as sports stadiums, may require the curfew go into effect two hours after the close of business. The authority may elect to have no curfew for facilities with shift workers and 24 hour operations, or to extend the curfew time to meet specific needs. The MLO can be modified to address those concerns.

Areas without street lights or with very low ambient light levels should consider turning off all non-emergency lighting at curfew while commercial areas or urban areas may prefer a reduction in lighting levels. A reduction of at least 30% is recommended for most uses.

III. GENERAL REQUIREMENTS (cont.) - Ordinance Text

Exceptions to III.(C.) 1. Automatic lighting controls are not required for the following:

a. Lighting under canopies.

b. Lighting for tunnels, parking garages, garage entrances, and similar conditions.

2. Automatic Lighting Reduction Requirements
The Authority shall establish curfew time(s) after which total outdoor lighting lumens shall be reduced by at least 30% or extinguished.

Exceptions to III.(C.) 2. Lighting reductions are not required for any of the following:

a. With the exception of landscape lighting, lighting for residential properties including multiple residential properties not having common areas.

b. When the outdoor lighting consists of only one luminaire.

c. Code required lighting for steps, stairs, walkways, and building entrances.

d. When in the opinion of the Authority, lighting levels must be maintained.

e. Motion activated lighting.

f. Lighting governed by special use permit in which times of operation are specifically identified.

g. Businesses that operate on a 24 hour basis.

IV. NON-RESIDENTIAL LIGHTING - User's Guide

This section addresses non-residential lighting and multiple-family residences having common spaces, such as lobbies, interior corridors or parking. Its intent is to:

- **Limit the amount of light that can be used**
- **Minimize glare by controlling the amount of light that tends to create glare**
- **Minimize sky glow by controlling the amount of uplight**
- **Minimize the amount of off-site impacts or light trespass**

This MLO provides two methods for determining compliance. The *prescriptive method* contains precise and easily verifiable requirements for luminaire light output and fixture design that limit glare, uplight, light trespass and the amount of light that can be used. The *performance method* allows greater flexibility and creativity in meeting the intent of the ordinance. Note that both the prescriptive and the performance method limit the *amount* of light that can be used, but do not control *how* the lighting is to be used.

Most outdoor lighting projects that do not involve a lighting professional will use the prescriptive method, because it is simple and does not require engineering expertise.

For the prescriptive method, the initial luminaire lumen allowances defined in Table A (Parking Space Method) or B (Hardscape Area Method) will provide basic lighting (parking lot and lighting at doors and/or sensitive security areas) that is consistent with the selected lighting zone. The prescriptive method is intended to provide a safe lighting environment while reducing sky glow and other adverse offsite impacts. The Per Parking Space Method is applicable in small rural towns and is a simple method for small retail "mom and pop" operations without drive lane access and where the parking lot is immediately adjacent to the road. A jurisdiction may

IV. NON-RESIDENTIAL LIGHTING - Ordinance Text

For all non-residential properties, and for multiple residential properties of seven domiciles or more and having common outdoor areas, all outdoor lighting shall comply either with Part A or Part B of this section.

PRESCRIPTIVE METHOD - User's Guide

also allow a prescriptive method for classes of sites, such as car dealerships, gas stations, or other common use areas.

Note that the values are for initial luminaire lumens, not footcandles on the target (parking lot, sidewalk, etc). Variables such as the efficiency of the luminaire, dispersion, and lamp wear can affect the actual amount of light so the lumens per square foot allowance is not equal to footcandles on the site. By specifying initial luminaire lumen values, it is easier for officials to verify that the requirement is being met. Initial luminaire lumens are available from photometric data. Each initial luminaire lumens calculation should be supplied on the submittal form.

Solid state luminaires, such as LEDs, do not have initial lamp lumens, only initial luminaire lumens (absolute photometry). Other luminaires tested with relative photometry will have initial luminaire lumens which can be calculated by multiplying initial lamp lumens by the luminaire efficiency. In this example, three types of luminaires are used to light a parking area and building entry in a light commercial area. Two of these three luminaires use metal halide lamps: 70 watt wall mounted area lights and 150 watt pole mounted area lights. For these, the Initial Luminaire Lumens is equal to the initial lamp lumens multiplied by the luminaire efficiency. These values are entered into the compliance chart. The lumen value for the building mounted LED luminaires is equal to the lumens exiting the luminaire. Therefore, the value already represents the Initial Luminaire Lumens and no luminaire efficiency is needed. The total Luminaire Lumens for the site is equal to 247,840.

The allowable lumens are based on the lighting zone and the total hard-scape area. Referencing Table B, the allowed lumens are 2.5/SF for LZ2. Multiplying this by the total hardscape square footage gives a value of 250,000 lumens allowed. Because this value is greater than the value calculated for the site, the project complies. Listed below is an example on a typical compliance worksheet for the Prescriptive Method.

IV. NON-RESIDENTIAL LIGHTING (cont.) - Ordinance Text

A. Prescriptive Method

An outdoor lighting installation complies with this section if it meets the requirements of subsections 1 and 2, below.

1. Total Site Lumen Limit

   The total installed initial luminaire lumens of all outdoor lighting shall not exceed the total site lumen limit. The total site lumen limit shall be determined using either the Parking Space Method (Table A) or the Hardscape Area Method (Table B). Only one method shall be used per permit application, and for sites with existing lighting, existing lighting shall be included in the calculation of total installed lumens.

   The total installed initial luminaire lumens is calculated as the sum of the initial luminaire lumens for all luminaires.

IV. NON-RESIDENTIAL LIGHTING (cont.) - User's Guide

In this example, three types of luminaires are used to light a parking area and building entry in a light commercial area. Two of these three luminaires use metal halide lamps: 70 watt wall mounted area lights and 150 watt pole mounted area lights. For these, the Initial Luminaire Lumens is equal to the initial lamp lumens multiplied by the luminaire efficiency. These values are entered into the compliance chart. The lumen value for the building mounted LED luminaires is equal to the lumens exiting the luminaire. Therefore, the value already represents the Initial Luminaire Lumens and no luminaire efficiency is needed. The total Luminaire Lumens for the site is equal to 247,840. The allowable lumens are based on the lighting zone and the total hardscape area. Referencing Table B, the allowed lumens are 2.5/SF for LZ2. Multiplying this by the total hardscape square footage gives a value of 250,000 lumens allowed. Because this value is greater than the value calculated for the site, the project complies.

PRESCRIPTIVE METHOD EXAMPLE - COMPLIANCE CHART			
Lamp Descriptions	*QTY*	*Initial Luminaire Lumens*	*Total*
70 W Metal Halide	8	3,920	31,360
150 W Metal Halide	20	9,600	192,000
18 W LED	24	1,020	24,480
TOTAL INITIAL LUMINAIRE LUMENS			247,840
SITE ALLOWED TOTAL INITIAL LUMENS*			250,000
PROJECT IS COMPLIANT?			YES

* Listed below is the method of determining the allowed total initial lumen for non-residential outdoor lighting using the hardscape areamethod. (Table B).

SITE ALLOWED TOTAL INITIAL LUMENS	
Site Description	Light Commercial
Lighting Zone	LZ-2
Hardscape Area (SF)	100,000
Allowed Lumens per SF of Hardscape (Table B)	2.5
Site Allowed Total Initial Lumens (lumens per SF X hardscape area)	250,000

IV. NON-RESIDENTIAL LIGHTING (cont.) - Ordinance Text

PRESCRIPTIVE METHOD (cont.) - User's Guide

LIMITS TO OFFSITE IMPACTS

The prescriptive method of the MLO restricts uplighting, including upward light emitted by decorative luminaires. A jurisdiction may choose to preserve some types of lighting, including lighting of monuments or historic structures. In this case, the adopting jurisdiction should exempt or otherwise regulate these types of lighting carefully so that it does not inadvertently allow glaring or offensive lighting systems.

Offsite effects of light pollution include glare, light trespass, sky glow, and impacts on the nocturnal environment . All of these are functions of the fixture or luminaire design and installation. This document replaces the previous luminaire classification terminology of full cut-off, semi cut-off, and cut-off because those classifications were not as effective in controlling offsite impacts as with the new IESNA luminaire classification system as described in TM-15-07.

A traditional method of defining light trespass is to identify a maximum light level at or near the property line. However, this method does not address offensive light that is not directed toward the ground, or the intensity of glaring light shining into adjacent windows. The requirements defined in Table C limit the amount of light in all quadrants that is directed toward or above the property line. The Backlight/Uplight/Glare (BUG) rating will help limit both light trespass and glare. (A detailed explanation of the BUG system is provided in the section on Table C.)

The limits for light distribution established in Table C (for the BUG rating system) prevent or severely limit all direct upward light. A small amount of uplight reflected by snow, light-colored pavement or a luminaire's supporting arms is inevitable and is not limited by the prescriptive method of this ordinance.

IV. NON-RESIDENTIAL LIGHTING (cont.) - Ordinance Text

PRESCRIPTIVE METHOD

2. Limits to Off Site Impacts

All luminaires shall be rated and installed according to Table C.

3. Light Shielding for Parking Lot Illumination

All parking lot lighting shall have no light emitted above 90 degrees.

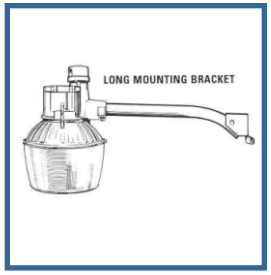
Exception:

a) Ornamental parking lighting shall be permitted by special permit only, and shall meet the requirements of Table C-1 for Backlight, Table C-2 for Uplight, and Table C-3 for Glare, without the need for external field-added modifications.

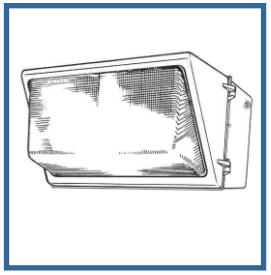
PRESCRIPTIVE METHOD (cont.) - User's Guide

LIMITS TO OFFSITE IMPACTS

A seemingly non-compliant fixture, such as a post-top translucent acorn luminaire, may in certain cases meet the BUG ratings, as long as it has proper interior baffling within the acorn globe. However, the BUG ratings in Table C will limit the use of the following types of luminaires in all lighting zones:



Barn Lights



Non-Shielded Wall Packs

Floodlights or lights not aimed downward

IV. NON-RESIDENTIAL LIGHTING (cont.) - Ordinance Text

PERFORMANCE METHOD - User's Guide

The performance method is best for projects with complex lighting requirements or when the applicant wants or needs more flexibility in lighting design. The performance method is also used when any lighting designer plans to aim or direct any light fixture upward (above 90 degrees). An engineer or lighting professional generally will be required to design within the performance method. An adopting jurisdiction may also wish to hire an engineer or lighting professional to review and approve projects using this method and/or incorporate review of the performance method into special review procedures.

The Performance Method is also best for projects where higher lighting levels are required compared to typical area lighting. An example might be a car sales lot where more light might be required on the new cars than would be needed for a standard parking lot. Another example is a gas station canopy requiring more light than a building entrance canopy.

The first step in the Performance Method regulates overlighting by establishing the Total Initial Site Lumens (Table D) that are allowed.

Allowances include the summation of the following (Table D):

1) Initial lumen allowance per site
2)Per area (SF) of hardscape

Table E allows additional lumens for unique site conditions.
Examples of allowances include:

1)Per building entrance/exit
2)Per length (linear feet) of Outdoor Sales Frontage Perimeter
3)Per area (SF) of Vehicle Service Station Canopy
4)Plus more …

The Site Total Initial Site Lumens allowed are a combination of allowances from Table D and Table E.

IV. NON-RESIDENTIAL LIGHTING (cont.) - Ordinance Text

B. Performance Method

1. Total Site Lumen Limit

The total installed initial luminaire lumens of all lighting systems on the site shall not exceed the allowed total initial site lumens. The allowed total initial site lumens shall be determined using Tables D and E. For sites with existing lighting, existing lighting shall be included in the calculation of total installed lumens.

The total installed initial luminaire lumens of all is calculated as the sum of the initial luminaire lumens for all luminaires.

IV. NON-RESIDENTIAL LIGHTING (cont.) - User's Guide

LIMITS TO OFFSITE IMPACTS (cont.)

The second step in the Performance Method is to determine if the proposed luminaires are producing off site impacts such as glare, sky glow and light trespass. One may either use Option A which are the Maximum Allowable BUG Ratings in Table C, or Option B through computer lighting calculations show compliance with Maximum Vertical Illuminance at any point in the plane of the property line in Table F. Option B will be required for all non-residential luminaires that
A) do not have BUG ratings, or
B) exceed the BUG ratings,
C) are not fully shielded, or
D) have adjustable mountings.

For the performance method, Option B (2) requires photometric calculations for the site perimeter, to a height of no less than 33 feet (10 meters) above the tallest luminaire. Vertical illuminances at eye height (5 feet above grade) will give values that can be used to verify compliance by comparing actual site conditions to the photometric plan submitted during review.
Note that the MLO specifies 'total initial luminaire lumens' as a measurement in addition to footcandles/lux. The footcandle (lux) is equal to one lumen per square meter. Lux is the metric unit and is equal to one lumen per square meter.

IV. NON-RESIDENTIAL LIGHTING (cont.) - Ordinance Text

PERFORMANCE METHOD

2. Limits to Off Site Impacts
All luminaires shall be rated and installed using either Option A or Option B. Only one option may be used per permit application.

Option A: All luminaires shall be rated and installed according to Table C.
Option B: The entire outdoor lighting design shall be analyzed using industry standard lighting software including inter-reflections in the following manner:

1) Input data shall describe the lighting system including luminaire locations, mounting heights, aiming directions, and employing photometric data tested in accordance with IES guidelines. Buildings or other physical objects on the site within three object heights of the property line must be included in the calculations.

2) Analysis shall utilize an enclosure comprised of calculation planes with zero reflectance values around the perimeter of the site. The top of the enclosure shall be no less than 33 feet (10 meters) above the tallest luminaire. Calculations shall include total lumens upon the inside surfaces of the box top and vertical sides and maximum vertical illuminance (footcandles and/or lux) on the sides of the enclosure.

The design complies if:

a) The total lumens on the inside surfaces of the virtual enclosure are less than 15% of the total site lumen limit; and

b) The maximum vertical illuminance on any vertical surface is less than the allowed maximum illuminance per Table F.

DESIGN COMPLIANCE - User's Guide

The application form will require information about the number of luminaires, the number of lamps in each luminaire, the initial luminaire lumens for each luminaire and the initial lumen output for each lamp (based on the wattage and type of lamp selected) as well as plans showing the site area measurements. This will allow the reviewer to verify that the lumen output of all the luminaires does not exceed the allowance.

Field verification can be achieved by asking the applicant and/or owner to verify that the luminaire type, lamp type and wattages specified have been used. Also ask the applicant for photometric data for each luminaire, since the initial luminaire lumens and B-U-G ratings are stated on the photometric report.

However, if a jurisdiction requires additional on-site verification, it may also request a point-by-point photometric plan. While this will not be a true measure of compliance with the criteria of this Ordinance, comparing the actual measured levels on site to the photometric plan can be an indication whether or not the installed lighting varies from the approved design.

V. RESIDENTIAL LIGHTING - User's Guide

This section applies to single family home, duplexes, row houses, and low rise multi-family buildings of 6 dwelling units or less.

RESIDENTIAL LIGHTING EXCEPTIONS

The exceptions allow for typical lighting that might exceed the specified limits.

Landscape Lighting - While not common in residential areas, it can cause light pollution and light trespass if it is not controlled.

Lighting controlled by Vacancy (Motion) Sensor - Reduces light pollution and light trespass and should be encouraged.

RESIDENTIAL LIGHTING EXAMPLE

In this example on the following page, five different luminaires are used on a residential property. Each luminaire must comply to meet the requirements. The site plan following shows luminaire types followed by a tabulation of each uminaire, whether or not it is fully shielded, lamp type, and initial luminaire lumens. If the luminaire lumens are not known, multiply the initial lamp lumens by the luminaire efficiency. If the efficiency is not known, multiply the initial lamp lumens by 0.7 as a reasonable assumption. The maximum allowable lumen values come from Table G, based on the shielding classification and location on the site. In this case, each luminaire complies with the requirements of Table G.

Comparison of efficacy by power
(120 Volt Incandescent lamps)

Output (Lumens)	Power (Watt)		
	Incan	CFL	LED
500	40	8 - 10	9
850	60	13 - 18	12 - 15
1,200	75	18 - 22	15
1,700	100	23 - 28	18

V. RESIDENTIAL LIGHTING - Ordinance Text

A. General Requirements

For residential properties including multiple residential properties not having common areas, all outdoor luminaires shall be fully shielded and shall not exceed the allowed lumen output in Table G, row 2.

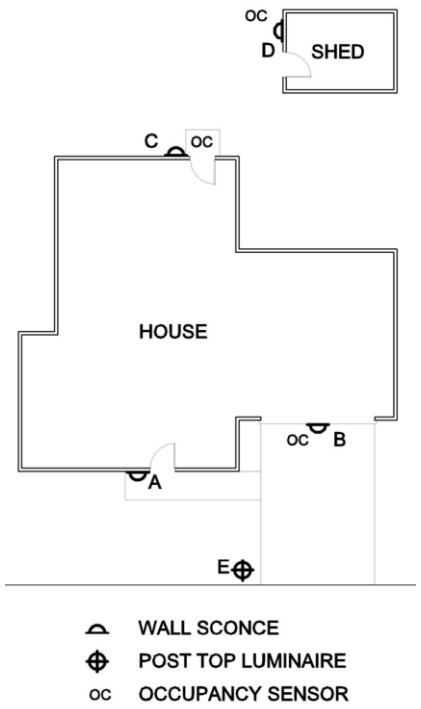
Exceptions

1. **One partly shielded or unshielded luminaire at the main entry, not exceeding the allowed lumen output in Table G row 1.**
2. **Any other partly shielded or unshielded luminaires not exceeding the allowed lumen output in Table G row 3.**
3. **Low voltage landscape lighting aimed away from adjacent properties and not exceeding the allowed lumen output in Table G row 4.**
4. **Shielded directional flood lighting aimed so that direct glare is not visible from adjacent properties and not exceeding the allowed lumen output in Table G row 5.**
5. **Open flame gas lamps.**
6. **Lighting installed with a vacancy sensor, where the sensor extinguishes the lights no more than 15 minutes after the area is vacated.**
7. **Lighting exempt per Section III (B.).**

B. Requirements for Residential Landscape Lighting

1. **Shall comply with Table G.**
2. **Shall not be aimed onto adjacent properties.**

V. RESIDENTIAL LIGHTING - User's Guide



Property Type: Residential
Lighting Zone 1

Luminaire Type	Location	Luminaire Description	Fully Shielded	Lamp Type	Initial Luminiare Lumens*	Maximum Allowed Initial Luminaire Lumens (Table G)	Controls	Compliant
A	Front Entry	Decorative wall sconce	No	9W CFL	420	420	None	Yes
B	Garage Door	Fully shielded wall pack	Yes	23W CFL	1050	1260	Occupancy Sensor	Yes
C	Back Entry	Decorative wall sconce	No	7W CFL	280	315	Occupancy Sensor	Yes
D	Shed Entry	Fully shielded wall pack	Yes	40W INC	343	1260	Occupancy Sensor	Yes
E	Driveway	Fully shielded post top	Yes	13W CFL	1260	1260	None	Yes

*Initial Luminaire Lumens are calculated by multiplying the total initial lamp lumens by the luminaire efficiency.
If the luminaire efficiency is not known, assume an efficiency of 70% and multiply the lamp lumen value by 0.7.

VI. LIGHTING BY SPECIAL PERMIT ONLY - User's Guide

This section addresses types of lighting that are intrusive or complex in their impacts and need a higher level of scrutiny and/or site sensitivity.

It should be noted that safety could be compromised if lighting conforming to this ordinance is located adjacent to excessively bright and/or glaring lighting.

It is important that the authority set clear and reasonable guidelines for applying for a special lighting use permit, and establish rules and procedures for granting or refusing them. They may differ from existing special use policies, in which case one or the other may be changed to achieve the overall goal of effective lighting without glare, sky glow, or light trespass.

SPORTS FIELD LIGHTING

For athletic and sports fields, the appropriate level of lighting will depend on the Class of Play and Facilities. Class of Play is divided into 4 categories, depending on the number of fixed spectator seats. (Competition play intended for nighttime TV broadcast may require higher lighting levels).

CLASS I: Competition play at facilities with 5,000 or more fixed spectator seats. (Professional, Colleges & Universities, some Semi-Professional & Large Sports Cubs)

CLASS II: Games at facilities with over 1,500 fixed spectator seats. (Smaller Universities and Colleges, some Semi-pro, large amateur leagues and high schools with large spectator facilities)

CLASS III: Games at facilities with over 500 fixed spectator seats. (Sports Clubs and amateur leagues, some high schools and large training professional training facilities with spectator sections)

CLASS IV: Competition or recreational play at facilities with 500 fixed spectator seats or less. Class IV Class of Play applies to games at which family and close friends of the players and staff are usually the majority of spectators. (Smaller amateur leagues, park and recreation department facilities, most Little Leagues smaller high schools, elementary and middle schools, and social events)

VI. LIGHTING BY SPECIAL PERMIT ONLY - Ordinance Text

A. High Intensity and Special Purpose Lighting

The following lighting systems are prohibited from being installed or used except by special use permit:

1. Temporary lighting in which any single luminaire exceeds 20,000 initial luminaire lumens or the total lighting load exceeds 160,000 lumens.
2. Aerial Lasers.
3. Searchlights.
4. Other very intense lighting defined as having a light source exceeding 200,000 initial luminaire lumens or an intensity in any direction of more than 2,000,000 candelas.

B. *Complex and Non-Conforming Uses*

Upon special permit issued by the Authority, lighting not complying with the technical requirements of this ordinance but consistent with its intent may be installed for complex sites or uses or special uses including, but not limited to, the following applications:

1. Sports facilities, including but not limited to unconditioned rinks, open courts, fields, and stadiums.
2. Construction lighting.
3. Lighting for industrial sites having special requirements, such as petrochemical manufacturing or storage, shipping piers, etc.
4. Parking structures.
5. Urban parks
6. Ornamental and architectural lighting of bridges, public monuments, statuary and public buildings.
7. Theme and amusement parks.
8. Correctional facilities.

To obtain such a permit, applicants shall demonstrate that the proposed lighting installation:

a. Has sustained every reasonable effort to mitigate the effects of light on the environment and surrounding properties, supported by a signed statement describing the mitigation measures. Such statement shall be accompanied by the calculations required for the Performance Method.

SPORTS FIELD LIGHTING

When Class of Play is above Class IV, a dual control should be installed to limit illumination to Class IV levels during practices where spectators are fewer than 500.

(See IES Recommended Practice for Sports and Recreational Area Lighting RP-6)

VII. EXISTING LIGHTING - User's Guide

Adoption of this section on existing lighting is strongly encouraged.

If the adopting jurisdiction has criteria in place that require a property to come into compliance with the current zoning ordinance, it is recommended that the criteria also be applied to bringing existing lighting into compliance. If there are no established criteria, this section of the MLO is recommended.

Amortization allows existing lighting to gradually and gracefully come into compliance. Substantial changes or additions to existing properties are considered the same as new construction, and must comply.

Most outdoor lighting can be fully depreciated once it is fully amortized, usually no longer than 10 years, if not sooner, from the date of initial installation. Some jurisdictions may prefer to require phase-out in a substantially shorter period. The Authority may also wish to require compliance much sooner for "easy fixes" such as re-aiming or lowering lumen output of lamps. Where lighting is judged to be a safety hazard, immediate compliance can be required.

VI. LIGHTING BY SPECIAL PERMIT ONLY (cont.) - Ordinance Text

b. Employs lighting controls to reduce lighting at a Project Specific Curfew ("Curfew") time to be established in the Permit.
c. Complies with the Performance Method after Curfew.

The Authority shall review each such application. A permit may be granted if, upon review, the Authority believes that the proposed lighting will not create unwarranted glare, sky glow, or light trespass.

VII. EXISTING LIGHTING - Ordinance Text

Lighting installed prior to the effective date of this ordinance shall comply with the following.

A. Amortization

On or before [amortization date], all outdoor lighting shall comply with this Code.

B. New Uses or Structures, or Change of Use

Whenever there is a new use of a property (zoning or variance change) or the use on the property is changed, all outdoor lighting on the property shall be brought into compliance with this Ordinance before the new or changed use commences.

C. Additions or Alterations

1. Major Additions.
   If a major addition occurs on a property, lighting for the entire property shall comply with the requirements of this Code. For purposes of this section, the following are considered to be major additions:

VIII. ENFORCEMENT AND PENALTIES - User's Guide

Enforcement and penalties will vary by jurisdiction. There are, however, certain practices that will promote compliance with lighting regulations. Education is a key tool in promoting compliance. Proactive enforcement procedures can include providing a copy of the lighting regulations to every contractor at the time they visit to obtain a building permit. Another effective tool is a requirement that the builder or developer acknowledge in writing that the he or she is familiar with the lighting requirements and will submit a lighting plan for approval.

VII. EXISTING LIGHTING (cont.) - Ordinance Text

Additions of 25 percent or more in terms of additional dwelling units, gross floor area, seating capacity, or parking spaces, either with a single addition or with cumulative additions after the effective date of this Ordinance.

Single or cumulative additions, modification or replacement of 25 percent or more of installed outdoor lighting luminaires existing as of the effective date of this Ordinance.

2. Minor Modifications, Additions, or New Lighting Fixtures for Non-residential and Multiple Dwellings

For non-residential and multiple dwellings, all additions, modifications, or replacement of more than 25 percent of outdoor lighting fixtures existing as of the effective date of this Ordinance shall require the submission of a complete inventory and site plan detailing all existing and any proposed new outdoor lighting.

Any new lighting shall meet the requirements of this Ordinance.

3. Resumption of Use after Abandonment

If a property with non-conforming lighting is abandoned for a period of six months or more, then all outdoor lighting shall be brought into compliance with this Ordinance before any further use of the property occurs.

VIII. ENFORCEMENT & PENALTIES - Ordinance Text

(Reserved)

VIII. ENFORCEMENT AND PENALTIES (cont.) - User's Guide

Submission of the Lighting Plan should be required as a precondition to any approvals. The Lighting Plan should include the location and BUG rating for each luminaire, specify whether compliance is by the performance or prescriptive method, and a worksheet to show that the luminaires and their BUG ratings are compliant.

IX. TABLES - User's Guide

The tables are to be reviewed periodically by a joint committee of the IES and IDA, and adjusted as standards and technology permit. If more research on the impacts of outdoor lighting shows the effects of light pollution to be a significant concern, then the values in the tables may be modified. Such changes will have no significant impact to the balance of the language of the Ordinance or Code.

VIII. ENFORCEMENT & PENALTIES - Ordinance Text

IX. TABLES - Ordinance Text

Table A - Allowed Total Initial Luminaire Lumens per Site for Non-residential Outdoor Lighting, Per Parking Space Method
May only be applied to properties up to 10 parking spaces (including handicapped accessible spaces).

LZ-0	LZ-1	LZ-2	LZ-3	LZ-4
350 lms/space	490 lms/space	630 lms/space	840 lms/space	1,050 lms/space

Table B - Allowed Total Initial Lumens per Site for Non-residential Outdoor Lighting, Hardscape Area Method
May be used for any project. When lighting intersections of site drives and public streets or road, a total of 600 square feet for each intersection may be added to the actual site hardscape area to provide for intersection lighting.

LZ-0	LZ-1	LZ-2	LZ-3	LZ-4
Base Allowance				
0.5 lumens per SF of Hardscape	1.25 lumens per SF of Hardscape	2.5 lumens per SF of Hardscape	5.0 lumens per SF of Hardscape	7.5 lumens per SF of Hardscape

IX. TABLES - Ordinance Text

Table B - *Lumen Allowances, in Addition to Base Allowance*

	LZ 0	LZ 1	LZ 2	LZ 3	LZ 4
Additional allowances for sales and service facilities. No more than two additional allowances per site, Use it or Lose it.					
Outdoor Sales Lots. This allowance is lumens per square foot of uncovered sales lots used exclusively for the display of vehicles or other merchandise for sale, and may not include driveways, parking or other non sales areas. To use this allowance, luminaires must be within 2 mounting heights of sales lot area.	**0**	**4 lumens per square foot**	**8 lumens per square foot**	**16 lumens per square foot**	**16 lumens per square foot**
Outdoor Sales Frontage. This allowance is for lineal feet of sales frontage immediately adjacent to the principal viewing location(s) and unobstructed for its viewing length. A corner sales lot may include two adjacent sides provided that a different principal viewing location exists for each side. In order to use this allowance, luminaires must be located between the principal viewing location and the frontage outdoor sales area	**0**	**0**	**1,000 per LF**	**1,500 per LF**	**2,000 per LF**
Drive Up Windows. In order to use this allowance, luminaires must be within 20 feet horizontal distance of the center of the window.	**0**	**2,000 lumens per drive-up window**	**4,000 lumens per drive-up window**	**8,000 lumens per drive-up window**	**8,000 lumens per drive-up window**
Vehicle Service Station. This allowance is lumens per installed fuel pump.	**0**	**4,000 lumens per pump (based on 5 fc horiz)**	**8,000 lumens per pump (based on 10 fc horiz)**	**16,000 lumens per pump (based on 20 fc horiz)**	**24,000 lumens per pump (based on 20 fc horiz)**

IX. TABLES - TABLE C BUG RATING - User's Guide

Work on the BUG system started in 2005 when the IES upgraded the roadway cutoff classification system. The original system, which included the ratings full cutoff, cutoff, semi-cutoff and non cutoff, had been designed as a rating system focused on brightness and glare control. However, with increasing demand for control of uplight and light trespass in addition to glare, IES realized that a more comprehensive system was needed. IES developed TM-15 *Luminaire Classification System for Outdoor Luminaires*.

As this is a relatively new rating system, and many people may not be familiar with it, more explanation of how the rating system works is provided here. For example, some people are familiar with terms such as "full cutoff" and they may expect the MLO to include those terms. It will be very important that all groups recognize that older terms and concepts are inadequate for the complex tasks of controlling light pollution. It is recommended that the new rating system adopted in TM-15, as followed herein by the MLO, be used intact and exclusively.

BUG requires downlight only with low glare (better than full cut off) in lighting zones 0, 1 and 2, but allows a minor amount of uplight in lighting zones 3 and 4. In lighting zones 3 and 4, the amount of allowed uplight is enough to permit the use of very well shielded luminaires that have a decorative drop lens or chimney so that dark sky friendly lighting can be installed in places that traditional-appearing luminaires are required. BUG typically cannot be used for residential luminaires unless they have been photometrically tested. For non-photometrically tested residential luminaires, shielding description is used instead.

The lumen limits established for each lighting zone apply to all types of lighting within that zone. This includes, but is not limited to, specialty lighting, façade lighting, security lighting and the front row lighting for auto dealerships. BUG rating limits are defined for each luminaire and

IX. TABLES (cont.) - Ordinance Text

Table C - Maximum Allowable Backlight, Uplight and Glare (BUG) Ratings

May be used for any project. A luminaire may be used if it is rated for the lighting zone of the site or lower in number for all ratings B, U and G. Luminaires equipped with adjustable mounting devices permitting alteration of luminaire aiming in the field shall not be permitted.

TABLE C-1	Lighting Zone 0	Lighting Zone 1	Lighting Zone 2	Lighting Zone 3	Lighting Zone 4
Allowed Backlight Rating*					
Greater than 2 mounting heights from property line	B1	B3	B4	B5	B5
1 to less than 2 mounting heights from property line and ideally oriented**	B1	B2	B3	B4	B4
0.5 to 1 mounting heights from property line and ideally oriented**	B0	B1	B2	B3	B3
Less than 0.5 mounting height to property line and properly oriented**	B0	B0	B0	B1	B2

*For property lines that abut public walkways, bikeways, plazas, and parking lots, the property line may be considered to be 5 feet beyond the actual property line for purpose of determining compliance with this section. For property lines that abut public roadways and public transit corridors, the property line may be considered to be the center-line of the public roadway or public transit corridor for the purpose of determining compliance with this section. NOTE: This adjustment is relative to Table C-1 and C-3 only and shall not be used to increase the lighting area of the site.

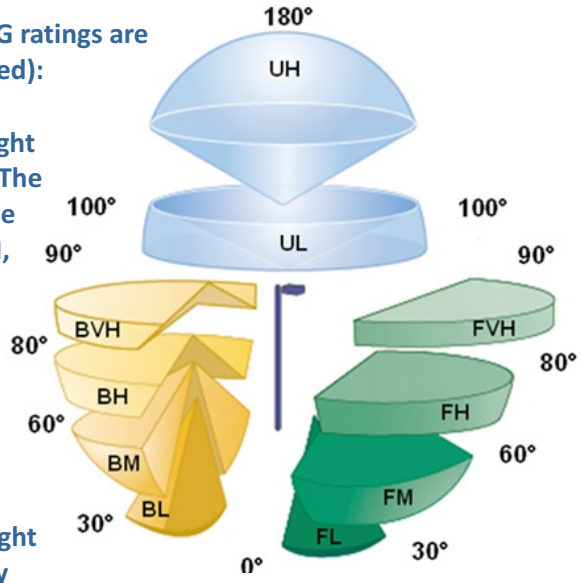
** To be considered 'ideally oriented', the luminaire must be mounted with the backlight portion of the light output oriented perpendicular and towards the property line of concern.

IX. TABLES - TABLE C BUG RATING (cont.) - User's Guide

IX. TABLES (cont.) - Ordinance Text

are based on the internal and external design of the luminaire, its aiming, and the initial luminaire lumens of the specified luminaires. The BUG rating limits also take into consideration the distance the luminaire is installed from the property line in multiples of the mounting height (See Table C).

The three components of BUG ratings are based on IES TM-15-07 (revised):



Backlight, which creates light trespass onto adjacent sites. The B rating takes into account the amount of light in the BL, BM, BH and BVH zones, which are in the direction of the luminaire OPPOSITE from the area intended to be lighted.

Uplight, which causes artificial sky glow. Lower uplight (zone UL) causes the most sky glow and negatively affects professional and academic astronomy. Upper uplight (UH) not reflected off a surface is mostly energy waste. The U rating defines the amount of light into the upper hemisphere with greater concern for the light at or near the horizontal angles (UL).

Glare, which can be annoying or visually disabling. The G rating takes into account the amount of frontlight in the FH and FVH zones as well as BH and BVH zones.

BUG ratings apply to the Lighting Zone of the property under consideration.

IX. TABLES - TABLE C BUG RATING (cont.) - User's Guide

(Key: UH=Uplight High, UL=Uplight Low, BVH=Backlight Very High, BH=Backlight High, BM=Backlight Medium, BL=Backlight Low, FVH=Forward Light Very High, FH=Forward Light High, FM=Forward Light Medium, FL=Forward Light Low.)

In general, a higher BUG rating means more light is allowed in solid angles, and the rating increases with the lighting zone. However, a higher B (backlight) rating simply indicates that the luminaire directs a significant portion of light behind the pole, so B ratings are designated based on the location of the luminaire with respect to the property line. A high B rating luminaire maximizes the spread of light, and is effective and efficient when used far from the property line. When luminaires are located near the property line, a lower B rating will prevent unwanted light from interfering with neighboring properties.

At the 90-180 degree ranges:

- Zone 0 allows no light above 90 degrees.
- Zone 1 allows only 10 lumens in the UH and UL zones, 20 lumens total in the complete upper hemisphere. (This is roughly equivalent to a 5 W incandescent lamp).
- Zone 2 allows only 50 lumens in the UH and UL zones, 100 lumens total (less than a 25W incandescent lamp).
- Zone 3 allows only 500 lumens in the UH and UL zones, 1000 lumens total (about the output of a 75W incandescent bulb).
- Zone 4 allows only 1,000 lumens in the UH and UL zones, 2000 lumens total (about the output of a 100W incandescent bulb).

IX. TABLES (cont.) - Ordinance Text

Table C - 2 Maximum Allowable Uplight (BUG) Ratings - Continued

TABLE C-2	Lighting Zone 0	Lighting Zone 1	Lighting Zone 2	Lighting Zone 3	Lighting Zone 4
Allowed Uplight Rating	U0	U1	U2	U3	U4
Allowed % light emission above 90° for street or Area lighting	0%	0%	0%	0%	0%

Table C - 3 Maximum Allowable Glare (BUG) Ratings - Continued

TABLE C-3	Lighting Zone 0	Lighting Zone 1	Lighting Zone 2	Lighting Zone 3	Lighting Zone 4
Allowed Glare Rating	G0	G1	G2	G3	G4
Any luminaire not ideally oriented*** with 1 to less than 2 mounting heights to any property line of concern	G0	G0	G1	G1	G2
Any luminaire not ideally oriented*** with 0.5 to 1 mounting heights to any property line of concern	G0	G0	G0	G1	G1
Any luminaire not ideally oriented*** with less than 0.5 mounting heights to any property line of concern	G0	G0	G0	G0	G1

*** Any luminaire that cannot be mounted with its backlight perpendicular to any property line within 2X the mounting heights of the luminaire location shall meet the reduced Allowed Glare Rating in Table C-3.

TABLE D EXAMPLE - PERFORMANCE METHOD - User's Guide

The first step in the Performance Method is to establish the Site Total Initial Site Lumens which regulates overlighting. The performance method allows layers of light depending on the complexity of the site.

Table D establishes the basic total initial site lumens allowed. These lumen allowances are added together for a total initial site lumen allowance. Allowances include:

1) Initial lumen allowance per site

2) Per area (SF) of hardscape

IX. TABLES (cont.) - Ordinance Text

Table D Performance Method Allowed Total Initial Site Lumens

May be used on any project.

Lighting Zone	LZ 0	LZ 1	LZ 2	LZ 3	LZ 4
Allowed Lumens Per SF	0.5	1.25	2.5	5.0	7.5
Allowed Base Lumens Per Site	0	3,500	7,000	14,000	21,000

Table E Performance Method Additional Initial Luminaire Lumen Allowances. All of the following are "use it or lose it" allowances.

All area and distance measurements in plan view unless otherwise noted.

Lighting Application	LZ 0	LZ 1	LZ 2	LZ 3	LZ 4
Additional Lumens Allowances for All Buildings except service stations and outdoor sales facilities. A MAXIMUM OF THREE (3) ALLOWANCES ARE PERMITTED. THESE ALLOWANCES ARE "USE IT OR LOSE IT".					
Building Entrances or Exits. This allowance is per door. In order to use this allowance, luminaires must be within 20 feet of the door.	400	1,000	2,000	4,000	6,000
Building Facades. This allowance is lumens per unit area of building façade that are illuminated. To use this allowance, luminaires must be aimed at the façade and capable of illuminating it without obstruction.	0	0	8/SF	16/SF	24/SF

TABLE E PERFORMANCE METHOD - User's Guide

The allowable light levels for these uses defined in Table E may be used to set a prescriptive lighting allowance for these uses in each lighting zone. It should be noted that the lighting allowance defined in Table E is only applicable for the area defined for that use and cannot be transferred to another area of the site. For some uses, such as outdoor sales, the jurisdiction is encourages to define a percentage of the total hardscape area that is eligible for the additional lighting allowance. For example, a set percentage of a car dealership's lot may be considered a display area and receive the additional lighting allowance where the remainder of the lot would be considered storage, visitor parking, etc. and cannot exceed the base light levels defined in Table A.

TABLE E EXAMPLE - PERFORMANCE METHOD - User's Guide

IX. TABLES (cont.) - Ordinance Text

Table E - Performance Method Additional Initial Lumen Allowances (cont.)

Lighting Application	LZ 0	LZ 1	LZ 2	LZ 3	LZ 4
Sales or Non-sales Canopies. This allowance is lumens per unit area for the total area within the drip line of the canopy. In order to qualify for this allowance, luminaires must be located under the canopy.	0	3/SF	6/SF	12/SF	18/SF
Guard Stations. This allowance is lumens per unit area of guardhouse plus 2000 sf per vehicle lane. In order to use this allowance, luminaires must be within 2 mounting heights of a vehicle lane or the guardhouse.	0	6/SF	12/SF	24/SF	36/SF
Outdoor Dining. This allowance is lumens per unit area for the total il-luminated hardscape of outdoor dining. In order to use this allowance, luminaires must be within 2 mounting heights of the hardscape area of outdoor dining	0	1/SF	5/SF	10/SF	15/SF
Drive Up Windows. This allowance is lumens per window. In order to use this allowance, luminaires must be within 20 feet of the center of the window.	0	2,000 lumens per drive-up window	4,000 lumens per drive-up window	8,000 lumens per drive-up window	8,000 lumens per drive-up window
Additional Lumens Allowances for Service Stations only. Service stations may not use any other additional allowances.					
Vehicle Service Station Hardscape. This allowance is lumens per unit area for the total illuminated hardscape area less area of buildings, area under canopies, area off property, or areas obstructed by signs or structures. In order to use this allowance, luminaires must be illuminating the hardscape area and must not be within a building, below a canopy, beyond property lines, or obstructed by a sign or other structure.	0	4/SF	8/SF	16/SF	24/SF

Table E - Performance Method Additional Initial Lumen Allowances (cont.)

Lighting Application	LZ 0	LZ 1	LZ 2	LZ 3	LZ 4
Vehicle Service Station Canopies. This allowance is lumens per unit area for the total area within the drip line of the canopy. In order to use this allowance, luminaires must be located under the canopy.	**0**	**8/SF**	**16/SF**	**32/SF**	**32/SF**
Additional Lumens Allowances for Outdoor Sales facilities only. Outdoor Sales facilities may not use any other additional allowances. **NOTICE:** lighting permitted by these allowances shall employ controls extinguishing this lighting after a curfew time to be determined by the Authority.					
Outdoor Sales Lots. This allowance is lumens per square foot of uncovered sales lots used exclusively for the display of vehicles or other merchandise for sale, and may not include driveways, parking or other non sales areas and shall not exceed 25% of the total hardscape area. To use this allowance, Luminaires must be within 2 mounting heights of the sales lot area.	**0**	**4/SF**	**8/SF**	**12/SF**	**18/SF**
Outdoor Sales Frontage. This allowance is for lineal feet of sales frontage immediately adjacent to the principal viewing location(s) and unobstructed for its viewing length. A corner sales lot may include two adjacent sides provided that a different principal viewing location exists for each side. In order to use this allowance, luminaires must be located between the principal viewing location and the frontage outdoor sales area.	**0**	**0**	**1,000/ LF**	**1,500/ LF**	**2,000/ LF**

IX. TABLES (cont.) - Ordinance Text

Table F Maximum Vertical Illuminance at any point in the plane of the property line

Lighting Zone 0	Lighting Zone 1	Lighting Zone 2	Lighting Zone 3	Lighting Zone 4
0.05 FC or 0.5 LUX	0.1 FC or 1.0 LUX	0.3 FC or 3.0 LUX	0.8 FC or 8.0 LUX	1.5 FC or 15.0 LUX

TABLE G RESIDENTIAL LIGHTING - User's Guide

Residential Light Levels

Most residential lighting has traditionally used incandescent lamps which are identified by their wattage. However, since new technologies provide more light for fewer watts, it is no longer possible to regulate residential lighting solely by providing a maximum wattage. Table G, therefore, lists maximum initial luminaire lumens only.

IX. TABLES (cont.) - Ordinance Text

Table G - Residential Lighting Limits

Lighting Application	LZ 0	LZ 1	LZ 2	LZ 3	LZ 4
Row 1 Maximum Allowed Luminaire Lumens* for Unshielded Luminaires at one entry only	Not allowed	420 lumens	630 lumens	630 lumens	630 lumens
Row 2 Maximum Allowed Luminaire Lumens* for each Fully Shielded Luminaire	630 lumens	1,260 lumens	1,260 lumens	1,260 lumens	1,260 lumens
Row 3 Maximum Allowed Luminaire Lumens* for each Unshielded Luminaire excluding main entry	Not allowed	315 lumens	315 lumens	315 lumens	315 lumens
Row 4 Maximum Allowed Luminaire Lumens* for each Landscape Lighting	Not allowed	Not allowed	1,050 lumens	2,100 lumens	2,100 lumens
Row 5 Maximum Allowed Luminaire Lumens* for each Shielded Directional Flood Lighting	Not allowed	Not allowed	1,260 lumens	2,100 lumens	2,100 lumens
Row 6 Maximum Allowed Luminaire Lumens* for each Low Voltage Landscape Lighting	Not allowed	Not allowed	525 lumens	525 lumens	525 lumens

*** Luminaire lumens equals Initial Lamp Lumens for a lamp, multiplied by the number of lamps in the luminaire**

X. DEFINITIONS - User's Guide

Definitions are typically generally added to any code when new code sections are added. The definitions are legally required and play a significant role in the interpretation of the ordinance and code.

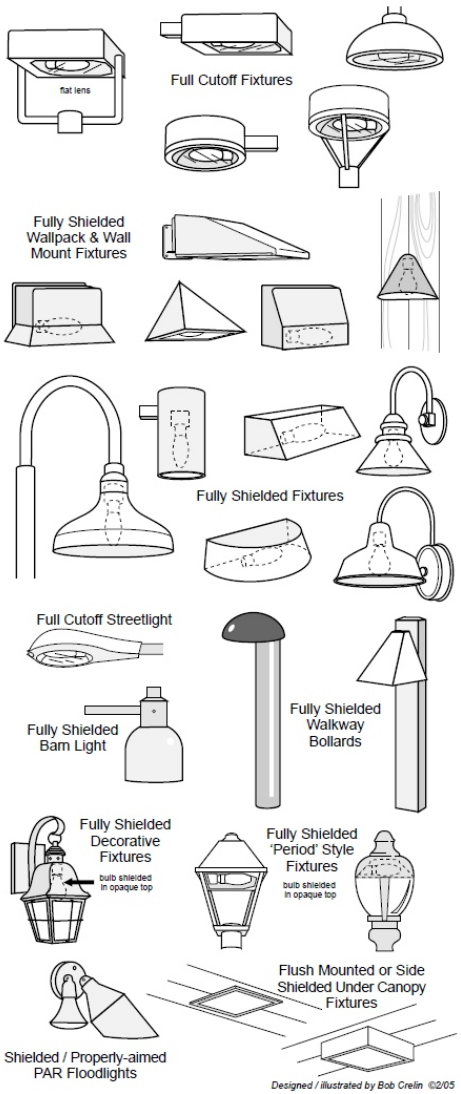
Most city attorneys will not accept references to outside sources regardless of credibility, such as the IES Handbook. Thus as a general rule, a definition for an unfamiliar term (e.g. lumens) must be added by the adopting ordinance.

When adopting or integrating the MLO definitions, be sure to retire conflicting technical terminology. In particular, the latest IES Luminaire Classification System as defined in IES TM-15-07 is likely to need attention.

X. DEFINITIONS - Ordinance Text

Absolute Photometry	Photometric measurements (usually of a solid-state luminaire) that directly measures the footprint of the luminaire. Reference Standard IES LM-79
Architectural Lighting	Lighting designed to reveal architectural beauty, shape and/or form and for which lighting for any other purpose is incidental.
Authority	The adopting municipality, agency or other governing body.
Astronomic Time Switch	An automatic lighting control device that switches outdoor lighting relative to time of solar day with time of year correction.
Backlight	For an exterior luminaire, lumens emitted in the quarter sphere below horizontal and in the opposite direction of the intended orientation of the luminaire. For luminaires with symmetric distribution, backlight will be the same as front light.
BUG	A luminaire classification system that classifies backlight (B), uplight (U) and glare (G).
Canopy	A covered, unconditioned structure with at least one side open for pedestrian and/or vehicular access. (An unconditioned structure is one that may be open to the elements and has no heat or air conditioning.)
Common Outdoor Areas	One or more of the following: a parking lot; a parking structure or covered vehicular entrance; a common entrance or public space shared by all occupants of the domiciles.
Curfew	A time defined by the authority when outdoor lighting is reduced or extinguished.

Examples of Fully Shielded Luminaires



X. DEFINITIONS - Ordinance Text

Emergency conditions	Generally, lighting that is only energized during an emergency; lighting fed from a backup power source; or lighting for illuminating the path of egress solely during a fire or other emergency situation; or, lighting for security purposes used solely during an alarm.
Footcandle	The unit of measure expressing the quantity oflight received on a surface. One footcandle is the illuminance produced by a candle on a surface one foot square from a distance of one foot.
Forward Light	For an exterior luminaire, lumens emitted in the quarter sphere below horizontal and in the direction of the intended orientation of the luminaire.
Fully Shielded Luminaire	A luminaire constructed and installed in such a manner that all light emitted by the luminaire, either directly from the lamp or a diffusing element, or indirectly by reflection or refraction from any part of the luminaire, is projected below the horizontal plane through the luminaire's lowest light-emitting part.
Glare	Lighting entering the eye directly from luminaires or indirectly from reflective surfaces that causes visual discomfort or reduced visibility.
Hardscape	Permanent hardscape improvements to the site including parking lots, drives, entrances, curbs, ramps, stairs, steps, medians, walkways and non-vegetated landscaping that is 10 feet or less in width. Materials may include concrete, asphalt, stone, gravel, etc.
Hardscape Area	The area measured in square feet of all hardscape. It is used to calculate the Total Site Lumen Limit in both the Prescriptive Method and Performance Methods. Refer to Hardscape definition.

X. DEFINITIONS - Ordinance Text

Hardscape Perimeter	The perimeter measured in linear feet is used to calculate the Total Site Lumen Limit in the Performance Method. Refer to Hardscape definition.
IDA	International Dark-Sky Association.
IESNA	Illuminating Engineering Society of North America.
Impervious Material	Sealed to severely restrict water entry and movement
Industry Standard Lighting Software	Lighting software that calculates point-by-point illuminance that includes reflected light using either ray-tracing or radiosity methods.
Lamp	A generic term for a source of optical radiation (i.e. "light"), often called a "bulb" or "tube". Examples include incandescent, fluorescent, high-intensity discharge (HID) lamps, and low pressure sodium (LPS) lamps, as well as light-emitting diode (LED) modules and arrays.
Landscape Lighting	Lighting of trees, shrubs, or other plant material as well as ponds and other landscape features.
LED	Light Emitting Diode.
Light Pollution	Any adverse effect of artificial light including, but not limited to, glare, light trespass, sky-glow, energy waste, compromised safety and security, and impacts on the nocturnal environment.

X. DEFINITIONS - Ordinance Text

Light Trespass	Light that falls beyond the property it is intended to illuminate.
Lighting	"Electric" or "man-made" or "artificial" lighting. See "lighting equipment".
Lighting Equipment	Equipment specifically intended to provide gas or electric illumination, including but not limited to, lamp(s), luminaire(s), ballast(s), poles, posts, lens(s), and related structures, electrical wiring, and other necessary or auxiliary components.
Lighting Zone	An overlay zoning system establishing legal limits for lighting for particular parcels, areas, or districts in a community.
Lighting Equipment	Equipment specifically intended to provide gas or electric illumination, including but not limited to, lamp(s), luminaire(s), ballast(s), poles, posts, lens(s), and related structures, electrical wiring, and other necessary or auxiliary components.
Low Voltage Landscape Lighting	Landscape lighting powered at less than 15 volts and limited to luminaires having a rated initial luminaire lumen output of 525 lumens or less.
Lumen	The unit of measure used to quantify the amount of light produced by a lamp or emitted from a luminaire (as distinct from "watt," a measure of power consumption).
Luminaire	The complete lighting unit (fixture), consisting of a lamp, or lamps and ballast(s) (when applicable), together with the parts designed to distribute the light (reflector, lens, diffuser), to position and protect the lamps, and to connect the lamps to the power supply.

***Mounting Height*: The horizontal spacing of poles is often measured in units of "mounting height". Example: "The luminaires can be spaced up to 4 mounting heights apart."**

X. DEFINITIONS - Ordinance Text

Luminaire Lumens	For luminaires with relative photometry per IES, it is calculated as the sum of the initial lamp lumens for all lamps within an individual luminaire, multiplied by the luminaire efficiency. If the efficiency is not known for a residential luminaire, assume 70%. For luminaires with absolute photometry per IES LM-79, it is the total luminaire lumens. The lumen rating of a luminaire assumes the lamp or luminaire is new and has not depreciated in light output.
Lux	The SI unit of illuminance. One lux is one lumen per square meter. 1 Lux is a unit of incident illuminance approximately equal to 1/10 footcandle.
Mounting height	The height of the photometric center of a luminaire above grade level.
New lighting	Lighting for areas not previously illuminated; newly installed lighting of any type except for replacement lighting or lighting repairs.
Object	A permanent structure located on a site. Objects may include statues or artwork, garages or canopies, outbuildings, etc.
Object Height	The highest point of an entity, but shall not include antennas or similar structures.
Ornamental lighting	Lighting that does not impact the function and safety of an area but is purely decorative, or used to illuminate architecture and/or land-scaping, and installed for aesthetic effect.

X. DEFINITIONS - Ordinance Text

Ornamental Street Lighting	A luminaire intended for illuminating streets that serves a decorative function in addition to providing optics that effectively deliver street lighting. It has a historical period appearance or decorative appearance, and has the following design characteristics: · designed to mount on a pole using an arm, pendant, or vertical tenon; · opaque or translucent top and/or sides; · an optical aperture that is either open or enclosed with a flat, sag or drop lens; · mounted in a fixed position; and · with its photometric output measured using Type C photometry per IESNA LM-75-01.
Outdoor Lighting	Lighting equipment installed within the property line and outside the building envelopes, whether attached to poles, building structures, the earth, or any other location; and any associated lighting control equipment.
Partly shielded luminaire	A luminaire with opaque top and translucent or perforated sides, designed to emit most light downward.
Pedestrian Hardscape	Stone, brick, concrete, asphalt or other similar finished surfaces intended primarily for walking, such as sidewalks and pathways.
Photoelectric Switch	A control device employing a photocell or photodiode to detect daylight and automatically switch lights off when sufficient daylight is available.
Property line	The edges of the legally-defined extent of privately owned property.

X. DEFINITIONS - Ordinance Text

Relative photometry	Photometric measurements made of the lamp plus luminaire, and adjusted to allow for light loss due to reflection or absorption within the luminaire. Reference standard: IES LM-63.
Repair(s)	The reconstruction or renewal of any part of an existing luminaire for the purpose of its on-going operation, other than relamping or replacement of components including capacitor, ballast or photocell. Note that retrofitting a luminaire with new lamp and/or ballast technology is not considered a repair and for the purposes of this ordinance the luminaire shall be treated as if new. "Repair" does **not** include normal relamping or replacement of components including capacitor, ballast or photocell.
Replacement Lighting	Lighting installed specifically to replace existing lighting that is sufficiently broken to be beyond repair.
Sales area	Uncovered area used for sales of retail goods and materials, including but not limited to automobiles, boats, tractors and other farm equipment, building supplies, and gardening and nursery products.
Seasonal lighting	Temporary lighting installed and operated in connection with holidays or traditions.
Shielded Directional Luminaire	A luminaire that includes an adjustable mounting device allowing aiming in any direction and contains a shield, louver, or baffle to reduce direct view of the lamp.
Sign	Advertising, directional or other outdoor promotional display of art, words and/or pictures.

X. DEFINITIONS - Ordinance Text

Sky Glow	The brightening of the nighttime sky that results from scattering and reflection of artificial light by moisture and dust particles in the atmosphere. Skyglow is caused by light directed or reflected upwards or sideways and reduces one's ability to view the night sky.
Temporary lighting	Lighting installed and operated for periods not to exceed 60 days, completely removed and not operated again for at least 30 days.
Third Party	A party contracted to provide lighting, such as a utility company.
Time Switch	An automatic lighting control device that switches lights according to time of day.
Translucent	Allowing light to pass through, diffusing it so that objects beyond cannot be seen clearly (not transparent or clear).
Unshielded Luminaire	A luminaire capable of emitting light in any direction including downwards.
Uplight	For an exterior luminaire, flux radiated in the hemisphere at or above the horizontal plane.
Vertical Illuminance	Illuminance measured or calculated in a plane perpendicular to the site boundary or property line.

XI. OPTIONAL STREETLIGHT ORDINANCE - User's Guide

This section was added since the first public review. It is designed to work closely with the proposed revision to ANSI/IES RP-8 Standard Practice for Roadway and Street Lighting.

Street and roadway lighting is one of the world's largest causes of artificial skyglow. Many adopting agencies will recognize that the MLO will make privately owned lighting more efficient and environmentally responsible than their street lighting systems. But because the process of designing street lighting often requires more precise lighting calculations, applying the MLO directly to street lighting is not advised. Using existing standards of street lighting is recommended, particularly IES RP-8 and AASHTO standards.

Until a new recommended practice for street lighting can be developed, this section can serve to prevent most of the uplight of street lighting systems without setting specific requirements for the amount of light, uniformity of light, or other performance factors. Adopting agencies should include these basic improvements to street lighting along with regulations to private lighting.

Lighting streets with "period" ornamental luminaires that evoke the look of a time when the light source was a gas flame can cause glare if high-lumen lamps are used. Such ornamental street lights should not exceed a BUG rating of G1. If additional illuminance and/or uniformity is desired, the ornamental fixtures should be supplemented by higher mounted fully shielded luminaires, as illustrated in RP-33-99.

Few street lighting warranting processes exist. The adopting agency needs to gauge whether a complex warranting systems is required, or if a simple one using posted speeds, presence of pedestrians, or other practical considerations is sufficient.

Examples of a current street lighting warranting system are included in the Transportation Association of Canada's Guide for the Design of Roadway Lighting 2006.

XI. OPTIONAL STREETLIGHT ORDINANCE - Ordinance Text

Note to the adopting authority: the intent of this section is that it only applies to streets and not to roadways or highways.

A. Preamble

The purpose of this Ordinance is to control the light pollution of street lighting, including all collectors, local streets, alleys, sidewalks and bikeways, as defined by ANSI/IES RP-8 Standard Practice for Roadway and Street Lighting and in a manner consistent with the Model Lighting Ordinance.

B. Definitions

Roadway or Highway lighting is defined as lighting provided for freeways, expressways, limited access roadways, and roads on which pedestrians, cyclists, and parked vehicles are generally not present. The primary purpose of roadway or highway lighting is to help the motorist remain on the roadway and help with the detection of obstacles within and beyond the range of the vehicle's headlights.

Street lighting is defined as lighting provided for major, collector, and local roads where pedestrians and cyclists are generally present. The primary purpose of street lighting is to help the motorist identify obstacles, provide adequate visibility of pedestrians and cyclists, and assist in visual search tasks, both on and adjacent to the roadway.

Ornamental Street Lighting is defined as a luminaire intended for illuminating streets that serves a decorative function in addition to providing optics that effectively deliver street lighting. It has a historical period appearance or decorative appearance, and has the following design characteristics:

- designed to mount on a pole using an arm, pendant, or vertical tenon;
- opaque or translucent top and/or sides;
- an optical aperture that is either open or enclosed with a flat, sag or drop lens;
- mounted in a fixed position; and
- with its photometric output measured using Type C photometry per IESNA LM-75-01.

XI. OPTIONAL STREETLIGHT ORDINANCE - Ordinance Text

C. Scope

All street lighting not governed by regulations of federal, state or other superceding jurisdiction.

EXCEPTION: lighting systems mounted less than 10.5 feet above street level and having less than 1000 initial lumens each.

D. Master Lighting Plan

The Authority shall develop a Master Lighting Plan based on the American Association of State Highway and Transportation Officials (AASHTO) Roadway Lighting Design Guide GL-6, October 2005, Chapter 2. Such plan shall include, but not be limited to, the Adoption of Lighting Zones and:

1. Goals of street lighting in the jurisdiction by Lighting Zone
2. Assessment of the safety and security issues in the jurisdiction by Lighting Zone
3. Environmentally judicious use of resources by Lighting Zone
4. Energy use and efficiency by Lighting Zone
5. Curfews to reduce or extinguish lighting when no longer needed by Lighting Zone

E. Warranting

The Authority shall establish a warranting process to determine whether lighting is required. Such warranting process shall not assume the need for any lighting nor for continuous lighting unless conditions warrant the need. Lighting shall only be installed where warranted.

XI. OPTIONAL STREETLIGHT ORDINANCE - Ordinance Text

F. Light Shielding and Distribution

All street lighting shall have no light emitted above 90 degrees.

Exception: Ornamental street lighting for specific districts or projects shall be permitted by special permit only, and shall meet the requirements of Table H below without the need for external field-added modifications.

Table H - Uplight Control Requirements for Ornamental Street Lights - by Special Permit Only

Lighting Zone	Maximum Uplight Rating
LZ-0	U-0
LZ-1	U-1
LZ-2	U-2
LZ-3	U-3
LZ-4	U-4

File Attachments for Item:

A. ORDINANCE NO. 3001: AN ORDINANCE OF THE CITY COMMISSION OF THE CITY OF LIVINGSTON, MONTANA, AMENDING SECTION 30.13 OF THE LIVINGSTON MUNICIPAL CODE ENTITLED OFFICIAL ZONING MAP OF THE CITY OF LIVINGSTON BY ZONING A PARCEL GENERALLY KNOWN AS 1607 MOUNTAIN VIEW LANE AND LEGALLY DESCRIBED AS COS 2625, PARCEL TRACT 5, CONSISTING OF .28742 ACRES MORE OR LESS IN SECTION 23, TOWNSHIP TWO SOUTH (T02S), RANGE NINE EAST (R09E) AS MEDIUM DENSITY RESIDENTIAL (R-II).

ORDINANCE NO. 3001

AN ORDINANCE OF THE CITY COMMISSION OF THE CITY OF LIVINGSTON, MONTANA, AMENDING SECTION 30.13 OF THE LIVINGSTON MUNICIPAL CODE ENTITLED OFFICIAL ZONING MAP OF THE CITY OF LIVINGSTON BY ZONING A PARCEL GENERALLY KNOWN AS 1607 MOUNTAIN VIEW LANE AND LEGALLY DESCRIBED AS COS 2625, PARCEL TRACT 5, CONSISTING OF .28742 ACRES MORE OR LESS IN SECTION 23, TOWNSHIP TWO SOUTH (T02S), RANGE NINE EAST (R09E) AS MEDIUM DENSITY RESIDENTIAL (R-II).

*** * * * ***

Preamble.

The purpose of this Ordinance is to promote public health, safety and general welfare of the City by regulating the height, number of stories and size of buildings and other structures, the percentage of lot that may be occupied, the size of yards, courts and other open spaces, the density of population, and the location and use of buildings, structures, and land for trade, industry, residence or other purposes**.**

****

WHEREAS, Section 30.71 of the City of Livingston Code of Ordinances authorizes the City Commission to amend the officially adopted Zoning Map;

WHEREAS, the amendments meet the criteria and guidelines for zoning regulations as required by Section 76-2-304 of Montana Code Annotated;

WHEREAS, the City Commission of the City of Livingston, Montana annexed the Subject Parcel by passing Resolution 4922 on September 1, 2020;

WHEREAS, being within the jurisdiction of the City, the parcel is required by the City's Zoning Ordinance to be given a zoning designation;

WHEREAS, the amendment meets the Lowe Test for rezoning property; and

WHEREAS, the City of Livingston Zoning Commission, after a public hearing, voted unanimously (4:0) to recommend approval of the zoning of the parcel to Medium Density Residential (R-II) on the Zoning Map to the City Commission;

NOW, THEREFORE, BE IT ORDAINED by the City Commission that Sec. 30.13 of the Livingston Municipal Code entitled Official Zoning Map, be and the same is hereby amended as follows:

SECTION 1

Zoning of a parcel addressed as 1607 Mountain View Lane and legally described as Certificate of Certificate of Survey 2625, Parcel Tract 5, consisting of .28742 acres more or less in Section 23 (S23) of Township 2 South (T02S), Range 9 East (R09E) as shown in Exhibit A as Medium Density Residential (R-II) .

SECTION 2

Statutory Interpretation and Repealer:

Any and all resolutions. ordinances and sections of the Livingston Municipal Code and parts thereof in conflict herewith are hereby repealed.

SECTION 3

Severability:

If any provision of this ordinance or the application thereof to any person or circumstance is held invalid by a court having competent jurisdiction. such invalidity shall not affect the other provisions of this ordinance which may be given effect without the invalid provisions or application, and to this end, the provisions of this ordinance are declared to be severable.

SECTION 4

Savings provision:

This ordinance does not affect the rights or duties that mature, penalties and assessments that were incurred or proceedings that begun before the effective date of this ordinance.

SECTION 6

Effective date:

This ordinance will become effective 30 days after the second reading and final adoption.

PASSED by the City Commission of the City of Livingston, Montana, on first reading at a regular session thereof held on the _____ day of February, 2021.

_____

DOREL HOGLUND – Chair

ATTEST:

_____

FAITH KINNICK
Recording Secretary

****

PASSED ADOPTED, AND APPROVED by the City Commission of the City of Livingston, Montana, on second reading at a regular session thereof held on the _____ day of March, 2021.

_____

DOREL HOGLUND – Chair

ATTEST:

APPROVED AS TO FORM:

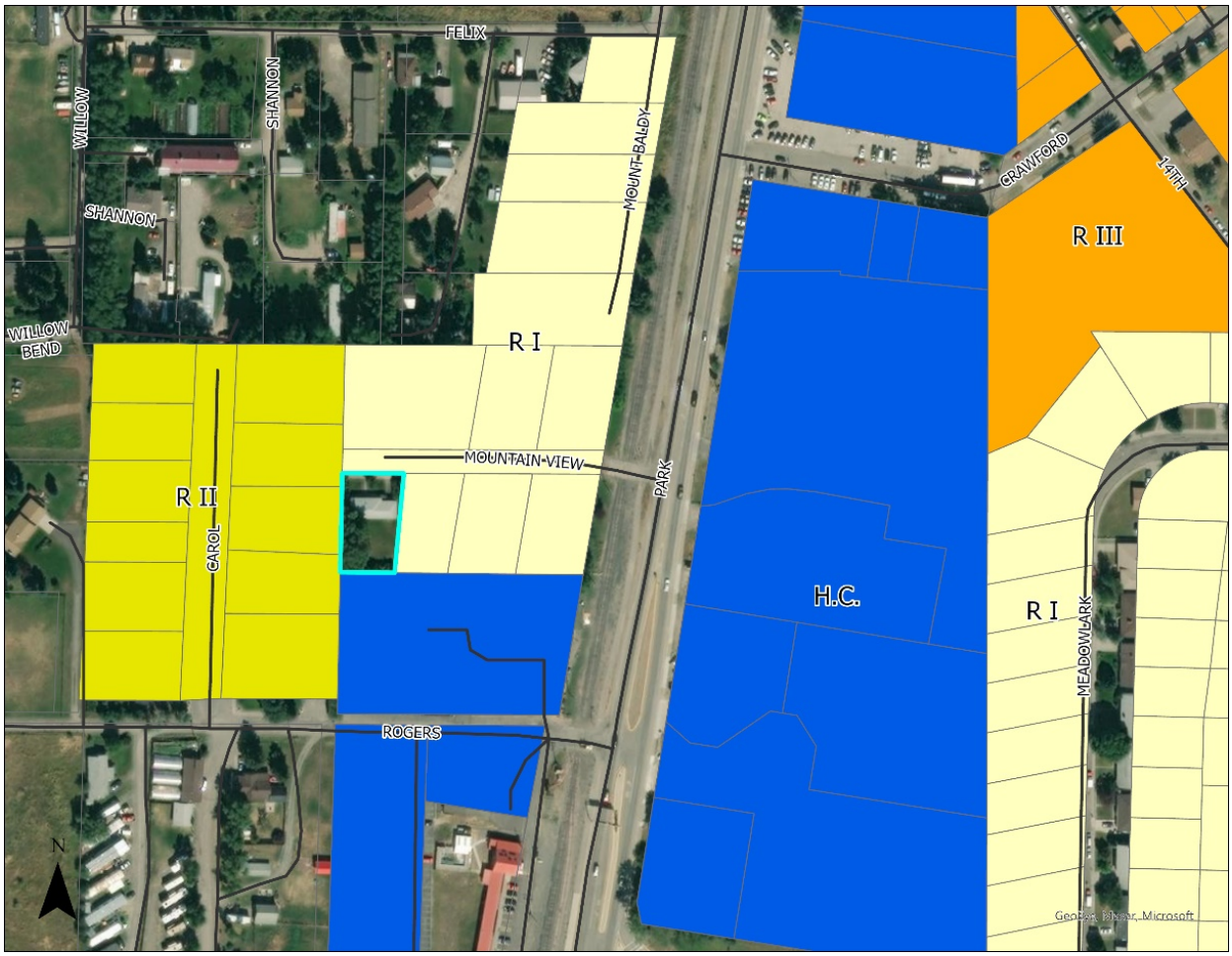
_____

FAITH KINNICK
Recording Secretary

_____

COURTNEY LAWELLIN
City Attorney

EXHIBIT A


FELIX
WILLOW
SHANNON
SHANNON
MOUNT BALDY
CRAWFORD
14TH
R III
WILLOW BEND
R I
MOUNTAIN VIEW
PARK
R II
CAROL
H.C.
R I
MEADOWLARK
ROGERS
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Maxar, Microsoft

LEGAL NOTICE OF PUBLIC HEARING BEFORE THE CITY OF LIVINGSTON CITY COMMISSION

A public hearing before the Livingston City Commission will be held at 5:30 p.m. on Tuesday, February 2, 2021 virtually via Zoom (details below).

Mayor's Landing Zone Map Amendment: The Purpose of this hearing is to receive public comment regarding a Zone Map Amendment from the provisions of Chapter 30 of the Livingston Municipal Code. Specifically, the amendment is to zone the parcel commonly known as Mayor's Landing/ Moja Dog Park, the driving range, and the roping arena, addressed as 97 View Vista Drive, as it has been annexed into the City. The parcel is legally described as Section Eighteen (S18), Township Two South (T02S), Range Ten East (R10E), Por. NW4 Less COS 1245 (all between two (2) channels of the Yellowstone River N. of County Rd. from H St. Bridge to former Harvat Bridge less pieces sold). The proposed zoning for the parcel is Public (P). The Zoning Commission heard the item at their January 12, 2021 meeting and unanimously voted (4:0) to recommend approval of the zoning amendment.

1607 Mountain View Drive Zone Map Amendment: The Purpose of this hearing is to receive public comment regarding a Zone Map Amendment from the provisions of Chapter 30 of the Livingston Municipal Code. Specifically, the amendment is to zone the parcel addressed as 1607 Mountain View Lane, as it has been annexed into the City. The parcel is legally described as Certificate of Certificate of Survey No. 2625, Parcel Tract 5, consisting of .28742 acres more or less in Section 23 (S23) of Township 2 South (T02S), Range 9 East (R09E). The proposed zoning for the parcel is Medium Density Residential (R-II). The Zoning Commission heard the item at their January 12, 2021 meeting and unanimously voted (4:0) to recommend approval of the zoning amendment.

For further information, please contact the City Planning Office at (406)222-4903 or planning@livingstonmontana.org.

To attend via Zoom please use the link or call the phone number below, the passcode listed will be required to join the meeting:

Join Zoom Meeting
https://us02web.zoom.us/j/86790413363?pwd=UkhneE0xWDBpcWFaRnVmVnU3S2FjUT09

Telephone: (669) 900 9128

Meeting ID: 867 9041 3363

Passcode: 607233

Mathieu Menard
City Planner

PLEASE PUBLISH ON FRIDAY, JANUARY 15, 2021

File Attachments for Item:

B. ORDINANCE NO. 3002: AN ORDINANCE OF THE CITY COMMISSION OF THE CITY OF LIVINGSTON, MONTANA, AMENDING SECTION 30.13 OF THE LIVINGSTION MUNICIPAL CODE ENTITLED OFFICIAL ZONING MAP OF THE CITY OF LIVINGSTON BY ZONING A PARCEL GENERALLY KNOWN AS MAYOR'S LANDING/ MOJA PARK AND LEGALLY DESCRIBED AS SECTION EIGHTEEN (S18), TOWNSHIP TWO SOUTH (T02S), RANGE TEN EAST (R10E), POR. NW4 LESSCOS 1245 (ALL BETWEEN TWO (2) CHANNELS OF THE YELLOWSTONE RIVER N. OF COUNTY RD. FROM H ST. BRIDGE TO FORMER HARVAT BRIDGE LESS PIECES SOLD) AS PUBLIC (P).

ORDINANCE NO. 3002

AN ORDINANCE OF THE CITY COMMISSION OF THE CITY OF LIVINGSTON, MONTANA, AMENDING SECTION 30.13 OF THE LIVINGSTION MUNICIPAL CODE ENTITLED OFFICIAL ZONING MAP OF THE CITY OF LIVINGSTON BY ZONING A PARCEL GENERALLY KNOWN AS MAYOR'S LANDING/ MOJA PARK AND LEGALLY DESCRIBED AS SECTION EIGHTEEN (S18), TOWNSHIP TWO SOUTH (T02S), RANGE TEN EAST (R10E), POR. NW4 LESSCOS 1245 (ALL BETWEEN TWO (2) CHANNELS OF THE YELLOWSTONE RIVER N. OF COUNTY RD. FROM H ST. BRIDGE TO FORMER HARVAT BRIDGE LESS PIECES SOLD) AS PUBLIC (P).

*** * * * ***

Preamble.

The purpose of this Ordinance is to promote public health, safety and general welfare of the City by regulating the height, number of stories and size of buildings and other structures, the percentage of lot that may be occupied, the size of yards, courts and other open spaces, the density of population, and the location and use of buildings, structures, and land for trade, industry, residence or other purposes**.**

****

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WHEREAS, the amendment meets the Lowe Test for rezoning property; and

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If any provision of this ordinance or the application thereof to any person or circumstance is held invalid by a court having competent jurisdiction. such invalidity shall not affect the other provisions of this ordinance which may be given effect without the invalid provisions or application, and to this end, the provisions of this ordinance are declared to be severable.

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Effective date:

This ordinance will become effective 30 days after the second reading and final adoption.

PASSED by the City Commission of the City of Livingston, Montana, on first reading at a regular session thereof held on the _____ day of February, 2021.

_____

DOREL HOGLUND – Chair

ATTEST:

_____

FAITH KINNICK
Recording Secretary

****

PASSED ADOPTED, AND APPROVED by the City Commission of the City of Livingston, Montana, on second reading at a regular session thereof held on the _____ day of March, 2021.

_____

DOREL HOGLUND – Chair

ATTEST:

APPROVED AS TO FORM:

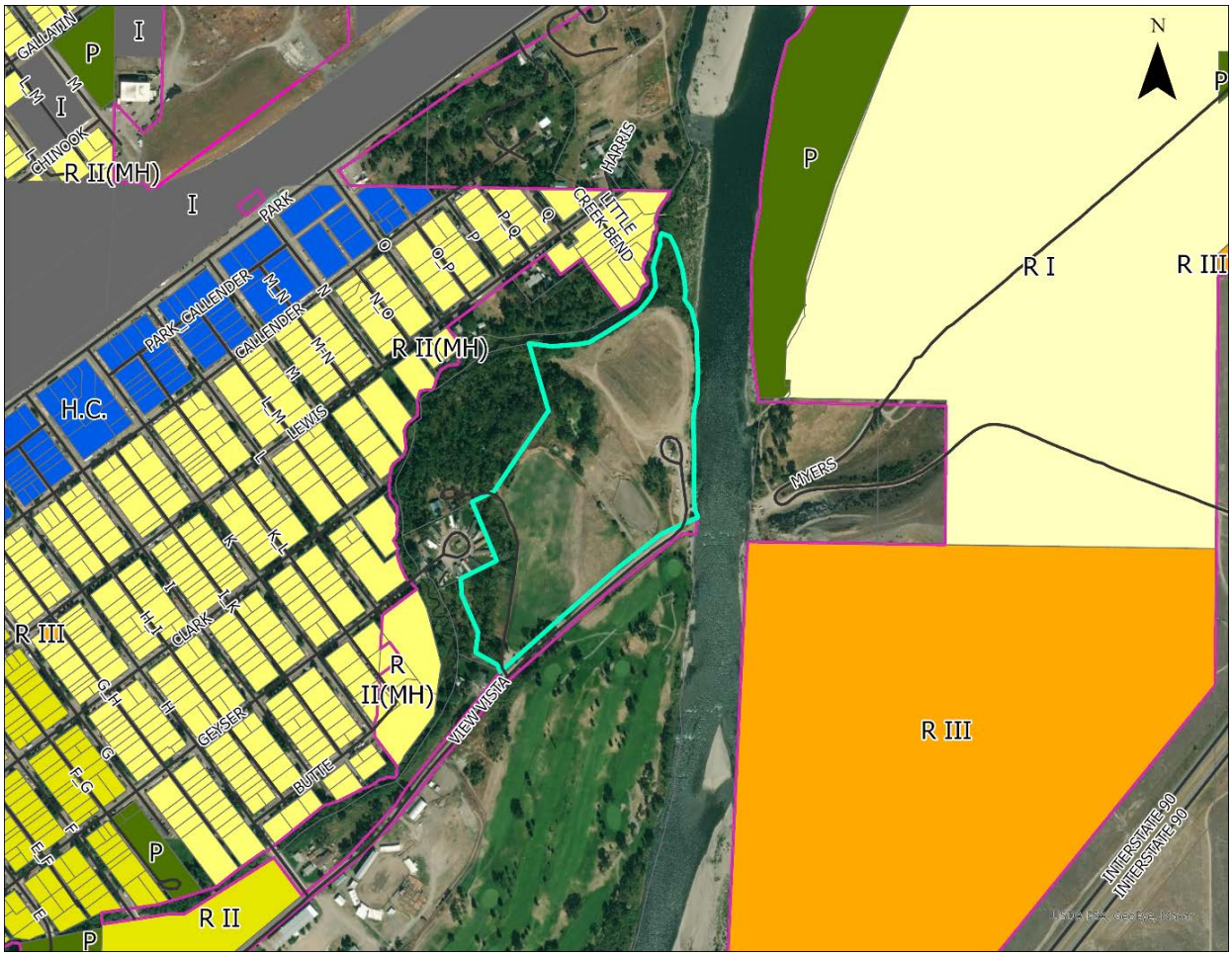
_____

FAITH KINNICK
Recording Secretary

_____

COURTNEY LAWELLIN
City Attorney

EXHIBIT A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BUTTE
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Telephone: (669) 900 9128

Meeting ID: 867 9041 3363

Passcode: 607233

Mathieu Menard
City Planner

PLEASE PUBLISH ON FRIDAY, JANUARY 15, 2021

File Attachments for Item:

A. ORDINANCE NO. 3003: AN ORDINANCE OF THE CITY COMMISSION OF THE CITY OF LIVINGSTON, MONTANA, AMENDING ARTICLE II, ARTICLE IV and ARTICLE V, CHAPTER 30 OF THE LIVINGSTON MUNICIPAL CODE ENTITLED ZONING AS IT PERTAINS TO TEXT AMENDMENTS REGARDING MARIJUANA PRODUCTION FACILITY, HEALTH AND EXERCISE ESTABLISHMENT, RETAIL, AND LARGE-SCALE RETAIL.

February 3, 2021

STAFF REPORT
TEXT AMENDMENT – MARIJUANA PRODUCTION FACILITY, HEALTH AND EXERCISE ESTABILISHMENT, RETAIL, AND LARGE-SCALE RETAIL

Background

Planning staff has proposed an amendment to the City Zoning Ordinance to modify the current definition of "medical marijuana facility" to "marijuana production facility" to incorporate updates to Montana State Law regarding the possession and use of marijuana. A new definition of "retail" has been proposed to clarify what is considered a retail use, including the sale of alcohol and marijuana. A new definition of "retail, large-scale" has been proposed to reflect the desire of the community to regulate "big box" stores. Large-scale retail has been proposed to be added as a special exception in the CBD, HC, LI, and I zoning districts. All special exception permits require a public hearing and approval by the City Commission. Additionally, large-scale retail is proposed to be subject to the building design standards (Sec. 30.46). Finally, a new definition of "health and exercise establishment" is proposed to be added, as there are several gyms, yoga studios, and other exercise establishments throughout the City and the Zoning Ordinance does not address these uses. Health and exercise establishments are proposed to be added as an allowed use in the NC, CBD, HC, and LI Zoning Districts, and a Special Exception in the I and P Zoning Districts. Parking standards have been added for health and exercise establishments as no similar use was found in the parking tables.

The Planning Board and Zoning Commission have been working on large-scale retail ordinances for several years, specifically updated design and site improvement standards. The defining of large-scale retail is not intended to be the end of this process, as no additional standards are proposed with the definition update. Based on conversations with the Zoning Commission, there is a desire to require a more detailed review of large-scale retail uses. By requiring a Special Exception Permit for all Zoning Districts in which large-scale retail uses are permitted, all proposed retail structures over 30,000 square feet of gross floor area or outdoor space would require a public hearing, and conditions of approval could be placed upon any approval to mitigate potential impacts of the use. An area of 30,000 square feet was chosen as, according to Montana Cadastral data, the existing uses that would be considered big box style development (large parking lot in front of a single large building) are all over 30,000 square feet of gross floor area:

- Albertsons- approximately 42,000 square feet
- Murdoch's- approximately 36,000 square feet
- Town and Country- approximately 35,000 square feet
- New Kenyon Noble location- approximately 42,000 square feet

The proposed only applies to single-tenants uses over 30,000 square feet and would not apply to locations such as the Yellowstone Gateway Mall or multi-tenant downtown retail.

Proposed Findings of Fact

Proposed Zoning Updates: Significant changes to the Zoning Ordinance can be below, all changes proposed can be found in a strikethrough-underline version included as Attachment I.

"Health and exercise establishment" means an establishment designed and equipped for the conduct of sports, exercise activities and other customary and usual recreational activities. Permitted accessory uses include child care, sun tanning booths, massage, health and nutrition counseling services, retail sales of sporting goods and restaurant services.

"Marijuana production facility" means an establishment where marijuana or marijuana products are grown, cultivated, manufactured or processed.

"Retail" means the rental or sale of tangible personal property. Includes alcohol and marijuana sales.

"Retail, large-scale" means the rental or sale of tangible personal property where the total area utilized by a single tenant occupies 30,000 square feet or more of gross floor area or outdoor space, exclusive of parking.

Design Standards Administration. The building design standards and review procedures contained herein shall apply to all large-scale retail uses, and all nonresidential property annexed into the City and falling within the Gateway Overlay Zoning District, which has been mapped and amended to the City's Official Zoning Map. If meeting the above criteria, all new construction, exterior remodels and additions to existing buildings will be subject to the following application and review process

Criteria and Guidelines for Zoning Regulations (MCA 76-2-304): *(1) Zoning regulations must be:*

(a) made in accordance with a growth policy:

Staff Comments:

- The Growth Policy does not specifically address any of the proposed definition changes or uses.
- Goal 2, "Preserve Livingston's quality of life and community character", Objectives 1, 2, and 3 (Attachment II) discusses improving the City'**s** entranceways, updating the building design standards, and preserving Livingston's historic quality, requiring that all large-scale retail uses be subject to the building design standards is a step towards achieving these goals and objectives.

(b) designed to:

(i) secure safety from fire and other dangers;

Staff Comments:

- The proposed updates should have no effect on safety as all structures must continue to meet building and fire code.

(ii) promote public health, public safety, and the general welfare; and

Staff Comments:

- The proposed amendments should not have an effect on health, public safety, and general welfare. The definition update does not propose any use that is not currently present within the City.
- The updates to the use table to address health and exercise facilities and large-scale retail should ensure that the newly defined uses are compatible with neighboring properties.
- Listing large-scale retail as a Special Exception in all districts it is allowed, allows the City Commission to review the use for impacts on health, safety, and public welfare, and can condition any approval to mitigate those impacts. Additionally, listing heath and exercise facilities as a special use in the Industrial district ensures that existing uses that could be health and safety concerns are examined prior to allowing an exercise facility.

(iii) facilitate the adequate provision of transportation, water, sewerage, schools, parks, and other public requirements.

Staff Comments:

- The defining of the proposed uses should have no effect on the provision of services.
- Listing large-scale retail as a Special Exception in all districts it is allowed, allows the City Commission to review the use for impacts on City Services, and can condition any approval to mitigate those impacts.
- As no new residential uses are proposed or defined there should be extremely limited impacts on schools and parks due to the Zoning Amendment.

(2) In the adoption of zoning regulations, the municipal governing body shall consider:

(a) reasonable provision of adequate light and air;

Staff Comments:

- The proposed amendments should not have any impact on light and air, no changes to setbacks or building heights are proposed.

(b) the effect on motorized and nonmotorized transportation systems;

Staff Comments:

- The proposed definition updates and uses should have minimal impact on transportation systems other than large-scale retail. Large-scale retail has been listed as a Special Exception in all districts it is allowed within, allowing the use to be examined and conditioned to mitigate any potential transportation impacts prior to any approval.
- Health and exercise establishments are proposed to require one (1) off-street parking space per 200 square feet of gross floor area, plus three (3) per court. All other updated uses have existing parking standards.

(c) promotion of compatible urban growth;

Staff Comments:

- The Zoning updates specifically address compatible uses by requiring Special Exception permits for large-scale retail, a potentially more impactful use, and health and exercise facilities in the Industrial Zoning District which could be incompatible with existing heavy industrial uses.

(d) the character of the district and its peculiar suitability for particular uses;

Staff Comments:

- As noted above potentially incompatible uses require a Special Exception Permit and public hearing prior to any approvals.
- All definition changes or updates relate to existing uses within the City and are generally compatible with neighboring land uses of the same category.

(e) conserving the value of buildings and encouraging the most appropriate use of land throughout the jurisdictional area.

Staff Comments:

- The proposed Zoning Amendment should have no direct effect on the value of land.

Public Hearing

Staff Recommendation

The Zoning Coordinator believes that the new language listed above meets both the requirements of State Statute and the needs of the City of Livingston. Staff recommends that the Commission adopt the proposed zone text amendment.

Goal 2: Preserve Livingston's quality of life and community character.

Objectives:

1. Review and update Livingston's roadway entrancements to maintain a vibrant community appearance.
2. Review, update, and enforce the policies, procedures, and building design guidelines in Livingston's gateways.
3. Develop and enforce policies and procedures to preserve Livingston's historic quality.

Goal 3: Develop infrastructure to enhance community services and improve public safety for Livingston residents.

Objectives:

1. With the involvement of County Planning representatives, determine an envelope for logical growth of the City of Livingston and the areas most likely to be annexed by the City.
2. Continue maintaining and updating critical infrastructure including fiber optic connectivity.
3. Improve access to the north side to promote safety and accommodate growth.
4. Update and follow the annexation policy to maintain public safety, and ensure efficient use of public infrastructure.
5. Update and review land use regulations to fulfill the needs and desires of the community.
6. Review existing recycling programs and develop recommendations for enhancement.

ORDINANCE NO. 3003

AN ORDINANCE OF THE CITY COMMISSION OF THE CITY OF LIVINGSTON, MONTANA, AMENDING ARTICLE II, ARTICLE IV and ARTICLE V, CHAPTER 30 OF THE LIVINGSTON MUNICIPAL CODE ENTITLED ZONING AS IT PERTAINS TO TEXT AMENDMENTS REGARDING MARIJUANA PRODUCTION FACILITY, HEALTH AND EXERCISE ESTABLISHMENT, RETAIL, AND LARGE-SCALE RETAIL.

* * * * *

Preamble.

The purpose of this Ordinance is to promote public health, safety and general welfare of the City by regulating the height, number of stories and size of buildings and other structures, the percentage of lot that may be occupied, the size of yards, courts and other open spaces, the density of population, and the location and use of buildings, structures, and land for trade, industry, residence or other purposes**.**

*****

WHEREAS, Section 30.71 of the City of Livingston Code of Ordinances authorizes the City Commission to amend the text of the officially adopted Zoning Ordinance;

WHEREAS, the amendments meet the criteria and guidelines for zoning regulations as required by Section 76-2-304 of Montana Code Annotated;

WHEREAS, the amendments meet the goals and objectives of the Growth Policy as adopted by the City of Livingston; and

WHEREAS, the City of Livingston Zoning Commission voted unanimously (5:0) to recommend approval of the amendments to the Zoning Ordinance to the City Commission;

NOW, THEREFORE, BE IT ORDAINED by the City Commission of the City of Livingston, Montana, as follows:

SECTION 1

That Chapter 30- Zoning Ordinance, Article II- Definitions, Article IV- District Regulations and Article V- Supplementary General Requirements, be amended as follows with deletions struck-through and additions underlined as follows:

Chapter 30 - ZONING

Articles

Article II. - Definitions

For the purpose of the ordinance, certain terms or words used herein are defined as follows: The word "person" includes a firm, association, organization, partnership, trust, company or corporation as well as an individual; the present tense includes the future tense, the singular number includes the plural, and the plural number includes the singular; the word "shall" is mandatory, the word "may" is permissive; the words "used" or "occupied" include the words "intended," "designated," or "arranged to be used or occupied," and the word "lot" includes the words "plot" or "parcel."

"Accessory" means a use, a building or structure, part of a building or other structure, which is subordinate to, and the use of which is incidental to that of the main building or structure or the use on the

same lot, including a private garage. If an accessory building is attached to the main building by a common wall or roof such accessory building shall be considered a part of the main building.

"Adult book store" means a commercial establishment having a substantial portion of its stock in trade consisting of books, magazines, photographs, films, DVD and videos which emphasize, depict or relate to nudity or sexually explicit material and whose clientele must be of at least eighteen (18) years of age.

"Adult movie theater" means a commercial establishment which presents or shows XXX-rated movies, DVDs or videos on a screen or television.

Alley: See Street.

"Alteration" means a change or rearrangement of the structural parts of existing facilities, a reduction in the size of the structure, or an enlargement by extending the sides or increasing the height or depth, or the moving from one location to another.

"Bars, taverns, cocktail lounges" means an establishment where alcoholic beverages are sold and consumed on the premises even if such sales are incidental to or accessory to the principal business of such establishment.

"Bed and breakfast" means a commercial business operated in a house which is used partially or primarily for providing overnight accommodations to the public even though the owner may live on the premises. The accommodations for a bed and breakfast shall have no more than five (5) guest rooms. Breakfast is the only meal served on the premises, is included in the charge for the room, and there is no other food or beverage served upon the premises.

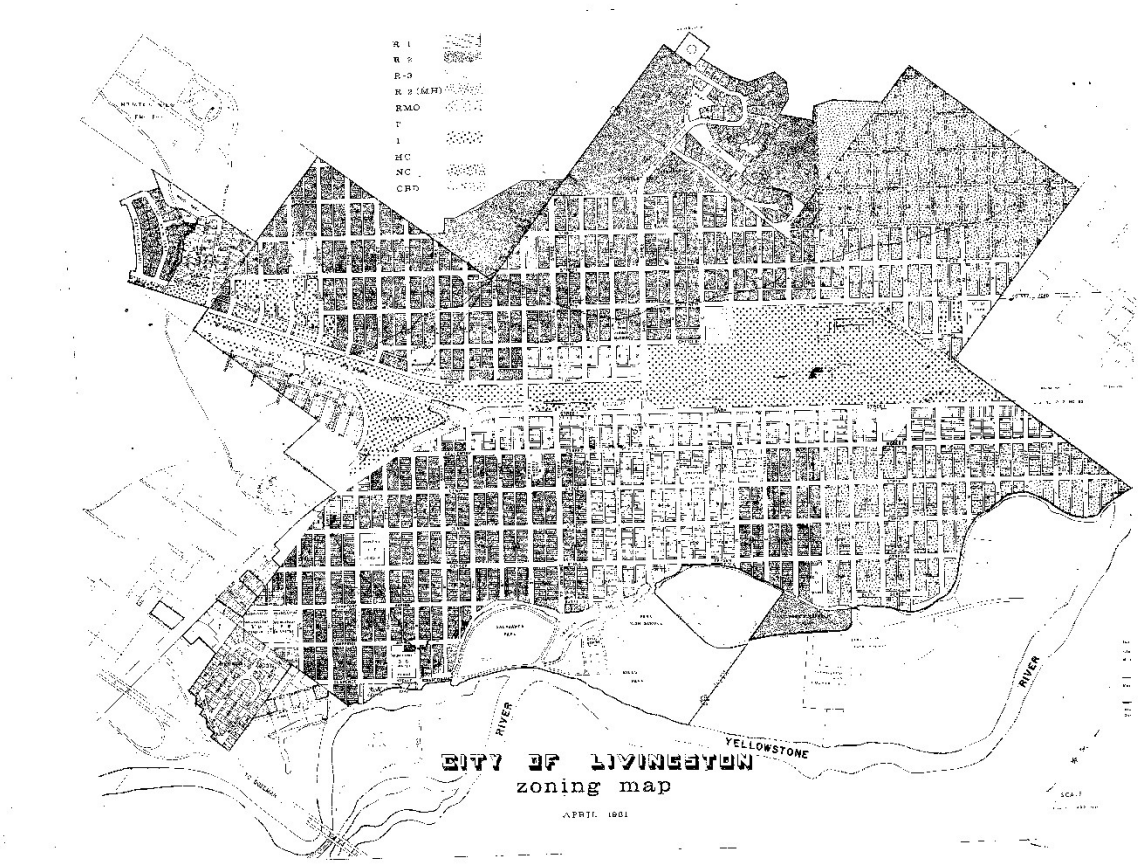
"Board" means the Board of Adjustment of the City of Livingston.

"Boarding house" means a building, other than a hotel or club, where meals are regularly served for compensation to more than six (6) persons who are not members of the family there residing.

"Building" means a structure, of more or less permanent construction, having a roof and intended to be used for sheltering people, animals, personal property or business activity.

"Building height" means height of building is the vertical distance from the "grade" to the highest point of the coping of a flat roof or the deck line of a mansard roof or to the average height of the highest gable of a pitched or hip roof.

"Building official" means the City Building Inspector of the City of Livingston or his designated representative.



"Business and professional offices" means a structure used primarily for housing the offices of a physician, dentist, architect, engineer, attorney, musician, artist or similar professional person.

"Clinic" means a building designed and used for the medical, dental, and surgical diagnosis and treatment of patients under the care of doctors and nurses, but where no surgery other than minor emergency care is performed.

"Drive-in restaurant" means a use whose retail character is dependent upon a driveway approach and parking space for motor vehicles so as to either serve customers while in the vehicle or permit consumption of food or beverages obtained on the premises, in a vehicle.

Dwelling (types of):

a. "Dwelling, one (1) family" means a building designed for occupancy by one (1) family and containing one (1) dwelling unit.

b. "Dwelling, two (2) family (duplex)" means a building designed for occupancy by two (2) families living independently of each other, and containing two (2) dwelling units.

c. "Dwelling, multiple" means a building designed primarily for occupancy by three (3) or more families living independent of each other, and containing three (3) or more dwelling units.

d. “Dwelling, accessory” means one (1) independent dwelling unit which is smaller in area and subordinate in use to the principal one (1) family or two (2) family dwelling, or townhouse, on the same lot, whether attached or detached.

"Dwelling unit" means one (1) or more rooms designed for or occupied by one (1) family for living or sleeping purposes or for use solely by one (1) family.

All rooms comprising a dwelling unit shall have access through an interior door to other parts of the dwelling unit. An efficiency apartment constitutes a dwelling unit within the meaning of this ordinance codified in this Chapter.

"Exotic entertainment" means the commercial showing or display of a living person; however, total nudity is prohibited.

"Family" means one (1) or more persons related by blood, adoption, or marriage, or not more than three (3) unrelated persons living, sleeping and usually eating on the premises as a single housekeeping unit.

"Fence" means a barrier composed of posts connected by boards, rails, panels, or wire for the purpose of enclosing space for separating parcels of land. It may include a masonry wall.

"Grade" means the lowest point of elevation of the finished surface of the ground, paving or sidewalk within the area between the building and the property line or, when the property line is more than five (5) feet from the building, between the building and a line five (5) feet from the building.

“Gross Floor Area” means the area of each floor within the external walls, not including the thickness of the external walls.

“Health and exercise establishment” means an establishment designed and equipped for the conduct of sports, exercise activities and other customary and usual recreational activities. Permitted accessory uses include child care, sun tanning booths, massage, health and nutrition counseling services, retail sales of sporting goods and restaurant services.

“Health and exercise establishment” means an establishment designed and equipped for the conduct of sports, exercise activities and other customary and usual recreational activities. Permitted accessory uses include child care, sun tanning booths, massage, health and nutrition counseling services, retail sales of sporting goods and restaurant services.

"Heavy manufacturing" means any manufacturing process which requires the storage of component materials within public view, is conducted partially or entirely outdoors or causes significant noise, odor, glare or vibration which is detectable beyond the parcel on which it is located.

"Hotel" means a building in which lodging is provided with or without meals, and open to transient guests.

"Light manufacturing" means any manufacturing process which requires no storage of component material within public view, is entirely contained indoors, and does not cause any significant noise, odor, glare or vibration detectable beyond the parcel on which it is located.

Livestock and Fowl. "Livestock" shall include all animals of the equine, bovine and swine class, including goats, sheep, mules, horses, hogs, cattle and other grazing animals. "Fowl" includes chickens, geese, ducks, turkeys, peacocks and other poultry.

Lot. For the purpose of this ordinance, a "lot" is a parcel of land of at least sufficient size to meet minimum zoning requirements for use, coverage, and area, and to provide such setbacks and other open spaces as are herein required. Such lot shall have frontage on a public street, or on an approved private street, and may consist of:

a. A single lot of record.

b. A portion of a lot of record.

c. A combination of complete lots of record, of complete lots of record and portions of lots of record, or of portions of lots of record.

d. A parcel of land described by metes and bounds; provided that in no case of division or combination shall any residual lot or parcel be created which does not meet the requirements of this Chapter.

"Lot coverage" means that portion of any lot upon which a structure, as herein defined, is located.

"Manufactured housing" means a single-family dwelling, built offsite in a factory on or after January 1, 1990, that is placed on a permanent foundation, is at least one thousand (1,000) square feet in size, has a pitched roof and siding and roofing materials that are customarily, as defined by local regulations, used on site-built homes, and is in compliance with applicable prevailing standards of the United States Department of Housing and Urban Development at the time of its production. A manufactured home does not include a mobile home.

"Material" means a book, magazine, newspaper, pamphlet, poster, print, picture, figure, image, description, motion picture film, record, recording tape, DVD, or videotape (except a motion picture, DVD or videotape rated G, PG, PG-13 or R by the motion picture association of America).

"Marijuana production facility" means an establishment where marijuana or marijuana products are grown, cultivated, manufactured or processed.

~~"Medical marijuana facility" means an establishment where a Montana licensed "care giver" grows, cultivates, processes or sells medical marijuana for use by State approved qualifying patient card holders.~~

Mobile Home. "Mobile home" means a trailer or semitrailer which is designed, constructed and equipped as a dwelling place, living abode, or sleeping place and is equipped as a dwelling place, living abode, or sleeping place and is equipped for movement on streets or highways and exceeds twenty-five (25) feet in length exclusive of trailer hitch.

"Mobile home park" means any lot, tract or parcel of land used, maintained or intended to be used, leased or rented for occupancy by two (2) or more mobile homes. This definition shall not include trailer sales lots on which unoccupied mobile homes are parked for the purpose of inspection and sales.

"Motel" means a group of attached or detached buildings containing individual sleeping units where a majority of such units open individually and directly to the outside, or to a common corridor and where a garage is attached to or a parking space is conveniently located at each unit, all for the temporary use by automobile tourist or transient, and such word shall include tourist courts, motor courts, automobile courts, and motor lodges.

"Personal care center" means a facility which provides services and care to residents needing some assistance in performing the activities of daily living. Includes assisted living facilities and nursing homes.

"Planning board" means the Livingston City Planning Board.

"Public recreation facility" means a facility which is available for use by the public for recreational or civic purposes. A fee may be charged, but the facility may not be owned and/or operated for profit. Uses which are covered by this definition shall include, but are not limited to, a Civic Center, swimming pool, fishing access, and park.

"Restaurant" means a commercial establishment whose primary function is providing prepared meals to customers for consumption within the structure.

“Retail” means the rental or sale of tangible personal property. Includes alcohol and marijuana sales.

“Retail, large-scale” means the rental or sale of tangible personal property where the total area utilized by a single tenant occupies 20,000 square feet or more of gross floor area or outdoor space, exclusive of parking.

"Right-of-way" means a strip of land dedicated or acquired for use as a public way.

"School, elementary, junior or senior high" means an institution of learning, either public, parochial or private, which offers instruction in the several branches of learning and study required to be taught in the schools by the Montana State Board of Education.

"School, commercial" means a building where instruction is given to pupils and operated as a commercial enterprise as distinguished from schools endowed and/or supported by taxation and not providing instruction for trades.

"School, trade" means a building where primary instruction is given to students in industrial crafts such as auto mechanics, welding and carpentry.

“Setback" means the distance from the corresponding lot line, as defined herein, to the nearest part of the applicable building, structure, or sign, measured perpendicularly to the lot line. A required setback refers to a space on a lot which is open, unoccupied, and unobstructed by any structure or portion of a structure; provided, however, that allowed encroachments as listed in Section 30.42, fences, walks, poles, small accessory use structures as defined herein, posts, other customary yard accessories, sidewalks, terraces, and swimming pools may be permitted in any setback subject to height limitations and requirements limiting obstruction of visibility in Section 30.52 of Article V.

"Sexually oriented business" means a commercial establishment which operates as an adult book store, adult theater, or features, allows, employs, promotes or sponsors exotic entertainment.

"Special exceptions" means a special exception to the terms of this ordinance to permit uses other than those specifically permitted in each district in appropriate cases and subject to appropriate conditions.

"Story" means that portion of a building included between the upper surface of any floor and the upper surface of the floor next above, except that the topmost story shall be that portion of a building included between the upper surface of the topmost floor and the ceiling or roof above. If the finished floor level directly above a basement cellar or unused under-floor space is more than six (6) feet above grade as defined herein for more than fifty (50) percent of the total perimeter, or is more than twelve (12) feet above grade as defined herein at any point, such basement, cellar or unused under-floor space shall be considered as a story.

Street:

a. "Street" is a public way for vehicular traffic, whether designated as a street, highway, thoroughfare, parkway, throughway, road, avenue, boulevard, land, place, or otherwise designated which has been dedicated to or acquired for public use and extends the full width between right-of-way lines, or any dedicated public way as recorded by the County Clerk and Recorder whenever any portion is open to vehicular traffic.

b. "Alley" is a minor way which is used primarily for vehicular service access to the back or the side of properties otherwise abutting on a street.

c. "Arterial street" is a fast or heavy traffic street used primarily as a traffic artery for intercommunication among large areas.

d. "Local street" is a street used primarily for access to the abutting properties.

e. "Collector street" is a street which carries traffic from local streets to arterial streets, including the principal entrance streets of a residential development and streets for circulation within such a development.

"Street, front" means a street abutting the predominantly narrow sides of the lot within a block. This is the street that homes within a block shall face and shall be the street that addresses are assigned to.

"Street, side" means a street paralleling or nearly paralleling the predominantly long sides of the lots within a block and intersecting at right angles or nearly right angles the front street.

"Structure" means a building or anything constructed in the ground or anything erected which requires location on the ground or water, or is attached to something having location on or in the ground, but not including fences six (6) feet or less in height, paved areas, or small accessory use structures such as storage sheds, which would not require a building permit to be erected under any building code adopted by the City of Livingston, however, in no case will such accessory building be allowed to violate the line of sight restrictions for street and alley or private drive approaches as specified in Section 30.52(B) of this code, or the height limitations of the applicable zoning district.

"Townhouses" means two (2) or more self-contained dwelling units situated on their own lots and having one (1) or more common wall(s) where no side setback exists.

"Trailer" or "mobile homes" means a factory-assembled structure, equipped with the necessary service connections and constructed to be readily moveable as a unit or units on its own chassis and designed to be used as a dwelling unit.

"Variance" means an adjustment in the application of the specific regulations of this Chapter pursuant to Section 30.74.

"XXX-rated movies and sexually explicit materials" are those materials which depict or show human genitalia in a state of sexual stimulation or arousal, acts of sexual intercourse, masturbation, cunnilingus, fellatio, anal intercourse or bestiality.

"Zoning Coordinator" means the planner for the Livingston City-County Planning Board, or such other official as the City Commission, by motion, may designate.

(Ord. 1798, 12/19/94; Ord. 1810, 7/3/95; Ord. 1868, 2/2/98; Ord. 1894 § 1, 3/6/2000; Ord. 1949, 10/18/04; Ord. No. 2011, § 1, 4/6/09; Ord. No. 2022, § 1, 9/7/10)

Article IV. - District Regulations Sec.

30.40. - List of uses.

Table 30.40 designates a list of uses permitted within a zoning district. Designated uses shall be permitted only in the zones indicated.

Table 30.40
List of Uses

A = Acceptable S = Special Exception Permit Required N = Not Accepted											
	R-I	R-II	RII-MH	R-III	RMO	NC [2]	CBD [1]	HC	LI	I	P
One (1) Family Dwellings*	A	A	A	A	A	N	A	A	N	N	N
Two (2) Family Dwellings	N	A	A	A	N	N	A	A	N	N	N
Multifamily Dwellings	N	N	N	A	N	N	A	A	N	N	N
Accessory Dwellings	A	A	A	A	A	N	N	A	N	N	N
Townhouses	N	A	A	A	N	N	A	A	N	N	N
Accessory Buildings	A	A	A	A	A	A	A	A	A	A	A
Mobile Homes	N	N	A	N	A	N	N	N	N	N	N
Churches	S	S	S	A	N	A	N	A	N	N	N
Schools, Public and Commercial	A	A	A	A	A	A	N	N	N	N	A
Schools, Trade	N	N	N	N	N	S	A	A	A	A	N
Hospitals	N	N	N	A	N	A	N	N	A	N	N
Clinics	N	N	N	A	N	A	A	A	A	A	N

Adult Foster Care Center [3]	N	A	A	A	N	N	N	N	A	N	N
Personal Care Center	N	A	A	A	N	A	A	A	N	N	N
Child Care Center	A	A	A	A	A	A	A	A	A	N	N
Veterinarian Clinics	N	N	N	N	N	N	N	A	A	A	N
Kennels and Catterys	N	N	N	N	N	N	N	A	N	A	N
Self-Service Laundry	N	N	N	N	A	A	A	A	N	N	N
Bed and Breakfasts	A	A	N	A	N	A	A	A	N	N	N
Motels/Hotels	N	N	N	N	N	N	A	A	A	N	N
Travel Trailer Parks	N	N	N	N	N	N	N	A	N	N	N
Business and Professional Offices	N	N	N	S	N	A	A	A	A	A	S
Retail ~~Stores~~	N	N	N	N	N	A	A	A	A	S	N
Large-scale Retail	N	N	N	N	N	N	S	S	S	S	N
Barber Shop and Beauty Parlors	N	N	N	N	N	A	A	A	A	S	N
Restaurants	N	N	N	N	N	A	A	A	A	A	N
Bars	N	N	N	N	N	N	A	A	A	A	N
Drive-In Restaurants	N	N	N	N	N	N	N	A	A	A	N
Banks	N	N	N	N	N	A	A	A	A	A	N
Mortuary	N	N	N	N	N	S	A	A	A	A	N
Wholesale Businesses	N	N	N	N	N	S	A	A	A	A	N
Commercial Greenhouses	N	N	N	N	N	A	N	A	A	A	N
Gasoline Service Stations	N	N	N	N	N	N	N	A	N	A	N

Auto Repair Garage	N	N	N	N	N	N	S	A	N	A	N
Automobile Dealerships	N	N	N	N	N	N	A	A	A	A	N
Auto Salvage and Storage	N	N	N	N	N	N	N	S	N	A	N
Warehouse and Enclosed Storage	N	N	N	N	N	S	S	A	A	A	S
Machine Shop	N	N	N	N	N	N	N	A	S	A	N
Light Manufacturing	N	N	N	N	N	N	A	A	A	A	N
Heavy Manufacturing	N	N	N	N	N	N	N	N	N	A	N
Lumberyards	N	N	N	N	N	N	N	A	A	N	N
Transportation Terminals	N	N	N	N	N	N	A	A	N	N	N
Utility Substations	S	S	S	S	S	S	S	S	N	S	S
Armory	N	N	N	N	N	N	N	N	N	N	A
Cemetery	N	N	N	N	N	N	N	N	N	N	A
Government Offices	N	N	N	N	N	A	A	A	N	N	A
Public Recreation Facility	A	A	A	A	N	N	N	N	N	N	A
Health and Exercise Establishment	N	N	N	N	N	A	A	A	A	S	S
~~Medical~~ Marijuana Production Facility	N	N	N	N	N	N	N	N	A	A	N

1. C.B.D.—Any number of apartment units may be established in an existing commercial building. No new residential structures may be built unless they meet the definition of "High Density Residential."

2. NC-A single residential unit may be established within a commercial building to allow living space for a business owner.

3. Adult Foster Care Center.
a. No more than four (4) residents;
b. Staff member must be on board twenty-four (24) hours a day.

* This includes manufactured homes as defined by Ordinance 1813.

(Ord. 1506, 11/16/82; Ord. 1516, 8/2/83; Ord. 1517, 10/18/83; Ord. 1529, 7/16/84; Ord. 1538, 11/20/85;

Ord. 1544, 2/4/86; Ord. 1556, 9/16/86; Ord. 1799, 12/19/94; Ord. 1810, 7/3/95; Ord. 1813, 8/21/95; Ord. 1891, 9/7/99; Ord. 1949, 10/18/04; Ord. 1977, 9/18/06; Ord. 2000, 4/7/08; Ord. No. 2022, § 2(Exh. A), 9/7/10; Ord. No. 2029, § 1(Exh. A), 4/19/11; Ord. No. 2046 , § 1(Exh. A), 9/17/13)

Sec. 30.41. - Residential density requirements.

Residential density requirements are set out in Table 30.41.

Table 30.41

Residential Density Requirements

	Zoning Classification District					
	Low Density Homes R-IR-IIR-IIIRMO	Med. (A)	High Density	Mobile Density	Public (P)	Med. Density R-II(MH)
Min. Lot Area per Dwelling Unit in Square Feet[1]						
One Unit	9,600	3,500	3,500	6,000		3,500
Two Units	N/A	7,000	6,000	12,000		7,000
Three Units	N/A	N/A	7,500	18,000		N/A
Four Units	N/A	N/A	9,000	24,000	N/A	N/A
Five Units	N/A	N/A	10,500	6,000 ft. [2]		N/A
Six Units	N/A	N/A	12,000 1,500 ft. [2] for each add. unit	for ea. add. unit		N/A
Min. Setback Requirements						
Front Street	25′	25′	20′	20′	20′	25′
Side	15′	5′ or B) or C)	5′ or B) or C)	10′ or C)	5′ or C)	5′ or C)
Rear	5′	5′	5′	5′	15′	15′
Side Street	15′	10′	10′	10′	10′	10′

Max. Height for all Bldgs.	27′	27′	45′	15′	27′	27′
Off-Street Parking Requirements	2 per one (1) family dwelling 1 per accessory dwelling	2 per dwelling unit in one (1) family and two (2) family dwellings 1 per accessory dwelling	2 per dwelling unit for first 6 units in one (1) family, two (2) family, and multifamily dwellings and then 1.5 for each additional unit 1 per accessory dwelling	2 per dwelling unit for first 6 units in one (1) family, two (2) family, and multifamily dwellings and then 1.5 for each additional unit 1 per accessory dwelling	Refer to Art. V Sec. 30.51	2 per dwelling unit in one (1) family and two (2) family dwellings 1 per accessory dwelling

1. In all residential zoning districts in which accessory dwellings are permitted the number of accessory dwellings allowed is equivalent to the number of dwelling units allowed on the lot as show in Table 30.41 above. The total number of dwelling units allowed on any lot is the allowed density of the lot in Table 30.41 above plus the equivalent number of accessory dwellings. E.g.: a 7,000 square foot lot in the R-II zoning district allows two (2) dwelling units *and* two (2) accessory dwellings.

A) Applicable to Mobile Home Subdivisions only.

B) Side setback required for approved townhouse development.

C) Any side setback that is directly adjacent to, and generally in line with, an adjoining rear setback within the same Zoning Classification District shall have the same setback as the adjoining rear setback.

(Ord. 1728, 12/7/92; Ord. 1798, 12/19/94; Ord. 1861, 6/16/97)

Sec. 30.42. - Commercial density requirements.

Commercial density requirements are set out in Table 30.42.

Table 30.42					
Commercial Density Requirements					
Zoning Classification District					
	Neighborhood Commercial	Highway Commercial	Industrial	Light Industrial	Central Business District

Min. Lot Requirements in Square Feet	N/A	6,000	6,000	6,000	N/A
Minimum Setback Requirements					
Front Street	20′	20′	20′	0′ with boulevard	N/A
				10′ without boulevard	
Side	0′ or A)	0′ or A)	0′ or A)	10′ or A)	N/A
Side Street	10′	10′	10′	10′	N/A
Rear	0′	0′	0′	20′	N/A
Maximum Height for all Buildings	27′	45′	N/A	33′	N/A
Parking Requirements	Refer to Article V Sec. 30.51	Refer to Article V Sec. 30.51	Refer to Article V Sec. 30.51	Refer to Article V Sec. 30.51	Refer to Article V Sec. 30.51
Loading Space Required	Refer to Article V Sec. 30.51	Refer to Article V Sec. 30.51	Refer to Article V Sec. 30.51	Refer to Article V Sec. 30.51	Refer to Article V Sec. 30.51

A) Any side setback that is directly adjacent to, and generally in line with, an adjoining rear setback within the same Zoning Classification District shall have the same setback as the adjoining rear setback.

(Ord. 1949, 10/18/04)

30.42. – Allowable Encroachments into Setbacks.

A. Entranceway awnings and roof eves may extend up to 18 inches into any setback. The maximum height for an entranceway awning that encroaches into the setback shall be 12 feet.
B. Entranceway steps and ramps may extend up to five (5) feet into the front street or side street setback. Entranceway steps and ramps that encroach into the setback may only access the ground floor of the attached building.
C. Ground floor covered or uncovered porches may extend up to five (5) feet into the front street or side street setback. The deck of any first floor porch that extends into the setback shall be no higher than the ground floor level of the attached building. The maximum height for the roof of any ground floor covered porch that encroaches into the setback shall be 12 feet.
D. Window-wells and below-grade stairwells may project 36 inches into any setback. Window-well projecting beyond 18 inches shall be covered in such a way that is consistent with adopted building codes and such that an individual is prevented from falling into the window-well.

Sec. 30.43 – Accessory dwellings.

A. Accessory dwellings are subject to all applicable regulations listed in this ordinance, including but not limited to: setbacks, maximum building heights, parking, and building design standards.

B. Detached accessory dwellings shall not be located in the front yard, but may be located in the side or rear yard so long as the required setbacks listed in Table 30.41 are met.

C. Accessory dwellings shall not exceed 800 square feet of gross floor area and must be smaller in gross floor area than the primary dwelling on the property. If an accessory dwelling is attached to another building only the gross floor area of the accessory dwelling shall be calculated towards the maximum gross floor area. Accessory dwellings attached to existing, primary dwelling units are not subject to the gross floor area limitations, but must be wholly contained within the existing building. Any attached accessory dwelling that increases or modifies the footprint or profile of the primary dwelling unit in any way, whether above or below ground, shall not exceed 800 square feet of gross floor area.

D. All detached accessory dwellings shall maintain a 6-foot separation, measured from the external walls of the dwelling unit, to all other buildings on site.

E. Accessory dwellings shall be on the same lot as the primary dwelling.

F. Accessory dwellings shall not be subdivided or sold separately from the primary dwelling on the lot. If an accessory dwelling is subdivided from the primary dwelling unit, the accessory dwelling is no longer an accessory dwelling and must meet all density requirements listed in Table 30.41. Prior to use of the accessory dwelling, the property owner must record a deed restriction provided by the City Attorney's Office stating that the accessory dwelling shall not be sold separately from the primary dwelling, and provide a copy of the recorded deed restriction to the Department of Building and Planning prior to the issuance of a Certificate of Occupancy. Accessory dwellings may be rented.

G. Accessory Dwellings are encouraged to be combined with other buildings to preserve open space on the lot.

Sec. 30.44. - Bed and breakfasts.

A. "Bed and breakfast" means a commercial business operated in a house which is used partially or primarily for providing overnight accommodations to the public.

B. The goal of this section is to establish the allowable locations and operations of bed and breakfast facilities.

C. A bed and breakfast shall be allowed in the following zoning districts: Low Density (R-I), Medium Density Residential (R-II), High Density Residential (R-III), Neighborhood Commercial (N.C.), Highway Commercial (H.C.), and the Central Business District (C.B.D.).

D. Reserved.

E. The accommodations for a bed and breakfast shall have no more than five (5) guest rooms. Breakfast shall be the only meal served on the premises, and is included in the charge for the room. No other food or beverage served upon the premises.

F. Off-street parking shall be provided by all bed and breakfast facilities. There shall be two (2) off-street parking spaces, plus one (1) for each guest room. Off-street parking shall be required to be used by guests.

G. No bed and breakfast shall be located on a lot closer than two hundred (200) feet in a straight line distance from any other lot containing a bed and breakfast. The owner shall live on the premises.

H. Signage shall be limited to that allowed for home occupations (twelve (12) inches by twenty-four (24) inches non-illuminated, flush mounted).

I. Rates shall be charged for single-night occupancy only; weekly or monthly rates will not be allowed.

J. A bed and breakfast already in existence at the time of this section's effective date shall have ninety (90) days to conform with the provisions of this section except existing establishments shall be grandfathered as to the requirements of subsection (G) of this section.

K. Any property receiving a special exception for a bed and breakfast shall have ninety (90) days from the date of the final City Commission action to meet any specified conditions and obtain a City business license. If a City business license is not obtained in that time period, the special exception shall be automatically rescinded as of that date. If a license for a bed and breakfast is not renewed within ninety (90) days after January 1 of any calendar year, the special exception for that bed and breakfast shall be automatically rescinded.

L. Any application for a bed and breakfast shall be accompanied by a detailed plan, drawn to scale, showing all aspects of the physical layout for the property, including the off-street parking provisions.

M. The table of uses (Table 30.40) is amended to comply with subsection (C) of this section.

(Ord. 1702, 7/20/92; Ord. 1868, 2/2/98; Ord. 1894, 3/6/2000; Ord. No. 2029, § 2, 4/19/11)

Sec. 30.45. - Uses in the Preservation Zoning District.

Uses in the Preservation Zoning District may be reduced or expanded from the uses allowed in the areas surrounding the Preservation Zoning District. Allowable uses will be set forth in the plan adopted for each Preservation Zoning District.

(Ord. 1954, 5/16/05)

Sec. 30.45.1. - Preservation Zoning District Plan.

The Livingston City Zoning Commission shall make a recommendation to the City Commission for a Preservation Zoning District Plan which shall take into consideration the following:

A. Delineation of the boundaries of each special use zoning district;

B. Identification of the structure(s) and/or natural features which contributed to the creation of the Preservation Zoning District;

C. Identification of the uses and development standards or guidelines intended to preserve the structure(s) and/or natural features which may vary from Preservation Zoning District to Preservation Zoning District, but shall take into consideration:

1. Setbacks,
2. Landscaping standards,
3. Signage standards,
4. Parking standards,
5. A list of uses to be allowed,
6. Any other standard that would serve the purpose of preserving historic or architectural structure(s) or natural features in each Preservation Zoning District.

(Ord. 1954, 5/16/05)

Sec. 30.46. - Building design standards.

A. This Section provides policies and standards for the design of buildings in the Design Review Overlay Zone. In general, they focus on promoting buildings that will be compatible in scale and appear to "fit"

in the community by using materials and forms that are a part of Livingston's design traditions. As such, they address only broad-scale topics and do not dictate specific architectural styles or building details.

B. Objectives for Building Design.

1. Achieve High Quality Design. Buildings in the overlay zone shall convey a high quality of design, in terms of their materials and details, as well as through a consistent organization of forms and elements. This quality shall establish a standard for design throughout the community.

2. Reflect the Design Traditions of Livingston. Buildings shall reflect the design traditions of the region, in terms of building and roof forms. Distinctive roof forms are a key part of this tradition. Sloping roofs, in gable, hip and shed varieties are historical precedents to promote and they also help reduce the apparent bulk of larger buildings and help to shed snowfall. Flat roofs with varied parapet lines and cornices are also a part of the City's design traditions and shall be encouraged. Buildings that appear to be in scale with those seen traditionally also shall be encouraged. Where a new building would be larger than those existing in the area, it shall establish a transition in scale, to reduce the impact of building scale on the adjacent property, as well as on the neighborhood.

3. Promote Buildings that Fit with the Natural Setting. Structures shall be sited to fit with the land and incorporate colors seen in the natural setting.

4. Promote Buildings that Reflect Pedestrian Scale. Human scale shall be an integral part of all buildings. Large, flat, windowless block buildings do not reflect human scale or the design traditions of Livingston. Thoughtful use of landscaping, color, building materials and architectural details bring human scale to buildings. C. Building and Topography.

1. Policy. A building shall respect the natural topography of the site.

2. Standards. Step a building foundation to follow the slope of the site when feasible. In general, an exposed building foundation shall not exceed three (3) feet in height. D. Building Character.

1. Policy. Buildings shall reflect the regional urban character.

2. Guideline.

a. Designs that draw upon regional design traditions are preferred. Standardized "franchise" style architecture will be strongly discouraged by following these standards.

b. The primary entrance to a building shall have a human scale. Provide a one (1) story element at the building entrance to help establish a sense of scale.

c. Where no windows or other obvious indication exists, express the position of each floor in the external skin design of a building to establish a human scale.

i. Use belt courses or other horizontal trim bands of contrasting color and materials to define floor lines.

ii. Articulate structural elements, or change materials as a method of defining floors.

d. Use building materials that help establish a human scale.

i. For example, use brick in a standard module to express a human scale. ii. Avoid using large surfaces of panelized products or featureless materials.

iii. A large surface of stucco or similar material that lacks articulation or detailing shall be avoided.

e. New construction shall relate to adjacent residential and historic resources. Where a new project abuts a residential neighborhood or a historic structure, step the building down at the property edge to minimize abrupt changes in scale, or increase side yards to reduce the impact.

E. Primary Building Entrance.

1. Policy. The primary entrance of a structure shall orient to a street, major sidewalk, pedestrian way, plaza, courtyard or other outdoor public space.
2. Standards.
   a. Design the main entrance to be clearly identifiable.
      i. Provide a sheltering element such as a canopy, awning, arcade or portico to signify the primary entrance to a building.
      ii. Where more than one (1) user shares a structure, each individual entrance shall be identified.
   b. Orient the primary entrance of a building to face a street, plaza or pedestrian way.
      i. Focusing an entrance toward a parking lot without also addressing the street is inappropriate.
      ii. Consider using a "double-fronted" design where the entrance to parking and to the street is required. That is, provide a door to the street and another to the parking lot.
      iii. Consider locating a pedestrian plaza at the entrance; this may be enhanced with landscaping and streetscape furnishings. F. Street Level Interest.

1. Policy. When a building is located close to a street or walkway, it shall be designed to provide interest to pedestrians. For example, commercial buildings with storefronts are of interest to passersby. Such features encourage pedestrian activity and shall be used whenever feasible. The overall mass of a building shall appear to be in scale with buildings seen traditionally. This will help new structures fit with the Livingston context. At the same time, newer structures may be larger than those seen before; they shall simply be articulated in their form and materials such that they convey proportions that are similar to those seen traditionally.
2. Standards.

a. Develop the street level of a building to provide visual interest to pedestrians. All sides of a building shall include interesting details and materials to avoid presenting a "back side" to neighboring properties. For example, the sides of restaurants and specialty stores shall incorporate windows and display cases over at least a third of the facade area. A large expanse of blank wall is inappropriate on any street-oriented facade. G. Building Mass and Scale.

1. Policy. A building shall appear to have a "human scale." In general, this can be accomplished by using familiar forms and elements that can be interpreted in human dimensions, as noted throughout this Chapter, e.g., "small details/visible to pedestrians."
2. Standards. In order to reduce building scale, each major building project shall provide all of the following:
   a. Divide a building into visual modules that express dimensions of structures seen traditionally.
      i. Buildings shall employ all of the following design techniques:
         (A) Change material or color with each building module to reduce the perceived mass;
         (B) Change the height of a wall plane or building module;
         (C) Change roof form to help express the different modules of the building mass; and
         (D) Change the arrangement of windows and other facade articulation features, such as columns or strap work that divide large wall planes into smaller components. ii. Express facade components in ways that will help to establish a human scale (details oriented towards pedestrians).
         (A) Establish a pattern and rhythm on exterior walls to establish a human scale;
         (B) Windows, columns and other architectural treatments used repetitively can create

this effect;

(C) Using windows and doors that are similar in scale to those seen traditionally also can help establish a human scale;

(D) Also, recess these elements, even if slightly, and articulate them with headers, sills, columns and/or mullions.

H. Roof Form.

1. Policy. The primary roof form of a structure shall help reduce the perceived scale of the building. For that reason, sloping roofs shall be used in most contexts. These also will help the building fit into the mountain backdrop. Varied roof forms in the appropriate context are also encouraged.

2. Standards.

a. Using sloping roof forms to reduce the perceived scale of a building is encouraged.

i. Varying roof forms is encouraged.

ii. Providing variety in ridgeline height is encouraged.

b. All roof forms shall have no less than two (2) of the following features:

i. A flat roof with parapet; ii. A cornice or molding to define the top of a parapet; iii. Overhanging eaves; iv. Sloping roofs with a minimum pitch of 6:12; v. Multiple roof planes. I. Signage.

1. Policy. Signage shall be sensitive to the natural surroundings and shall not detract from the overall visual design of the site. Because signage can easily become the focal point of a development, it will be important within this overlay zone to keep signage as minimal and unobtrusive as possible.

2. Standards.

a. Free standing and monument signs will be constructed of materials and contain details which match those of the building being advertised.

i. Use brick, wood or stone facades on signage structures to help them blend into and match the site;

ii. Simulate architectural details of the building, such as colors, textures, and geometric forms, in designing sign structures.

b. Signs that detract from the site design of a development shall be avoided. The use of internally backlit signs will not be allowed. Spotlighting or other lighting methods shall be explored.

J. Design Standards Administration. The building design standards and review procedures contained herein shall apply to all large-scale retail uses and all nonresidential property annexed into the City and falling within the Gateway Overlay Zoning District, which has been mapped and amended to the City's ~~Growth Policy~~ Official Zoning Map. ~~These design standards will be applied through the use of an overlay zone that will add the provisions of this Section to the underlying zoning designation. Within the Design Review Overlay Zone~~ If meeting the above criteria, all new construction, exterior remodels and additions to existing buildings will be subject to the following application and review process:

1. Application. A completed application form along with a site plan and other detailed drawings, including, but not limited to, building elevations indicating exterior materials, colors and necessary architectural details required to determine compliance with this Section, shall be submitted to the Planning Department along with the required application fee. Once accepted by the Planning Department, the applicant will be notified as to whether or not the plans submitted comply with adopted City standards. This notification will occur as soon as the review is completed but in any case shall not be later than thirty (30) days from the date the application was accepted by the Planning Department. Failure of the City to complete a review and notify the applicant within the allotted thirty (30) day period will constitute approval of the application.

If a plan is rejected for noncompliance, it will be returned to the applicant with an explanation as to how the plan fails to comply with City standards and/or this Section. The applicant will then be allowed to resubmit the application, with no additional application fee, provided the City receives the revised application within sixty (60) days from the original rejection.

2. Review Fees. The fee for design review shall be established by separate resolution.

(Ord. 1974, 9/5/07)

Article V. - Supplementary General Requirements Sec.

30.50. - Signs.

A. Intent. The intent of this Section is to provide standards for erection, design and placement of all signs and sign structures. Design standards are established to achieve the proper relationship of signs to their environment, enhance the outward appearance of the community as a whole, secure pedestrian and vehicular safety, preserve the historic aspects of the City of Livingston and promote the conservation of energy by regulating lighted signs. B. Definitions.

1. "Animated sign" means a sign with action or motion, flashing or intermittent lights and/or color changes requiring electrical energy, electronic or manufactured sources of activation, but not including wind-activated elements such as flags and banners.
2. "Awning signs" means a sign which is an integral part of a window awning assembly, to include the printing or painting of words onto awning material.
3. "Billboard signs" means any standard outdoor advertising sign larger than two hundred (200) square feet in area which is designed to advertise products, services or businesses not located on the premises on which the sign is located.
4. "Free standing signs" means a sign which is supported by one (1) or more columns, uprights, or braces and is permanently fixed in the ground.
5. "Monument sign" means a sign, single- or double-sided mounted, flush with the surface of the grade upon which sets the business, industry, or other commercial enterprise which the sign advertises. A monument sign must be landscaped with grass, shrubs or other plants or other landscape material in an area not less than three (3) feet surrounding such sign in all directions.
6. "Revolving sign" means a sign which revolves three hundred sixty (360) degrees.
7. "Menu board" means a sign specifically designed to advise customers of the menu of food available in the establishment by which the menu board is owned.
8. "Reader board" means a sign designed to allow the letters on the sign to be altered, removed and added.
9. "Marquee sign" means a specific type of reader board but restricted to use by active movie theaters.
10. "Temporary sign" means a sign made of paper, or some other limited life-span material advertising a short-term event, like a sale. Temporary signs are not subject to inclusion in a business' sign square footage measurement. Temporary signs shall be removed within twenty-four (24) hours after the completion of the advertised event.
11. "Projecting sign" means a sign installed on the facade of a building which is attached to such building in a perpendicular manner or at an angle to the building wall.
12. "Sandwich board sign" means a sign painted on both of the outside of two (2) boards fastened together at the top with a hinge-like device, designed to be placed on the sidewalk area in front of an establishment.
13. "Sign" means any device designed to inform or attract the attention of persons not on the premises on which the sign is located, including, but not limited to, signs described in

subsections (B)(1) through (B)(12) of this Section. For the purpose of determining number of signs, a sign will be considered to be a single display device with not more than two (2) display surfaces (back-to back) or display device containing elements organized, related and composed to form a unit. For measurement purposes, the square footage of a sign which employs back-to-back display surfaces will only be considered as the square footage of one (1) side of that sign. Where matter is displayed in a random manner without organized relationship of elements, or where there is reasonable doubt about the relationship of elements, each element will be considered a separate sign.

14. Square Footage. The square footage of a sign shall be measured as the product of the total linear foot measurement multiplied by the total height measurement. The linear measurement shall be attained by measuring from the leftmost edge of the sign, continually measured to the rightmost edge of the sign. Any mounting material shall be part of the measurement.

15. "Actual business premises" means the owned or leased real property from which the primary business is actively transacted.

16. "Off-premises sign" means a sign located on property other than the actual business premises.

17. "Banner signs" means a strip of cloth, plastic or other material displaying advertising or other information.

18. "Portable sign" means any sign designed to be easily moved or transported whether by carrying, by mounted wheels, by trailer or otherwise.

19. "Voluntary modification" means any modification to an existing sign which reflects a conscious business or personal decision. This may include a change in corporate color scheme, change of logo, or any other change which would require the replacement of existing sign faces. It does not include the replacement or repair of sign faces with new, identical faces as part of normal maintenance or due to damage by wind, fire or other hazard.

C. General.

1. Nothing in this Section shall be interpreted as prohibiting or excluding such signs as are required by law. This includes legal notices and advertisements prescribed by law or posted by any lawful officer or agent.

2. Any sign which is readily visible from the public right-of-way in an exterior window of a building, whether on the external or internal side of the window, shall be regulated by the provisions of this Section. Temporary sale signs are excluded, however, no single temporary sign shall exceed six (6) square feet in size, and the total of all such temporary signs shall not exceed fifty (50) percent of the transparency of the window in which they are visible.

3. All signs as permitted by this Section shall be maintained by the owner and kept in good repair and shall be painted and repaired at reasonable intervals. The surface of the ground under and about any sign shall be kept clear of weeds, rubbish and flammable waste material.

4. All signs shall be designed and constructed in accordance with the Uniform Sign Code.

5. A permit must be obtained from the Building Official by the person who is erecting the sign prior to the construction of any sign, except for those signs listed in subsection E of this Section.

6. Signs not in use by reason of change of occupancy or use by vacation of the building shall be removed within thirty (30) days of such change by the owner of the sign, or the owner of the property. The City has the option of removing such sign at the end of the thirty (30) day period after giving fifteen (15) days' written notice by certified mail to the owner, and upon such removal, the full charges of removal shall constitute a mechanic's lien against the real property enforceable pursuant to State law.

7. All existing signs that have been constructed pursuant to City sign permits and variances through the official date of the ordinance codified in this Section (Ord. 1749 effective date, October 20, 1993) shall be grandfathered and do not have to conform as to the height, size or prohibited signs subsections of this Section. Other provisions of this Section shall apply to existing signs.

Grandfathered signs which are voluntarily modified must meet all requirements of this Section. Signs which have previously been granted variances may continue to exist within the parameters of those variances.

8. The Building Official shall be responsible for the enforcement of this sign ordinance.
9. All buildings with more than one (1) business occupant must submit to the Board of Adjustment a master signage plan which identifies the number and location of all potential signs on the property before any sign permits may be issued. For properties located in the Downtown Historic District, this master plan will be submitted to the Historic Preservation Commission. Any deviation from an approved master plan must be approved by the appropriate body prior to permit issuance.
10. Pre-existing multi-occupant buildings will not be issued any new sign permits until a master plan is approved by the appropriate body.
11. Any sign variance issued to multi-occupant property shall constitute an amendment to that property's signage master plan.
12. All signs located in the Historic Preservation District must comply with the requirements of the Historic District Overlay Zoning. D. Prohibited Signs.

1. No animated signs shall be erected in any zoning district, except time and temperature signs which may be erected in the Central Business District only and existing lighted signs in the Downtown Historic Preservation District which flash, chase, move, revolve, rotate, blink, flicker or vary in intensity or color; however, such lights must be turned off when the business is closed.
2. No revolving sign may be permitted in any district.
3. No billboard sign shall be erected in any zoning district.
4. In the Central Business District Zone, no backlit signs are allowed.
5. Visibility at Corners, Alleys and Driveway Approaches. On the street side of all lots where an alley or driveway enters the street right-of-way, and on all corner lots, a triangular clear vision zone shall be maintained. The zone shall measure ten (10) feet into the lot, as measured from the edge of the sidewalk nearest the property line, and twenty (20) feet parallel to the street measured from the edge of any alley, driveway or street corner along the edge of the sidewalk nearest the property line. No structure of any kind over three (3) feet in height shall be erected or maintained within the above defined clear vision zone. If no sidewalk exists, the point of reference for all measurements shall be determined by the Building Official.
6. Notwithstanding any other provisions contained in this Section, no free standing sign shall be erected or maintained upon any spire, chimney, cupola, water tank, water tower, radio aerial or television antenna.
7. No sign shall be erected on any property without the express permission of the occupant, owner, lessee or any authorized agent thereof.
8. No sign shall be erected in such a manner that a portion of the sign or their supports are attached to or will interfere with the free use of any fire escape, exit, or standpipe, or obstruct any required stairway, door, ventilator or window.
9. No sign shall be attached to any tree.
10. Menu boards are not permitted on any property other than that occupied by a restaurant-type business.
11. No portable and/or trailer-mounted signs shall be allowed.
12. No sign not in conformance with this Code shall be allowed.

E. Signs Permitted in All Districts Without a Permit. The following signs are permitted in all zoning districts and will not require a permit:

1. Signs advertising the sale, lease or rental of the premises upon which the sign is located, which do not exceed twelve (12) square feet in area, except in all residential districts where the area of the sign shall not be more than six (6) square feet. Only two (2) such signs shall be allowed on any one (1) property;
2. Signs bearing only property numbers, post box numbers, names of occupants of premises or other identification of premises not having commercial promotion;
3. Flags and insignia of the government except when displayed in connection with commercial promotion;
4. Legal notices: identification, information or directional signs erected or required by governmental bodies;
5. Integral decorative or architectural features of buildings, except letters, trademarks, moving parts or moving lights;
6. Signs directing and guiding traffic and parking on private property, but bearing no advertising matter;
7. Detached bulletin boards for churches, schools, or other public, religious or educational institutions provided such sign is located not less than ten (10) feet from the established right-of way line of any street or highway and does not obstruct traffic visibility at street or highway intersections;
8. Construction information signs, providing the signs are removed immediately following final completion of construction;
9. Non-illuminated home occupation signs on any residence which is the site of a home occupation in accordance with Section 30.55. Such signs shall not exceed two (2) square feet;
10. Signs advertising a candidate for political office. Such signs shall not exceed sixteen (16) square feet and shall be removed within seven (7) days after any election;
11. Signs advertising yard/garage sales, and the like. Such signs shall not exceed two (2) square feet and must be removed by the owner within forty-eight (48) hours of the completion of the sale. F. Signs in a Residential District. Within a residential district only, the following signs shall be permitted:

1. Signs listed in subsection E of this Section which do not require a permit; and
2. Signs advertising a permitted or existing commercial use within a residential district. Such signs require a permit from the Building Official, and shall be permitted only under the following conditions:
    a. Only one (1) on-premises sign will be allowed for each business.
    b. The maximum allowable size for each sign shall be twelve (12) square feet.
    c. Illuminated signs shall be illuminated only as long as the advertised business is open.
    d. No sign shall be erected or placed closer than five (5) feet to the lot line adjacent to the street.

G. Signs in Commercial and Industrial Districts Requiring a Permit.

1. Setback. Free standing and monument signs shall be located a minimum of five (5) feet inside all private property lines.
2. Lighting. All lighting shall comply with the requirements of Ordinance No. 1967 commonly referred to as the Night Sky Protection Ordinance. In no event may an illuminated sign or lighting device be placed or directed so the beams constitute a traffic hazard or nuisance. All wiring, fitting and material used in construction, connection and operation of electrically illuminated signs shall be in accordance with the provisions of the Uniform Electric Code.
3. Number of Signs. In Commercial and Industrial Zoning Districts, each use is limited to two (2) wall signs. In addition, one (1) monument sign or one (1) free standing sign is permitted for each

building, regardless of the number of businesses or industrial uses conducted in any one (1) building.

4. Height.
    a. No monument sign shall exceed five (5) feet in height.
    b. No free standing sign shall exceed thirty (30) feet in height.
5. Permitted Surface Area.
    a. Wall Signs. The total surface area of all wall signs is limited to one hundred (100) square feet in the Central Business District and otherwise to two (2) square feet of sign for each lineal foot of frontage width of the business, provided that the maximum total surface area for all wall signs does not exceed three hundred (300) square feet.
    b. Monument Signs. Monument signs shall not exceed one hundred (100) square feet in total surface area.
    c. Free Standing Signs. Free standing signs shall not exceed one hundred fifty (150) square feet in total surface area.
6. Roof-Mounted Signs. Any sign located on the roof of a building shall not exceed twenty-four (24) inches in height and shall not exceed the top of the roof line. The square footage of roof-mounted signs shall be counted as a portion of the limitation on wall-mounted signs, i.e., the total surface area of wall-mounted signs added to any roof-mounted signs may not exceed three hundred (300) square feet maximum, or less if the linear front footage of the building is less than one hundred fifty (150) feet.
7. Off-Premises Signs. A business may have up to four (4) off-premises signs; however, the total square footage of these off-premises signs may not exceed one hundred fifty (150) square feet. No other off-premises signs shall be allowed. Excepted from this provision are:
    a. Garage sale or hobby show signs no greater than two (2) square feet in area on the date only of the activity;
    b. Auction and special event signs no greater than nine (9) square feet in area for no longer than three (3) days (seventy-two (72) hours);
    c. Directional signs for public facilities and museums;
    d. Banner signs for public performances not exceeding one hundred twenty (120) square feet to be posted for no more than twenty (20) days.
        i. No signs in the public right-of-way or in any required right-of-way shall be allowed except for governmental traffic control signs (unless a business premises is on the railroad right-of-way). Properly permitted sandwich board signs not to exceed six (6) square feet per side are excepted from this provision provided that they shall be limited to one (1) per twenty-five (25) feet of building frontage and may only be located in front of the business being advertised. The City Commission, upon request from a property owner in front of whose property a sign is to be located, may, where deemed in the public interest, allow a sandwich board sign to be placed other than in front of the business being advertised.
8. Banner Signs. Temporary banner-type signs shall be allowed for a period of no more than sixty (60) days, limited to no more than seventy-five (75) square feet, and used by any business or entity no more than once per year.

H. Variance Parameters for Signs. Variances may be granted only if there is undue hardship from the application of these sign regulations due to the particular location and site characteristics of the applicant that are different from those cited generally.

I. Damaged Signs. Any existing sign not in conformity with this Section that is damaged in either surface area of the sign or in the structure by more than fifty (50) percent shall be removed and any new sign shall meet all requirements of this Section.

J. Complaint and Notice of Violation Procedure. The City Code Enforcement Officer shall issue a notice of violation in person to the offending property owner, business owner or agent, as the case may be, specifying the violation and steps necessary for correction. If the violation is not brought into compliance within fifteen (15) working days from the personal delivery of the notice of violation, the City shall file a civil complaint against the offending person. Failure to provide the written notice identified herein shall not preclude the filing of a complaint in City Court.

K. Violation and Civil Penalty. It shall be a civil infraction for any person to violate any provision of this Section. Any violation of any provision of this Section is a civil infraction punishable by a civil fine not to exceed Three Hundred Dollars ($300.00).

(Ord. 1738, 3/2/93; Ord. 1749, 9/20/93; Ord. 1819, 10/16/95; Ord. 1820, 10/16/95; Ord. 1860, 6/16/97; Ord. 1873, 5/18/98; Ord. 1883, 2/1/99; Ord. 1975, 9/5/06)

Sec. 30.51. - Off street parking and loading zones.

A. General. Each off-street parking space shall have a net area of not less than one hundred eighty (180) square feet exclusive of driveways or aisles and shall be of usable shape and condition.

B. Location. Off-street parking facilities shall be located as hereafter specified: any distance specified shall be in walking distance measured from the nearest point of the parking facility to the nearest point of the lot that such facility is required to serve:

1. For one (1) family, two (2) family, and accessory dwellings: Off-street parking is required on the same lot or an adjoining lot with the building they are required to serve.

2. For multiple dwellings and townhouses: Off-street parking is required within a walking distance of one hundred (100) feet.

3. For hospitals, sanitariums, convalescent homes, nursing homes, rest homes, homes for the aged, asylums, retirement homes, rooming and boarding houses: Off-street parking is required within six hundred (600) feet.

4. For uses other than those specified above: Off-street parking within five hundred (500) feet is required.

5. For large-scale retail uses: Off-street parking is required to be on the same lot and to the rear of the primary structure on the lot.

C. Expansion or Enlargement. Whenever any building is enlarged in gross floor area by more than ten (10) percent, off-street parking shall be provided for the expansion or enlargement portion only in accordance with the requirements of this article. Nothing in this provision shall be construed to require off-street parking spaces for the portion of such building previously existing before enlargements or for existing buildings that undergo a change in use.

D. Non-Conforming Use. Voluntary establishment of off-street parking or loading facilities to serve any existing use of land or buildings, even though non-conforming, is allowed and encouraged.

E. Mixed Occupancies. In the case of mixed uses, the total requirements for the various uses shall be computed separately. Off-street parking facilities for one use shall not be considered as a substitute or for joint use.

F. Use Not Specified. In the case of a use not specifically mentioned in a zone, the requirements for off-street parking facilities shall be determined by the City Superintendent or his authorized representative. Such determination shall be based upon the requirements for the most comparable use listed.

G. Joint Use. The Building Official or his authorized representative may authorize the joint use of parking facilities for the following uses or activities under conditions specified:

1. Up to fifty percent of the parking facilities required for primarily "night time" uses such as theaters, bowling alleys, bars, restaurants and related uses may be supplied by certain other types of

buildings or uses herein referred to as "day time" uses such as banks, offices, retail, personal service shops, clothing, food, furniture, manufacturing or wholesale and related uses.

2. Up to one hundred percent of the parking facilities required for a church or for an auditorium incidental to a public or parochial school may be supplied by the off-street parking facilities provided by uses primarily of a day time nature.

H. Conditions Required for Joint Use. The building for which application is being made to jointly utilize the off-street parking facilities provided by another building shall be located within 500 feet of such parking facilities.

The applicant must show that there is no substantial conflict in the principal operating hours at the two buildings or uses for which joint use of off-street parking facilities as is proposed.

The applicant must also present a legal agreement executed by the parties concerned for joint use of off-street parking facilities.

I. Central Business District. In the Central Business District Zone any commercial enterprise that is required to meet the minimum standards for off-street parking, shall be required to have only fifty (50) percent of the parking space requirements in the Table of Minimum Standards. Apartment units in the Central Business District shall meet the full parking space requirements.

J. Table of Minimum Standards — Off-Street Parking. Parking spaces shall be required as set forth in the following table, and where alternatives or conflicting standards are indicated, the greater requirements shall apply: Where the total quota results in a fraction, the next highest full unit shall be provided; and in case of a use not specifically mentioned, the requirements of the most similar mentioned use shall apply.

USE	SPACE REQUIRED
Bowling alleys.	Five per alley.
Medical and dental clinic.	One per 200 square feet of gross floor area.
Banks, business and professional offices with on-site customer service.	One per 400 square feet of gross floor area.
Offices not providing on-site customer services.	One per 4 employees or one per 800 sq. ft. of gross floor area, whichever is greater.
Mortuaries.	One per 5 seats in the principal auditorium.
Manufacturing uses, research testing, and processing, assembling, all industries.	One per 2 employees on maximum shift but not less than one per each 800 square feet of gross floor area.
Libraries and museums.	One per 500 square feet of gross floor area.
Schools, elementary and junior high, public, private or parochial.	One per each employee.
School, high school, public or private.	One per each employee and one per 5 students.

Service stations and drive-in restaurants.	One per 80 sq. ft. gross floor area, with 10 spaces minimum requirement.
Residential, single-family.	2 per dwelling unit.
Residential, duplex or multi-family.	2 per dwelling unit for first 4 dwelling units, then 1.5 for each dwelling unit thereafter.
Boarding houses and similar uses.	One per dwelling unit or lodging unit.
Convalescent homes, nursing homes, rest homes	One per 6 beds plus one per each staff member on duty on a maximum shift.
Warehouses, storage and wholesale business and freight terminals.	10 spaces for the first 20,000 square feet of gross floor area* and one space for each additional 10,000 square feet.
Food or beverage places with sale and consumption on premises.	One per 100 sq. ft. of gross floor area for the first 4,000 sq. ft. with 10 spaces minimum requirement and one space for each additional 300 square feet.
Furniture, appliance, hardware, clothing, shoe, personal-service stores.	One per 600 square feet of gross floor space.
Motor vehicle, machinery, plumbing, heating, ventilating, building material supplies, sales and service.	One per 1,000 sq. ft. of gross floor area plus one per three employees.
Retail stores or service businesses not otherwise named.	One per 500 square feet of gross floor area.
Retirement homes, housing projects for senior citizens.	1-6 dwelling units 0.5 per dwelling unit; 7-18 dwelling units 0.33 per dwelling unit; over 18 dwelling units 0.25 per dwelling unit; minimum of 5 spaces.
Motels, hotels and motor courts.	One per sleeping room.
Hospitals and institutions.	One per 3 beds plus one per 3 employees.
Theaters.	One per 10 seats.
Health and exercise establishment	One per 200 square feet of gross floor area plus 3 per court

Churches, auditoriums and similar open assemblies.	One per 5 seats or one per 100 linear inches of pew or one per 65 sq. ft. of gross floor area used for assembly purposes, whichever is greater.
Stadiums, sport arenas and similar open assemblies.	One per 8 fixed seats plus one per 100 sq. ft. of assembly space without fixed seats.
*In calculating minimum required parking, gross floor area shall not include car ports and garage areas.	

K. Traffic Control Devices. All traffic control devices such as parking stripes designating stalls, directional arrows, rails, curbs and other developments shall be installed and completed as shown on the approved plans. Hard-surfaced parking areas shall use paint to delineate stalls and directional arrows.

L. Screening Required. Screening in the form of walls, architectural fences or dense coniferous hedges shall be required where the parking lot has a common boundary with any residentially zoned property. Such screening shall be located no closer than three feet from the property line and shall be properly maintained.

M. Lighting Restrictions. Lighting of areas to be provided for off-street parking shall be so arranged to not constitute a nuisance or hazard to passing traffic, and where the lot joins any residentially zoned property, the illuminating devices shall be so shaded and directed to play away from residentially classified property.

N. Maintenance. Maintenance of all areas provided for off-street parking shall include removal and replacement of dead and dying trees, grass and shrubs, removal of trash and weeds, repair and maintenance of drains and repair of traffic control devices, signs, light standards, fences, walls, surfacing materials, curbs and railings.

O. Off-Street Loading Warehouse and Wholesale. Off-street loading space for warehouse, wholesale shipping and similar facilities shall be determined by the Building Official or his authorized representative.

P. Off-Street Loading, Retail and Commercial. In any building or part thereof having a gross floor area of 10,000 square feet or more, which is to be occupied by a use requiring the receipt or distribution by vehicles of material or merchandise, there shall be provided and maintained on the same lot with such building at least one off-street loading space, plus one additional loading space for each 20,000 square feet or major fraction thereof of twenty (20) feet in width, thirty-five (35) feet in length and fourteen (14) feet in height.

Sec. 30.52. - Fences and hedges.

A. Heights. Fences, walls and hedges may be erected or maintained in any residential zoning district provided that no fence, wall or hedge over four (4) feet in height shall be erected or maintained in any front street or side street, or the side yard extending from the foremost edge of the house to the point where the side yard line intersects the front street or side street lot line. Fences and walls located along

side yards from the foremost edge of the house to the rear lot line, and along the rear lot line, shall not exceed a height of six (6) feet.

Height, for the purpose of this section, shall be defined as the vertical distance from the top rail, board, wire, or top of hedge to the ground directly below.

B. Visibility at Alley and Private Drive Approaches. On the street side of all lots where an alley or driveway enters the street right-of-way, a triangular clear vision zone shall be maintained. Said zone shall measure ten (10) feet into the lot as measured from the edge of the sidewalk nearest the property line, and twenty (20) feet parallel to the street measured from the edge of any alley or driveway, along the edge of the sidewalk nearest the property line. No fence, wall, hedge, or shrub over three (3) feet in

height shall be erected or maintained within the above defined clear-vision zone. If no sidewalk exists, the point of reference for all measurements shall be determined by the Building Official.

Regardless of other provisions of this section, no fences, wall, or hedge which materially impedes vision of vehicles entering an abutting street shall be erected or maintained.

C. Prohibited Fences. No electric fences shall be permitted in any zoning district. No barbed wire fence shall be permitted in any residential zoning district.

D. Prohibited Locations. No fence, wall or hedge shall be erected or maintained in a public street or right of-way.

E. Prohibited Materials. All fences shall be constructed from approved fencing materials and shall not be constructed from railroad ties, rubble or salvage.

Sec. 30.53. - Animals.

Prohibited Animals. No livestock or fowl as defined in Article II of this ordinance, may be kept or maintained in any zoning district in the city, except for licensed veterinarian services, and except for those kept pursuant to permit obtained pursuant to Section 4-2 through the office of the Sanitarian.

Sec. 30.54. - Motor vehicles or parts.

All inoperable motor vehicles or any parts thereof parked or stored in the open on any property for a period exceeding five (5) days will not be allowed and will be deemed a public nuisance. Any vehicle that is judged to be abandoned will be removed in accordance with the Livingston City Ordinances.

Sec. 30.55. - Home occupations.

A. General.

1. It is the intent of this ordinance to permit home occupations that meet the following criteria in any residential district. No other home occupations except those meeting this criteria will be allowed. Nonconforming home occupations shall meet the criteria within one year from the effective date of this ordinance.

2. The purpose of this ordinance is to protect the residential characteristic of the neighborhoods in Livingston. It is to ensure that the home occupations which are allowed to operate will not impose any burdens on the neighboring landowners. B. Definitions.

1. A home occupation is defined as any business or commercial activity that is conducted or petitioned to be conducted from a property which is zoned for residential use and which meets the conditions set forth in Section 30.55.C and Section 30.55.E.1. However, a medical marijuana facility is hereby specifically excluded from consideration as a home occupation.

2. A home occupation permit is a permit issued for a home occupation that is authorized by Section 30.55.E without hearing.

3. A home occupation conditional use permit is a permit authorized by the City Board of Adjustment only after a public hearing by the Board.

C. Criteria. Home occupations must fit all of the following criteria:

1. No person shall be employed other than the residents of said dwelling.

2. The occupation shall be conducted wholly within the dwelling or within an accessory building located on the property.

3. The gross floor area devoted to the occupation shall not exceed fifteen (15) percent of the total gross floor area of the dwelling unit plus accessory buildings on the property.

4. The occupation shall not impose upon adjacent residences unreasonable burdens due to noise, vibration, glare, fumes, odors, hours of operation, traffic, or electrical interference. The above shall not be detectable by normal sensory perception beyond the dwelling or accessory building in which the business is located.

5. Direct sales of products off display shelves or racks is not allowed, but a person may pick up an order which was placed earlier by telephone or at a sales party.
6. There shall be no signs erected other than those allowed by this ordinance in residential districts.
7. A minimum of one off-street parking space for each business related vehicle shall be provided on the property. Each parking space shall meet minimum standards for off-street parking established elsewhere in this code.
8. Commercial deliveries shall not restrict regular traffic. Deliveries made by tractor trailer vehicles to home occupations are prohibited in a residential area.
9. There shall be no display or evidence apparent from the exterior of the lot that the premises are being used for any purpose other than that of a dwelling, except for the permitted sign.
10. Outdoor storage of materials for the home occupation is prohibited.
11. No toxic, flammable, hazardous, or explosive industrial substances shall be used or stored on the premises unless registered with the Local Emergency Planning Committee. Said premises shall be subject to regular fire inspections.
12. No home occupation shall be permitted without the prior issuance of a home occupation permit or home occupation conditional use permit. D. Enforcement.

1. The permit shall be valid only for the proposed business as operated by the applicant. The permit shall be non-transferable either to another property or to another owner or operator. It may be revoked upon sufficient showing that a permit holder is violating the terms of the permit.
2. The business shall be subject to regular inspections by the City Fire Marshal and/or the City Building Inspector. The inspections shall be done during regular business hours.
3. The Building Official shall be responsible for enforcing this section of this ordinance, and shall report any violations to the Livingston City Attorney.

E. Compliance. It is the intent of this subsection to provide the Building Official with the means to enforce the Home Occupation section of this ordinance.

1. Businesses shall be divided into two categories based on the expected impact they will have on the residential neighborhood they are proposed for.
    a. A Major Home Occupation is one which can be expected to have some impact on the neighborhood it is proposed for. It is one which has some visible evidence of the occupation and shall accommodate both the residential and business related parking needs on the property. Additional characteristics include:
        (1) The business may have a sign; or
        (2) The business may create some additional traffic for deliveries and customers.
    b. A Minor Home Occupation is one which has no visible exterior evidence of the conduct of the occupation, which does not generate additional traffic, and in which no equipment other than that normally used in household, domestic, or general office use. Additional characteristics may include:
        (1) The business shall not have a sign.
        (2) No use of material or equipment not recognized as being part of the normal practices of owning and maintaining a residence shall be allowed.
        (3) No hazardous, flammable, explosive or toxic industrial substances may be used in a minor home occupation.
2. All Home Occupations in existence at the time of the adoption of this Ordinance and all new home occupations which fit the criteria of a minor home occupation shall be required to get a Home Occupation Permit.

a. The purpose of the Home Occupation Permit is to ensure compliance with this section of the Ordinance.

b. The Home Occupation Permit may be issued by the Building Inspector upon application by the owner of a Home Occupation.

c. The application shall be accompanied by a floor plan for the residence with the area to be used for the business clearly marked.

d. The application shall be accompanied with a fee of twenty dollars ($20.00) to cover processing.

3. All new Major Home Occupations shall be required to be reviewed by the City Board of Adjustment for a Home Occupation Conditional Use Permit.

a. The Home Occupation Conditional Use Permit process shall be initiated by application to the City Zoning Administrator.

b. The Zoning Administrator shall review the application for completeness and prepare it for review by the City Board of Adjustment.

c. The Zoning Administrator shall schedule a public hearing, advertise it two (2) times beginning at least fifteen (15) and not more than thirty (30) days prior to the public hearing date.

d. The Zoning Administrator shall notify the adjoining landowners within three hundred (300) feet of the proposed Home Occupation location, on the proposed business, and the date of the public hearing by mail at least fifteen (15) days prior to the date of the public hearing. The request shall be posted on the property at least ten (10) days prior to the public hearing.

e. The City Board of Adjustment shall conduct the public hearing and decide on the application.

f. The City Board of Adjustment shall have the power to require any mitigating measures it deems necessary to protect the public health, safety and welfare.

g. The Special Review shall have a fee of fifty dollars ($50.00).

(Ord. No. 2022, § 3, 9/7/10)

Sec. 30.56. - Mobile homes.

A. Residential Mobile Homes. Mobile homes are permitted in approved mobile home (RMO) parks and R-II (MH) districts only. No mobile homes shall be placed in other zoning districts except those specified in Section 30.56B.

Any mobile home or replacement of any existing mobile home moved onto a site in one of the approved zoning districts must contain a minimum of eight hundred (800) square feet, and must meet all of the following requirements before a Certificate of Occupancy can be issued by the Building Official:

A) All mobile homes must be completely skirted.

B) All mobile homes must be securely anchored at all four corners.

C) The running gear must be removed.

D) The tongue must be removed.

E) All mobile homes must be placed on a permanent foundation. For the purpose of this part, a permanent foundation means a foundation system which has been designed and certified by a professional engineer or architect, or which has been specified by the mobile home manufacturer.

B. Commercial Use. Mobile homes shall not be utilized for any commercial use, other than an on premises office in connection with a mobile home sales business or as a temporary job shack located

on a construction site. Such job shack must be removed within ten (10) days after completion of construction.

(Ord. 1813, 8/21/95)

Sec. 30.56.1. - Manufactured homes.

A. Manufactured homes are permitted in all residential zoning districts. Any manufactured home or replacement of any existing manufactured home must contain a minimum of one thousand (1,000) square feet.

B. All manufactured homes must be placed on a permanent foundation. For the purpose of this part a permanent foundation means a standard footing-type, perimeter foundation built to frost depth, with or without a basement.

C. A manufactured home of less than 1000 square feet may be placed if it meets all of the following conditions:

    a. The structure is on a permanent foundation.

    b. The tract or parcel of land for the proposed use must be owned by a unit of local government or a community housing development organization.

    c. The home must be used to provide affordable housing to households earning less than 80% of the area median income.

    d. A management plan from the local government or community housing development organization addressing the following factors is submitted to the City Administration and City Commission:

        i. Affordability plan (including proposed rents).

        ii. Management plan (including client eligibility and intake).

        iii. Proposed deed restrictions to be placed on the property requiring adherence to approved affordability plan.

(Ord. 1813, 8/21/95)

Sec. 30.57. - Commercial buildings in residential districts.

Whenever a commercial building is permitted in a residential district, either as a matter of right or by special use permit, that building must meet the density requirements of the residential zone in which it is located, except for the off-street parking requirements. The minimum off-street parking requirement will be established by the Building Official in accordance with Section 50.51.

Sec. 30.58. - Townhouses.

A. Townhouses are permitted in RII, RII(MH) and RIII districts only.

B. All townhouse development must comply with the density and setback requirements set forth in Table 30.41, the off-street parking requirements found in Section 30.51, and all other applicable regulations.

(Ord. 1798, 12/19/94)

Sec. 30.59. - Landscaping regulations.

A. Purpose. The purpose of the ordinance codified in this section is to set forth minimum landscaping requirements for new or altered commercial, industrial, R-III and RMO Zones in order to minimize the visual impact upon public rights-of-way and incompatible uses in said zones and adjacent or abutting R-I or R-II Zones as well as establishing minimum buffering requirements between new or altered

commercial, industrial, R-III and RMO Zones and existing incompatible uses and abutting or adjacent R-I or R-II zones and to lessen the impact of lighting.

B. Definitions. For the purposes of this section, the following definitions shall apply:

1. "Ornamental tree" means any variety of tree which is not expected, at maturity, to reach a height of fifteen (15) or more feet nor be a substantial provider of shade.

2. "Shade tree" means any variety of tree which is expected, at maturity, to be in excess of twenty-five (25) feet in height and sufficiently full in form to provide substantial shading effects.

3. "DBH" means diameter at breast height.

C. Prohibition. No land shall be used or occupied and no structure shall be designed, erected, used, occupied or altered where a building permit is required, nor shall any variance or special exception be granted, except in conformity with the regulations established in this section.

D. General Landscaping Requirements. Landscaping shall be required as follows:

1. Parking or Storage Areas. Screening, in the form of trees, hedges or other vegetation shall be required between commercial, industrial and multi-family parking and/or storage areas and any public right-of-way. Such screening shall be entirely on private property, shall be a minimum of four (4) feet in height, and shall not constitute a safety hazard for vehicular or pedestrian movement as defined in Section 30.52 of the Livingston Municipal Code. Decorative walls or fencing or earthen berms may also be used in combination with vegetative screening subject to review and approval of the City.

2. Requirements for the Interior of Parking Areas.

a. Option #1. Parking areas will be designed so that parking rows will consist of not more than ten (10) automobiles. Any parking area which has a capacity of twenty (20) or more automobiles will be required to provide landscaped islands between parking rows. The island(s) will be at least five (5) feet wide and shall consist of vegetation or other landscape treatment as well as a minimum of one (1) shade tree per every ten (10) parking spaces or portion thereof. The island(s) will be separated from the parking surface by a curb of at least six (6) inches in height.

b. Option #2. In the alternative, where parking rows are to consist of more than ten (10) parking spaces, landscaped islands will be provided in accordance with an approved landscape plan. The plan will provide for landscaped area equal to a minimum of five (5) percent of the gross parking space area. (i.e., 1 parking space = 180 square feet. Landscape requirement = 5% × 180 × number of spaces.) When using this option at least two (2) islands will be required and each island must be a minimum size of fifty (50) square feet. Each island will contain vegetation or other landscape treatment as well as a minimum of one (1) shade tree per every ten (10) parking spaces or portion thereof.

3. Buffering Required Between Different Land Uses. Where commercial, industrial, multi-family or mobile home park land uses abut or are adjacent to lower density residential land uses or zones, either directly or when separated by an alley or street right-of-way or other natural or manmade structure, the commercial, industrial, multi-family or mobile home park use will provide a landscaped buffer zone screening itself from the lower density residential use.

a. Buffer Zone. The buffer zone shall be a minimum of five (5) feet in width with an additional five (5) feet required for each story of the commercial, industrial or multi-family use above one (1) story, not to exceed twenty-five (25) feet in width.

b. Screening. Screening shall be installed within the buffer zone which shall consist of vegetation or vegetation and a combination of berm, fencing or masonry walls to a minimum height of six (6) feet in a manner which does not create a safety hazard for vehicular or pedestrian movement or interfere with the requirements of Section 30-52(B) of the Livingston Municipal Code.

c. Shade Trees. In addition, a minimum of one (1) shade tree within each two hundred fifty (250) square feet of buffer zone shall be required. Shade trees required hereunder shall be a minimum of two and one-half (2 ½) inches, DBH, in size at the time of planting.

E. Purpose of Lighting Restrictions. The goal in regulating exterior illumination is to direct, to the maximum extent possible, all artificial light onto the property from which it originates. This section does not apply to street lighting provided by a governmental agency.

1. Parking or Storage Area. In any area required to buffer itself from adjacent land uses, all exterior lighting shall be limited in height to no more than sixteen (16) feet and will be required to be of a design which directs light downward through the use of a directional shade.

2. Signs and Decorative Lighting. In commercial and industrial areas adjacent to any land use from which it must be buffered, the following lighting regulations shall apply:

a. Internally Illuminated Signs. Internally illuminated signs shall not exceed sixteen (16) feet in height. Internally illuminated canopies or structural panels are prohibited. Alternately, spotlight signs, canopies or panels may be approved at standard heights if they will not adversely affect neighboring property which determination rests with the discretion of the city planning office, subject to appeal to the Board of Adjustment.

F. Penalty. A violation of this section is a misdemeanor punishable by fine not to exceed five hundred dollars ($500.00). Each day that a violation is allowed to continue shall be deemed a separate and punishable offense.

(Ord. 1852, 4/21/97)

Section 30.60.- Sexually oriented businesses.

No sexually oriented business shall be operated or maintained within the corporate limits of the City of Livingston except within the Industrial Zone with the further limitation that no sexually oriented business shall be front on Park Street and shall be set back from Bennett Street a minimum distance of two hundred fifty (250) feet. No sexually oriented business shall be operated or maintained within six hundred (600) feet of either a City or County residential zone, a church, an elementary or high school, a State licensed day care facilities, public libraries, parks or playgrounds, or another sexually oriented business. The distance limitation in this section shall be measured in a straight line from the main public entrance of said sexually oriented business to the property line of properties in residentially zoned districts, churches, elementary or high schools, State-licensed day care facilities, public libraries, parks or playgrounds, or another sexually oriented business.

Sec. 30.61. - Wind powered generators. A.

Definitions.

1. "Wind Powered Generator(s)" or "WPG" means any device, such as a wind charger, wind mill, or wind turbine, and associated facilities including the support structure of the system, such as a tower, that covers wind energy to electrical energy which has been certified to conform to applicable industry standards by a nationally recognized certifying organization such as Underwriters Laboratories or similar certifying organization.

2. "Wind powered generator height" means the height of a freestanding WPG shall be measured from the ground level to the highest point on the WPG, including the vertical length of any extensions of the WPG, such as the blade.

3. "Tower", as used herein, includes the support structure and all components of the WPG.

B. Special Exception. Wind-powered generators (WPG), as defined herein, are permitted upon the issuance of a Special Exception permit within any zone, provided the following standards, and any related conditions imposed by the Board of Adjustment, are satisfied. No WPG, or modification thereto, shall be constructed within the City of Livingston, unless a permit has been issued by the City.

1. The permit application shall be accompanied with a non-refundable fee in the amount of one hundred dollars ($100.00).

2. The permit application shall contain a narrative describing the proposed project, the project location, the approximate generating capacity of the facility, a site plan, a photograph of the same type of wind powered generator being proposed and whether the system will be standalone or interconnected to a public utility under the provisions of 69-8-601 et seq. Montana Code Annotated.

C. Maximum Height. The maximum height of a freestanding WPG, on any parcel, or combination of parcels thereof, having a total square footage of one (1) acre or less is limited to sixty (60) feet in height. The maximum height of a freestanding WPG, on any parcel, or combination of parcels thereof, having a total square footage of one (1) acre or more is limited to one hundred (100) feet in height.

1. The Board of Adjustment may increase the height of freestanding WPG, provided that in the residential and commercial, districts such increase shall not exceed the maximum height by more than fifty (50) percent. The applicant shall demonstrate, to the Board of Adjustment's satisfaction, that the surrounding topography, structures, vegetation, and other factors make a tower that complies with the height restrictions impractical.

2. Notwithstanding the height limitations of the zoning district, building mounted WPG shall be permitted in all zoning districts, subject to approval by the Board of Adjustment, and shall comply with the following standards:

   a. Building mounted WPG shall not exceed fifteen (15) feet in height.

   b. Building mounted WPG shall be prohibited on residential structures less than four (4) stories and forty-two (42) feet in height.

   c. On nonresidential buildings less than four (4) stories and forty-two (42) feet in height, building mounted WPG shall be setback at least ten (10) feet from the front, side, and rear exterior walls of the structure on which it will be mounted.

   d. Building mounted WPG shall be installed on the top story.

   e. The structure upon which the proposed WPG is to be mounted shall have the structural integrity to carry the weight and wind loads of the WPG and have minimal vibration impacts on the structure, as determined by a structural engineer.

3. Minimum ground clearance. The blade tip of any WPG shall, at its lowest point, have ground clearance of no less than fifteen (15) feet.

D. Minimum Setback. Minimum setback from any property line shall be one hundred (100) percent of the total tower height, as defined herein and no guy wire may extend close than thirty (30) feet from any property line. No part of the wind generator shall extend over, or across, any part of a public right-of way.

E. Noise Standard, Shadow Flicker and Signal Interference:

1. Any noise produced by a WPG, permitted under this Section, shall be less than sixty (60) db. as measured from the closest neighboring occupied building; and it is incumbent upon the applicant to demonstrate compliance prior to the issuance of any permits by the Board of Adjustment.

2. The facility owner and operator shall make reasonable efforts to minimize shadow flicker to any occupied building not on the property upon which the WPG is located.

3. The applicant shall make reasonable efforts to avoid any disruption or loss of radio, telephone, television or similar signals, and shall mitigate any harm caused by the wind powered generators.

F. Fencing Requirement and Warnings. All WPG installations, other than single-pole towers, shall be enclosed by a fence with locking gate, or incorporate other effective measures to discourage unauthorized climbing of the tower. Towers shall not be climbable up to fifteen (15) feet above ground surface. A visible warning sign concerning voltage must be placed at the base of all towers. Reflective and brightly colored tubing shall be placed on guy wires up to a height of ten (10) feet from the ground.

G. Control and Brakes. All wind powered generators shall be equipped with a redundant braking system. This includes both aerodynamic over speed controls (including variable pitch, tip and other similar systems) and mechanical brakes. Mechanical brakes shall be operated in a fail-safe mode. Stall regulation shall not be considered a sufficient braking system for over speed protection.

H. Liability insurance: Construction Phase. There shall be maintained a current general liability policy covering bodily injury and property damage with limits of at least one million dollars ($1,000,000.00) per occurrence and one million dollars ($1,000,000.00) in the aggregate. Certificates of insurance shall be filed with the City of Livingston who will also be named as an additional insured.

I. Aesthetics. WPG colors shall be of neutral subdued tones such as each tones or green or brown. Gray, including darkening galvanized gray, is also acceptable. If constructed on top of structure and visible from the ground, the WPG colors shall be a shade of sky blue. WPG shall not be finished in bright or vivid colors intended to draw attention to the structure or property. WPG shall not be illuminated by artificial means, except where required by the Federal Aviation Administration, or other federal, state, or local law.

    1. All permitted WPG shall be placed in a reasonably available location that will minimize the visual impact on the surrounding area, and allow the facility to function in accordance with the standards established by this Section, and all other federal, state, and local law.

    2. Wind towers shall not display any advertising, except for reasonable identification of the manufacturer and facility owner/operator, not to exceed one (1) square foot in size.

J. Building, Electrical, Other Permits. All WPG shall comply with all applicable building, electrical, mechanical, and other permits required and issued by the City of Livingston, the State of Montana and/or federal regulations. This is to include any approvals required from the Historic Preservation Commission, or other local entity.

K. Technological Obsolescence. If an applicant can demonstrate, to the satisfaction of the Board of Adjustment, that improvements in WPG technology have made some parts of this Section, and requirements, obsolete or unnecessary, the Board of Adjustment may waive those requirements while still satisfying the original intent and application of this Section. Once every two (2) years, the City shall review existing WPG technology for comparison to this Section, to be sure technological improvements are addressed.

L. Requirements for Removal. Any WPG that is abandoned, damaged, inoperable, or unused for power generation shall be removed within twelve (12) months of the cessation of operations, unless an extension is approved by the Board of Adjustment. If such an extension is not approved, such WPG shall be deemed a nuisance and require its removal at the property owner's expense. After the WPG removal, the owner of the site shall restore the site to its original, or an improved, condition.

M. Application of Nuisance Law. If, after a Special Exception permit is issued, by the Board of Adjustment for a WPG, and the same WPG fails to comply with any part of this Section, it may be deemed a nuisance and all applicable nuisance laws and regulations may be utilized for mitigation.

(Ord. No. 2002, § 1, 8/4/08)

Editor's note— Ord. No. 2002, § 1, adopted Aug. 4, 2008, amended Ch. 30 with the addition of a new, unnumbered section. Said section has been numbered § 30.61 at the discretion of the editor.

SECTION 2

Effective date:

This ordinance will become effective 30 days after the second reading and final adoption.

PASSED by the City Commission of the City of Livingston, Montana, on first reading at a regular session thereof held on the 2nd day of March, 2021.

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DOREL HOGLUND – Chair ATTEST:

_____

FAITH KINNICK
Recording Secretary

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PASSED ADOPTED, AND APPROVED by the City Commission of the City of Livingston, Montana, on second reading at a regular session thereof held on the 6th day of April, 2021.

_____

DOREL HOGLUND – Chair

ATTEST:

_____

FAITH KINNICK
Recording Secretary

APPROVED AS TO FORM:

_____

COURTNEY LAWELLIN
City Attorney

NOTICE

NOTICE is hereby given, a public hearing will be conducted by the Livingston City Commission on Tuesday, April, 6, 2021, during a second reading of **ORDINANCE NO. 3003: entitled AN ORDINANCE OF THE CITY COMMISSION OF THE CITY OF LIVINGSTON, MONTANA, AMENDING ARTICLE II, ARTICLE IV and ARTICLE V, CHAPTER 30 OF THE LIVINGSTION MUNICIPAL CODE ENTITLED ZONING AS IT PERTAINS TO TEXT AMENDMENTS REGARDING MARIJUANA PRODUCTION FACILITY, HEALTH AND EXERCISE ESTABILISHMENT, RETAIL, AND LARGE-SCALE RETAIL.** This public hearing will be conducted via Zoom. All interested parties are invited to attend and give their comments. To join this meeting visit http://us02web.zoom.us Meeting ID: 890 2093 1586 Passcode: 676846 or by phone at (669) 900-6833. For additional information contact Faith Kinnick at (406) 823-6002.

Please publish Thursday, March 11, 2021, and March 25, 2021.

Faith Kinnick
City of Livingston
February 25, 2021

File Attachments for Item:

B. ORDINANCE NO. 3004: AN ORDINANCE OF THE CITY COMMISSION OF THE CITY OF LIVINGSTON, MONTANA, AMENDING ORDINANCE NO. 1870 AS CODIFIED BY CHAPTER 2, SECTION 110 OF THE LIVINGSTON MUNICIPAL CODE ENTITLED SITE PLAN REVIEW.

February 24, 2021

STAFF REPORT
ORDINANCE UPDATE – SITE PLANS REVIEW

Background

Planning and Public Works Staff have worked to update Section 2-110 of the City Ordinances entitled "Site plans review". The impetus for the update to the language is concern from staff that larger scale projects that do not require review, such as condo developments, multi-family housing, as well as larger commercial and industrial developments, are creating unsafe conditions and causing unmitigated "downstream" off-site infrastructure impacts. Furthermore, the Commission and public have expressed a desire for additional review for large-scale retail (big box) uses, which the updated site plan language would allow. In general, the updated site plan review language allows for a much more in-depth review of large-scale projects more akin to the impacts that would be reviewed through the subdivision process, including allowing the Planning Department to gather input from city, local, state, and federal agencies, while ensuring that local ordinances and plans are implemented in the development process of large projects. The updated language allows the Planning Department to condition the approval of the development based on materials submitted by the applicant, agency comment, and City plans and ordinances as the City would be able to do with a subdivision approval.

Finally, in concert with Infrastructure Design Standards, the site plan updates should give the public and developers a clear understanding of submittal requirements and infrastructure and building standards adopted by the City.

Proposed Findings of Fact

Proposed Ordinance Updates: An Ordinance has been included as Attachment I which includes all of the proposed changes.

What the Ordinance Update Achieves:

Any development proposal that meets the following criteria is subject to site plan review:

1. Ten (10) or more dwelling units on a single lot.
2. Ten-thousand (10,000) or more gross square feet of commercial or industrial floor area on a single lot.
3. Ten-thousand (10,000) or more square feet of outdoor storage area on a single lot.
4. Twenty (20) or more parking spaces on a single lot.
5. Any addition to an existing use that meets any of the above criteria

The cutoff criteria allow City Staff to do an in-depth review of projects that have larger human and infrastructure impacts, including traffic, bike/pedestrian trips, stormwater runoff, water/ sewer use and generation, and noise and light impacts.

Perhaps most importantly, the updated site plan language allows the Planning Department to condition approval of a site plan based on the following list of criteria:

a. Relationship of the Site Plan elements to conditions both on and off the property.
b. Conformance with the City of Livingston Zoning Ordinance, including cessation of any current violations.
c. Conformance with applicable City of Livingston Ordinances and plans.
d. The safety of vehicular, bicycle and pedestrian ingress and egress.
e. Provision for utilities.
f. Conformance with the City's Public Works Design Standards and Specification Policy.
g. Historic preservation.
h. The impact of the proposal on surface and ground water.
i. The impact of the proposal on wildlife and the natural environment.
j. Open space.
k. Landscaping and screening.
l. Loading and unloading areas.

Allowing staff to condition the approval of a site plan, much like subdivision review, allows the Planning Department to collaborate with other agencies on protecting both the natural environment and the health, safety, and welfare of the community. It also allows the Planning Department to implement goals and objectives listed in City Plans. Examples of this would be requiring a sidewalk within a condominium development, requiring a historic inventory based on SHPO comment, or requiring a trail easement to ensure the continuation of a trail or to protect a location shown for a future trail in a trails plan. It should be made very clear that conditions of approval must be connected to one of the criteria above and cannot be arbitrary but must be in regards to a legitimate and documented concern. Conditional approvals also allow the Planning Department to condition approval on ensuring that other required permits, such as Army Corps of Engineers 310 permits, are received prior to any development on the site.

The Site Plan Review is a purely administrative process and would not require a public hearing. This ensures consistent application of the review criteria and a greater level of predictability for those desiring to develop or redevelop their property.

Staff Recommendation

Staff believes that the updated Site Plan Review Ordinance meets the goals of the City in protecting the health, safety, and welfare of residents and visitors alike, and aids the City

in preserving our natural and historic resources. Staff is recommending the City Commission adopt the proposed updated language at this time.

Attachments

Attachment I……Draft Ordinance

ORDINANCE NO. 3004

AN ORDINANCE OF THE CITY COMMISSION OF THE CITY OF LIVINGSTON, MONTANA, AMENDING ORDINANCE NO. 1870 AS CODIFIED BY CHAPTER 2, SECTION 110 OF THE LIVINGSTON MUNICIPAL CODE ENTITLED SITE PLAN REVIEW.

Preamble.

The purpose of this Ordinance is to make clear what projects are subject to site plan review and to revise both the submittal requirements and the site plan review criteria.

*****

WHEREAS, the City of Livingston initially adopted a site plan review ordinance in 1998; and

WHEREAS, The City Administration has recognized that the potential exists for increased development activity of projects that do not qualify as subdivisions; and

WHEREAS, such projects are not subject to the design specifications found in City Subdivision Regulations nor the review criteria found in State Subdivision Law; and

WHEREAS, it is the desire of the Administration to strengthen the site plan review ordinance to provide adequate oversite of such projects as well as providing a clear understanding of the City's requirements and review criteria for the benefit of land owners and potential developers.

NOW, THEREFORE, BE IT ORDAINED by the City Commission of the City of Livingston, Montana, that Ordinances No. 1870 as codified in Chapter 2, Section 110 of the Livingston Municipal Code be and the same is hereby amended with additions underlined and deletions struck through, as follows:

SECTION I.

Sec. 2-110. - Site plan~~s~~ review.

A. Site Plan Review. ~~Any and all commercial or industrial development or redevelopment will be required to apply to the City for site plan review. The purpose of this review is to identify and mitigate any conflicts or inconsistencies between the proposed project, existing services, future needs and the City's development standards.~~ All development proposals meeting any of the following criteria require site plan review:

1. Ten (10) or more dwelling units on a single lot.
2. Ten-thousand (10,000) or more gross square feet of commercial or industrial floor area on a single lot.

3. Ten-thousand (10,000) or more square feet of outdoor storage area on a single lot.

4. Twenty (20) or more parking spaces on a single lot.

5. Any addition to an existing use that meets any of the above criteria.

B. Building Permit. ~~All projects which require a building permit are subject to site plan review~~. No building permit shall be issued nor will any work of any kind commence until the application for site plan review has been approved in writing by ~~an authorized City official~~ the Zoning Coordinator.

C. Applications for Site Plan Review. All applications for site plan review shall be submitted to the City of Livingston Planning Department. All Site Plan applications shall be consistent with the submittal requirements listed below.

~~1. The City shall require, when deemed necessary, changes, modifications or improvements in the proposed plans and drawings submitted for review in order to bring development projects into compliance with established City development standards and future needs. Applications for site plan review, containing adopted development standards, will be made on a form supplied by the City to which will be attached plans and drawings submitted by the developer or his agents which address the following issues:~~

~~a. Zoning. Land use type, lot size/density, property line setbacks, building heights, parking requirements, signs, landscaping requirements, screening, lighting and any other site-specific issues deemed to be pertinent to a given project;~~

~~b. Sewer and Water. Service lines and applicable fees, main extensions, payback areas and hydrant placement;~~

~~c. Storm Water. Site grading and drainage, parking area surfacing, oil and grease traps, storm water retention and/or connection to storm sewers;~~

~~d. Streets and Transportation. On-site traffic flow, curb cuts, proposed and existing ingress and egress to the property, sidewalks, boulevards, pedestrian safety, impact on public streets, traffic control devices and any other required off-site improvements;~~

~~e. Emergency Services. Building security and patrol requirements, lighting, fire access and water flows for fire fighting;~~

~~f. Solid Waste. Size, type, location and access to receptacles.~~

D. Submittal requirements. All items listed below shall be submitted to the Planning Department with any Site Plan application. The items listed are the minimum submittal requirements. The Planning Department may request additional information as deemed necessary to evaluate the application based upon the Site Plan Review Criteria.

1. General Information.

i. Completed Application form.

ii. Vicinity map including adjacent roads and zoning on adjacent parcels.

iii. Engineering design report.

iv. A copy of the most recent plat.

v. Proposed uses of all structures on the site.

vi. Number and density of proposed dwelling units (if applicable).

2. Project Specific Information. The site plan application shall include the following, project specific, information. Specific submittal requirements for each item shall be listed in the City of Livingston Site Plan Application, Public Works Design Standards and Specifications Policy, City Ordinances, or referenced document. Site plans shall be appropriately divided into separate sheets to ensure legibility of the documents.

i. Boundary of the parcel with complete dimensions and topographic lines.

ii. Project phasing line (if applicable).

iii. Parcel size in square feet.

iv. North arrow and required legends.

v. Scale of between 1 inch to twenty feet (1":20') and one inch to one hundred feet (1":100')

vi. Location and width of all on-site and adjacent rights-of-way.

vii. Street Design conforming to the City's Public Works Design Standards and Specification Policy.

viii. Grading and drainage plan conforming to the City's Public Works Design Standards and Specifications Policy.

ix. Location of all proposed structures on site, with the distance of all structures to the property lines labeled and the square footage of the structures listed.

x. Building plans including:

xi. Location and design of any fences or walls.

xii. Landscaping plans.

xiii. Parking plans.

xiv. Location of site ingress and egress.

xv. Lighting plan conforming to the requirements of Chapter 18 of the Livingston Municipal Code.

xvi. Location and size of trash enclosures and associated screening.

xvii. Utility plan.

xviii. Sign plan.

xix. Copies of FEMA FIRM maps if any of the site is located within the 100-year floodplain.

3. Additional plans and studies.

i. A traffic impact study if determined to be required by the City of Livingston Public Works Department.

ii. A flood study if determined to be required by the City of Livingston Floodplain Administrator.

iii. A letter from the State Historic Preservation Office (SHPO), if determined to be required by the City Historic Preservation Officer, inventorying historic and

cultural resources on the site and plans to preserve any identified historic and cultural resources.

iv. All required local, state, and federal permits associated with the site plan application.

E. Applications with required supporting data and applicable filing fees shall be filed with the City Planning Office. The site plan review will not commence until all required documents and fees have been submitted.

F. The filing fee for site plan review ~~is two hundred fifty dollars ($250.00~~) shall be set by separate Resolution.

G. The site plan application ~~review committee shall consist of the City Manager and department heads or other designated person. The site plan review committee will meet as necessary to review each application~~ shall be reviewed by the Zoning Coordinator. The Zoning Coordinator shall consult with local, state, and federal agencies as deemed necessary to evaluate the impact of the site plan proposal on the Site Plan Review Criteria as listed in the section.

H. Site Plan Review Criteria.

1. Relationship of the Site Plan elements to conditions both on and off the property.
2. Conformance with the City of Livingston Zoning Ordinance, including cessation of any current violations.
3. Conformance with applicable City of Livingston Ordinances and plans.
4. The safety of vehicular, bicycle and pedestrian ingress and egress.
5. Provision for utilities.
6. Conformance with the City's Public Works Design Standards and Specification Policy.
7. Historic preservation.
8. The impact of the proposal on surface and ground water.
9. The impact of the proposal on wildlife and the natural environment.
10. Open space
11. Landscaping and screening
12. Loading and unloading areas.

I. Conditions of Approval. The Zoning Coordinator may require conditions of approval as deemed necessary to ensure the site plan meets the Site Plan Review Criteria as listed in this section. A Certificate of Occupancy shall not be granted prior to the completion of all site plan conditions of approval.

J. Amendments to Approved Site Plans. Any amendment or modification of an approved Site Plan shall be submitted to the Planning Department for review and possible approval.

K. Violations and Civil Penalty. Any work performed contrary to the approved site plan shall not be permitted, a stop order will be issued and all work will cease until the violation is either removed or made to conform with the site plan at the applicant's expense. A violation may be punished by a civil penalty not to exceed five hundred dollars ($500.00) for each day the violation is allowed to continue and each day shall be deemed a separate violation.

PASSED by the City Commission of the City of Livingston, Montana, on the first reading at a regular session thereof held on the 2nd day of March, 2021.

DOREL HOGLUND, CHAIR

ATTEST:

FAITH KINNICK
Recording Secretary

****

PASSED, ADOPTED AND APPROVED, by the City Commission of the City of Livingston, Montana, during a second reading at a regular session thereof held on the 6th day of April, 2021.

DOREL HOGLUND, CHAIR

ATTEST:

FAITH KINNICK
Recording Secretary

APPROVED TO AS FORM:

COURTNEY JO LAWELLIN
City Attorney

NOTICE

NOTICE is hereby given, a public hearing will be conducted by the Livingston City Commission on Tuesday, April, 6, 2021, during a second reading of **ORDINANCE NO. 3004: entitled AN ORDINANCE OF THE CITY COMMISSION OF THE CITY OF LIVINGSTON, MONTANA, AMENDING ORDINANCE NO. 1870 AS CODIFIED BY CHAPTER 2 SECTION 110 OF THE LIVINGSTON MUNICIPAL CODE ENTITLED SITE PLAN REVIEW.** This public hearing will be conducted via Zoom. All interested parties are invited to attend and give their comments. To join this meeting visit http://us02web.zoom.us Meeting ID: 890 2093 1586 Passcode: 676846 or by phone at (669) 900-6833. For additional information contact Faith Kinnick at (406) 823-6002.

Please publish Thursday, March 11, 2021, and March 25, 2021.

Faith Kinnick
City of Livingston
February 25, 2021

File Attachments for Item:

A. RESOLUTION NO. 4948: A RESOLUTION OF THE CITY OF LIVINGSTON, MONTANA, OF ITS INTENT TO ANNEX CERTAIN LAND WHICH IS CONTIGUOUS TO THE CITY OF LIVINGSTON AND INCLUDES THE PROPERTY BETWEEN NORTH O AND THE RIVER TO INCLUDE KPRK RADIO STATION.

RESOLUTION NO. 4948

A RESOLUTION TO THE CITY OF LIVINGSTON, MONTANA, OF ITS INTENT TO ANNEX CERTAIN LAND WHICH ARE CONTIGUOUS TO THE CITY OF LIVINGSTON AND INCLUDE THE PROPERTY BETWEEN NORTH O AND THE RIVER TO INCLUDE KPRK RADIO STATION.

WHEREAS, Section 7-2-4301, Montana Code Annotated, authorizes annexation of contiguous land; and

WHEREAS, the City Commission of the City of Livingston, Montana, has determined that it is in the best interest of the City and the inhabitants of the properties identified in the City's Annexation Policy that the boundaries of the City of Livingston be extended to include the property between North O Street and the River, to include KPRK, and some of which have City services and are wholly surrounded by other property within the corporate limits of the City;

WHEREAS, Section 7-2-4325 MCA allows for two or more adjacent tracts to be included in one resolution; and

WHEREAS, the provision of services can be accomplished with no additional capital expenditure on the part of the City.

NOW, THEREFORE, BE IT RESOLVED, by the City Commission of the City of Livingston, Montana, as follows:

It is the intent of the City Commission to annex contiguous land more particularly described as:

1. **1404 East Park Street**
   Parcel in the S ½ SW ¼ less Certificate of Survey 1226 in Section 7 of Township 2 South Range 10 East, on file with the Park County Clerk and Recorder.

2. **1500 East Park Street**
   Parcel in the S ½ SW ¼ containing 14,78 acres more or less in Section 7 of Township 2 South Range 10 East, on file with the Park County Clerk and Recorder.

3. **5 Harris Place**
   Parcel B in Certificate of Survey 303 in the S ½ SW ½ East of the River in Section 7 of Township 2 South Range 10 East, on file with the Park County Clerk and Recorder.

4. 2 Harris Place
Portion of the SW ¼ SW ¼ SE ¼ set forth in Plat 621 in Section 7 of Township 2 South Range 10 East, on file with the Park County Clerk and Recorder.

5. 5584 US Highway 89 South
Parcel A in Certificate of Survey 303 in Section 7 of Township 2 South Range 10 East, on file with the Park County Clerk and Recorder.

6. 5576 US Hwy 89 South (KPRK Radio Station)
Parcel with a metes and bounds description in the S ½ South of the Railway and Highway in Section 7 of Township 2 South Range 10 East, on file with the Park County Clerk and Recorder.

7. 5574 US Hwy 89 South
Parcel with a metes and bounds description in the S ½ South of the Railway and Highway in Plat 316 in Section 7 of Township 2 South Range 10 East, on file with the Park County Clerk and Recorder.

PASSED at a first reading by the Livingston City Commission, on March 2nd, 2021.

ATTEST:

_____
FAITH KINNICK
Recording Secretary

PASSED ADOPTED AND FINALLY APPROVED, during a second reading by the Livingston City Commission this 6th day of April, 2021.

DOREL HOGLUND- Chair

ATTEST:

FAITH KINNICK
Recording Secretary

APPROVED TO AS FORM:

COURTNEY JO LAWELLIN
City Attorney

PUBLIC NOTICE

NOTICE is hereby given, a public hearing will be conducted by the Livingston City Commission on Tuesday, April 20, 2021, during a second reading of **RESOLUTION NO. XXXX: entitled A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF LIVINGSTON, MONTANA, OF IT'S INTENT TO ANNEX CERTAIN LAND WHICH ARE CONTIGUOUS TO THE CITY OF LIVINGSTON AND ARE DESCRIBED AS THE PROPERTY BETWEEN NORTH O AND THE RIVER TO INCLUDE KPRK RADIO STATION.** This hearing will be conducted via Zoom. All interested parties are invited to attend and give their comments. To join this meeting http://us02web.zoom.us Meeting ID: 890 8543 7403 Passcode: 514741 or by phone at (669) 900-6833. For additional information contact Faith Kinnick at (406) 823-6002.

Please publish Friday, March 5, 2021 and April 2, 2021.

Faith Kinnick
City of Livingston
March 2, 2021

Resolution No. 4948, Intent to Annex to include the property between North O St. and the River to include KPRK Radio Station

PUBLIC NOTICE

NOTICE is hereby given, a public hearing will be conducted by the Livingston City Commission on Tuesday, April 6, 2021, during a second reading of **RESOLUTION NO. 4948: entitled A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF LIVINGSTON, MONTANA, OF IT'S INTENT TO ANNEX CERTAIN LAND WHICH ARE CONTIGUOUS TO THE CITY OF LIVINGSTON AND INCLUDE THE PROPERTY BETWEEN NORTH O STREET AND THE RIVER TO INCLUDE KPRK RADIO STATION.** This public hearing will be conducted via Zoom. All interested parties are invited to attend and give their comments. To join this meeting http://us02web.zoom.us Meeting ID: 890 2093 1586 Passcode: 676846 or by phone at (669) 900-6833. For additional information contact Faith Kinnick at (406) 823-6002.

Please publish Friday, March 12, 2021 and March 26, 2021.

Faith Kinnick
City of Livingston
February 25, 2021

File Attachments for Item:

B. RESOLUTION NO. 4949: A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF LIVINGSTON, MONTANA, ADOPTING PUBLIC WORKS DESIGN GUIDELINES AND SPECIFICATIONS POLICY.

Shannon W. Holmes
Public Works Director

Martha O'Rourke
Project Manager

Almira Johansson
Administrative Assistant

330 Bennett Street
Livingston, MT 59047
Phone: (406) 222-5667

City of Livingston
Incorporated 1889

www.livingstonmontana.org

Hal Haefs
Water / Sewer
Craig Hahn
Streets
Rich Stordalen
Transfer Station
Eric Schneider
Parks
Russell Smith
Waste Reclamation Facility

Memo

TO: Michael Kardoes

FROM: Shannon Holmes

RE: 2021 City of Livingston Public Works Design Guidelines and Specification Policy

I am very pleased to present the 2021 City of Livingston Public Works Design Guidelines and Specification Policy to the City Commission for approval on the March 2nd City Commission meeting. This document has been a priority of mine over the last 7 years and is included in the 2019-2024 Strategic Plan in 3.4 *Re-write current code* in the Infrastructure section. This document compiles submittal, design and construction coordination requirements from our subdivision regulations and 6 city code chapters into one standalone document.

The guidelines and specification policy was compiled by staff of the Public Works and Planning Department and Keith Waring, City Engineer, representing years of field and design experience with essential infrastructure. The intent is to achieve maximum uniformity of engineering and construction practices within the City of Livingston.

The 2021 City of Livingston Public Works Design Guidelines and Specification Policy has been prepared to provide a written representation of minimum standards for construction of public improvements within the public right-of-way, easements, city properties and on private property relating to utilities which are connected to the basic city utility system. The application of this manual has been coordinated with the latest edition of the City of Livingston Modifications to the Public Works Standards.

The Public Works Design Guidelines and Specification Policy should be considered a "living document" and is subject to updates and revisions. To aid professional engineers, planners, developers, home owners and any other design professional, recent revisions to the document will be listed in a table for a one (1) year period from date of approval.

We anticipate updating the transportation section within this document once the Trails and Active Transportation Plan is accepted by the City Commission along with the street lighting section once the Night Sky Ordinance is updated.

I strongly recommend the City Commission approve the Resolution implementing this document.

I would be happy to answer any questions.

Shannon Holmes
Public Works Director

Public Works Design Standards and Specifications Policy

February 2021

CITY OF LIVINGSTON
PUBLIC WORKS DESIGN STANDARDS AND SPECIFICATIONS POLICY

Prepared by:

Public Works Department

February 2021

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FOREWORD

This document has been prepared to assist design engineers, architects, developers, contractors, or other interested individuals with the preparation of plans and specifications for public infrastructure improvements so that they will meet the requirements of the City of Livingston (COL). The requirements specified herein have been established through the subdivision regulations, municipal code, or City policies.

It is the intent of the COL to revise this document on an as-needed basis as regulations and policies are modified. Written comments on this "Design Standards and Specifications Policy" are encouraged and may be submitted to the Public Works Director.

If any portion of this document is found to conflict with the Livingston Municipal Code (LMC), the provisions of the LMC shall supersede this Guide.

Abbreviations Used

AASHTO - American Association of State Highway and Transportation Officials
ADA - Americans with Disabilities Act
ASTM - American Society for Testing and Materials
AWWA - American Water Works Association
LMC - Livingston Municipal Code
LUDO – Livingston Unified Development Ordinance
COL - City of Livingston
DEQ - Department of Environmental Quality
ESAL - Equivalent Single Axle Load
FSP - Final Site Plan
MPWSS - Montana Public Works Standard Specifications
MUTCD - Manual of Uniform Traffic Control Devices
PUD - Planned Unit Development
RCP - Reinforced Concrete Pipe
WQB - Water Quality Bureau

CITY OF LIVINGSTON
PLANS AND SPECIFICATIONS REVIEW POLICY

A. Standard Process

1. Initial submittal of plans and specifications, and all subsequent correspondence and submittals for public infrastructure improvements including, but not limited to, sanitary sewer and water mains, storm sewer mains, and street and transportation improvements, are to be made to the Public Works Director's Office, 330 Bennett St., Livingston, Montana, 59047. Prior to submission of infrastructure plans and specifications, project approval (Preliminary Plat, Annexations, Site Plans), and in some cases Special Use Permits (SPU's)) from the City Commission must be obtained.

2. The minimum number of complete sets of plans and specifications which must be submitted for each review are as follows:

Type of Project	Number*	Reviewers
Water and Sewer Main Extensions	3 Sets + PDF	Eng., PW, P
Fire Service Lines	3 Sets + PDF	Eng., PW, P, F
Streets and/or Storm Sewers	3 Sets + PDF	Eng., PW, P
Water & Sewer Mains with Streets And/or Storm Sewers	3 Sets + PDF	Eng., PW, P

Eng. = City's Engineer * See Paragraph 8 below
PW = Public Works Department
P = Planning
F = Fire Department
PDF = Portable Document Format, or other approved digital format

3. The COL shall attempt to complete the initial review and provide written comments to the Engineer/Owner within thirty (30) calendar days of receiving the initial submittal. A review meeting may be scheduled with the design Engineer and City representatives to discuss review comments if the design Engineer desires. Pre-design and interim meetings with the design Engineer and City Public Works staff are encouraged.

4. To expedite the review process each submittal of revised plans and specifications shall be accompanied by a written response from the Design Engineer which addresses each item in the COL review comment letter. The revised documents will be distributed and reviewed as described above in item 2. Generally, "red-lined" copies of the plans and specifications will be provided to the Design

Engineer to facilitate revisions of the documents. Red-lines must be returned with each subsequent re-submittal.

5. The COL shall attempt to complete each review of revised plans and specifications within fourteen (14) calendar days of receiving the revisions. A review comment letter may be provided to the Engineer/Owner at the completion of each review. Subsequent reviews may be charged a fee to cover the costs of the City's review time.

6. All COL review comments must be adequately addressed and resolved before the final plans and specifications are approved by the City's Public Works Director for construction.

7. Once all COL review comments have been adequately addressed and resolved, the City's Public Works Director must be supplied with three (3) complete sets of the final plans and specifications, signed and stamped by a Professional Engineer licensed in the State of Montana, and one half-size set of plans. Specification manuals are to be bound and contain the most current version of the revised documents and plan sheets are to be the most current version. The three (3) final full-size sets and one ½ size set of plans and specifications submitted for City approval will be reviewed by the Public Works Director to ensure that all requested modifications are included. An electronic version of the approved plans shall also be provided in either AutoCAD or PDF format. An electronic version of the approved specifications shall also be provided in PDF format.

8. For projects subject to Department of Environmental Quality (DEQ) review and approval, a copy of the project approval letter from DEQ must be submitted to the Public Works Director prior to the preconstruction meeting.

9. The Public Works Director and the City's Engineer will either approve or disapprove the submitted documents. An approval or disapproval letter will be sent to the Engineer/Owner.

10. Final stamped and approved plans and specifications will be distributed as follows:
    a. One set returned to the Engineer/Owner.
    b. Two sets and ½ size set to the COL Public Works Department.

11. No work is to begin on the project prior to obtaining the COL's and DEQ's written approval of the plans and specifications, and the completion of a preconstruction meeting conducted by the Owner's Engineer and attended by the Contractor(s) and COL representative(s) and appropriate affected utility companies. A "Pre-construction Meeting Checklist" will typically be included with the approval letter specifying additional documents which must be submitted prior to scheduling a pre-construction meeting.

B. CONSTRUCTION COORDINATION

1. Pre-construction Meeting

Following approval of infrastructure plans and specifications, the Engineer shall schedule a pre-construction meeting with the City of Livingston, Contractor(s), and if applicable, other affected utilities or governmental agencies. A "Preconstruction Meeting Checklist" will be included with the letter of approval which lists submittals that must be received by the City of Livingston prior to scheduling a preconstruction meeting.

2. Shop/Fabrication Drawings

Any required shop/fabrication drawings shall be submitted by the Contractor to the Engineer. Upon approval, the Engineer shall submit the approved shop/fabrication drawings electronically to the Public Works Director a minimum of two days prior to the preconstruction meeting.

3. Bonding

All new infrastructure that will be publicly maintained shall be bonded. Prior to initiation of construction, a copy of the Contractor's Maintenance Bond in an amount equal to 100% of the contract amount, in favor of the Owner, shall be filed with the Owner and the City of Livingston. This is to correct any deficiencies in workmanship and/or materials which are found within the two-year warranty period. The City of Livingston shall be named as a dual oblige on the bond. The City of Livingston expressly reserves the right to draft the Maintenance Bond for repairs not completed by the Property Owner, Developer, or Contractor within thirty calendar days of being advised that repairs are required. The Commencement Date for the Maintenance Bond shall be the date of acceptance by the City of Livingston on the Certificate of Completion and Acceptance. The Maintenance Bond shall remain in full force for the two-year period following this date, however if the expiration date of the Maintenance Bond falls after November 16, the expiration date of the Maintenance Bond shall be June 30 of the following year. Maintenance Bonds may be in the form of a Surety Bond or a Certified Check.

4. Engineer's Status/Responsibility During Construction

The Engineer will furnish a qualified Resident Project Representative (RPR) and other field staff to assist the Engineer in observing the performance of the work. The RPR will act as directed by and under the supervision of the Engineer, and will confer with the Engineer regarding the RPR's actions. The RPR shall not authorize any deviation from the approved plans and specifications or substitution of materials or equipment, unless authorized by the Engineer.

Duties of RPR. The RPR and/or other field staff of the Engineer will:

- Conduct extensive on-site observations of the work in progress and field checks of materials and equipment to provide protection against defects and deficiencies in the work of the Contractor.

- Perform construction observation, documentation, and required testing of all critical construction work including, but not limited to: all underground or buried work including placement and connection of utility lines and appurtenances, trench backfill and compaction, placement of geotextile fabric membranes, placement of fill or embankments; placement of curb and gutter and other surface drainage improvements; placement of pavement base and surface courses; and placement of sidewalks.
- Advise the Engineer and Contractor of the commencement of any work requiring Shop Drawings or sample if the submittal has not been approved by the Engineer.
- Report to the Engineer whenever RPR believes that any work is unsatisfactory, faulty, or defective or does not conform to the approved plans and specifications, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made.
- Advise the Engineer of work that the RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection, or approval.
- Verify that all tests are conducted in the presence of appropriate personnel, and observe, record and report to the Engineer appropriate details relative to testing procedures.
- Accompany visiting inspectors representing the City of Livingston or other public agencies having jurisdiction over the project.
- Maintain at the job site orderly files for correspondence, reports of job conferences, Shop Drawings and samples, reproductions of original Contract Documents including all Work Directive Changes, Addenda, Change Orders, Field Orders, additional Drawings issued subsequent to the execution of the contract or beginning of work, Engineer's clarifications and interpretations of the Contract Documents, and other Project related documents.
- Keep a detailed and accurate diary or log book, recording Contractor hours on the job site, weather conditions, prime and subcontractor daily work force, daily log of equipment onsite or standby, data relative to questions of Work Directive Changes, Change Orders, or changed conditions, list of job site visitors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures.
- Furnish Engineer with periodic reports of progress of the work.
- Furnish Engineer and Contractor a list of observed items requiring completion or correction before Engineer may issue a Certificate of Substantial Completion, assess completion or correction of said items, advising Engineer on their status, and make recommendation to Engineer regarding issuance of a Certificate of Substantial Completion.

- Conduct final inspection of the project in the company of Engineer, Owner, Contractor, and City of Livingston, and prepare final list of items to be completed or corrected.
- Verify that all items on the final list have been completed or corrected and make recommendations to Engineer concerning final acceptance.

Duties of Engineer. The Engineer will:

- Issue written clarifications or interpretations of the requirements of the Contract Documents (i.e. plans and specifications).
- Disapprove or reject work which Engineer believes to be defective, and require special inspection or testing of the work whether or not the work is fabricated, installed, or completed.
- Review Shop Drawings and samples for compliance with the Contract Documents.
- Review proposed changes in work and submit such changes to the City of Livingston or other public agencies having jurisdiction for review.
- Issue Certificate of Substantial Completion and Certificate of Completion and Acceptance.
- Issue final as-built plans of the completed work addressing all changes which occurred during construction.

5. Testing and Documentation Requirements for Infrastructure Improvements

In order to better document the inspection and certification of public infrastructure improvements, the Public Works Department and the City's Engineer shall require the following information for all projects approved for construction. This documentation shall be required prior to final acceptance of sanitary sewer, water main, storm drain, Portland cement concrete, and bituminous pavement improvements within City right-of-way or easements.

THE FOLLOWING DOCUMENTATION SHALL BE REQUIRED ON ALL PROJECTS APPROVED BY THE PUBLIC WORKS DIRECTOR:

A. The Engineer shall submit a letter to the City certifying that the public improvements (i.e. sanitary sewers, water mains, drainage structures and streets) were installed in accordance with the approved plans and specifications and shall be accompanied by Record Drawings for the project in both digital and hard copy format.

B. Dates of acceptable tests for sanitary sewer, which shall include a digital copy of the TV inspection, cleaning, exfiltration by air or water, and manhole testing, shall be included in the certification letter. This

information shall be required for all public sewer main extensions.

C. Dates of acceptable tests for water mains, which shall include hydrostatic and leakage testing, and bacteriological testing shall be included in the certification letter. This information shall be required for all public water main extensions.

D. Benchmark elevations shall be established for all new hydrants on the project. Benchmarks shall be set on the hydrant bonnet bolt closest to the point of the operating arrow on Mueller and Kennedy hydrants. Said elevations shall be certified by a Land Surveyor (L.S.) registered in the state of Montana. Elevations shall also be provided for the top of the water main at 50-foot intervals. The datum used as the basis for the elevations on hydrants shall be NAVD 88. Level loop notes for setting elevations shall be provided.

E. Verification that all thrust blocking was installed in accordance with the approved plans and specifications shall be included in the certification letter. If mechanical restraints are used in lieu of thrust blocks, verification that the restrained length as installed meets or exceeds the manufacturer's recommendations shall be included.

F. An accurate record of the location of all sanitary sewer service connections as installed, and the length and slope of all service lines installed must be provided by the Engineer. Elevations at the end of dry service line stub-ins is required. Sanitary sewer service connections shall be tied to manholes. This information shall be required for all public sewer main extensions and service connections to existing mains.

G. The Engineer shall furnish documentation of tests in accordance with methods prescribed by AASHTO for theoretical maximum density, optimum moisture content, and sieve analysis for the sub-base course, crushed base course, pit run, and native backfill and subgrade material within the right-of-way. This information shall be required for all public sewer main, water main, storm drain and street extensions.

H. The Engineer shall furnish documentation of in-place field density tests. In-place density tests for trenches and embankments shall, at a minimum, be required for the first lift of backfill to set a pattern of compaction, shall be provided daily, and as backfill material changes. In-place density tests for roadways shall, at a minimum, be required at intervals of 50 feet. Tests for roadways shall be provided for subgrade, sub-base course and/or pit run, and crushed base course materials. A minimum of the top 6 inches of subgrade which are to be paved or covered with curb, gutter, or sidewalk, shall be field density tested. All trench backfill material in improved areas and all embankments shall be compacted for the full depth and shall be compacted to 95% of the theoretical maximum proctor density as determined by AASHTO-T-180. This information shall be required for all

public sewer main, water main, storm drain, and street extensions.

I. The Engineer shall furnish a dated job-mix formula for hot plant mix bituminous pavement which conforms to the procedures of the Asphalt Institute's MS-2 manual. The job mix formula shall be no older than one year, and shall have the same aggregate and asphalt sources and grades as the mix used for the public improvements. The Engineer shall furnish certified results of a Marshall Test showing the bulk specific gravity determination, stability and flow data, and density and void analysis. The engineer shall furnish a minimum of one "field Marshall Test" per 4,000 tons of mixture placed to check for variations from the job-mix formula. In addition, test results of ASTM D 1075 for the effect of water on cohesion of compacted bituminous material shall be provided by the Engineer. This information shall be required for all public street extensions.

J. The Engineer shall furnish asphalt core samples for bituminous pavement in the public right-of-way. Four core sample shall be required for every 1000 tons of mixture placed, with a minimum of three samples for projects that use less than 1000 tons. The location of the core samples shall be determined on a random basis using a system of random numbers, so that each ton of material has the same probability of being selected. For random locations falling near the pavement joints, obtain the core as close to the location as possible without having any part of the core circumference coming closer than 12 inches to the pavement edge or joint. The Engineer may take additional core samples at locations where he/she has, based on observations of the paving process and/or the results of nuclear density tests, reasonable belief that the in-place material is unsatisfactory. The Engineer shall submit the sampling plan to the Public Works Director upon completion of the paving, prior to taking cores. (An example for one method of determining random sample locations is included in the appendix of these Design Standards). The Engineer shall provide a certified laboratory report from the samples taken as to thickness and actual density. Testing laboratories shall meet the requirements of ASTM D3666 (Evaluating and Qualifying Agencies Testing and Inspecting Bituminous Paving Materials). The engineer shall certify that the core holes have been patched with hot plant mix asphalt. This information shall be required for all public street extensions.

K. The Engineer shall furnish Portland cement concrete tests for concrete placed in the public right-of-way and concrete incorporated into public infrastructure improvements. One set of tests shall be required for every 50 cubic yards of concrete placed with a minimum of one set of tests per project. The concrete shall be sampled, specimens made, and compliance determined in accordance with the following:

Sampling Fresh Concrete	ASTM C-172
Slump	ASTM C-143 or AASHTO T119

Air Content	ASTM C-231 or C-173 or C-138 or AASHTO T152
Compressive Strength	ASTM C-39 or AASHTO T22
Making and Curing Test Specimens in the Field	ASTM C-31 or AASHTO T23

Sampling and testing shall be done by persons that are currently certified as ACI Concrete Field Testing Technicians, Grade 1. This information shall be required for all public street extensions.

6. Pre-Paving Inspection

The Engineer shall conduct a pre-paving inspection for any projects that have paved streets as part of the improvements. The Contractor and a representative from the City shall attend the inspection.

7. Acceptance/Correction of Deficient Pavement Improvements

Acceptance tests shall be evaluated by the Engineer for conformance with the specifications. Any results that indicate the in-place material does not conform with the specifications shall be immediately reported to the Public Works Director, along with a recommendation of corrective action to bring the material into compliance with the specifications. The Public Works Director shall determine what corrective action is necessary in order for the improvements to be accepted by the City of Livingston. Corrective action may include total removal and replacement of the deficient material, partial removal and replacement, placing additional material, or in lieu of corrective action, payment of a penalty to the City of Livingston in certain instances.

A. Portland Cement Concrete: If an individual strength test (average of two cylinders tested at 28 days) falls below the specified strength by more than 500 psi, the in-place material represented by the failed test shall immediately be randomly cored for acceptance testing. A minimum of three and maximum of six cores shall be taken. If the average strength tests of the acceptance cores are deficient in strength by more than 500 psi but not more than 1000 psi, the Contractor shall remove and replace the deficient concrete or pay the City of Livingston 0.25 times the unit price bid times the area determined to be deficient in strength; if the average strength tests are deficient by more than 1000 psi, the area of the concrete determined to be deficient shall be removed and replaced.

B. Asphaltic Concrete Pavement: The asphaltic concrete pavement shall be tested and evaluated for acceptance on a lot basis, with one lot being 1000 tons of material.

C. Thickness. If the average thickness of the pavement cores is more than ¼" below the plan thickness, or if any one individual core is more than ½"

below the plan thickness, corrective action or payment of a penalty will be required.

D. Average Thickness Deficiencies. If the average thickness deficiency is between ¼" and ½", corrective action such as placement of additional material (i.e. overlay or chip seal), as determined by the Public Works Director, will be required. In lieu of placing additional material, the Public Works Director may allow the payment of a penalty to the City of Livingston in the amount of 0.25 times the unit price bid of the asphalt pavement times the amount of pavement determined to be deficient. If the average thickness deficiency is more than ½", an overlay will be required, along with cold milling of the existing pavement to provide for a minimum overlay thickness of 1.5".

E. Individual Core Thickness Deficiency. If anyone core thickness is determined to be more than ½" below plan thickness, additional cores shall be taken at 10 foot intervals parallel to the centerline in each direction from the affected location until, in each direction, a core is found which is not deficient by more than ¼", in order to determine the extent of the deficient pavement. If the thickness deficiency is more than ¾", the area that is deficient shall be removed from pavement edge to pavement edge and replaced to bring the non-complying areas to planned thickness. If the thickness deficiency is not more than ¾", the deficient area will either be removed and replaced to the planned thickness, or a penalty will be paid to the City of Livingston in the amount of 1.5 times the unit price bid times the amount of pavement that is deficient in thickness.

F. Density. The average density of the pavement cores shall equal or exceed 93% of the maximum density as determined by ASTM D2041 (Rice's density). If the average density is less than 93% but more than 90.9%, the pavement that has deficient compaction shall be milled and overlaid (1.5" minimum depth), or a penalty in the amount of 0.10 times the unit price bid for the pavement material times the amount of pavement that has deficient compaction shall be paid to the City of Livingston. If the average density is 90.9% or less, the pavement area affected will be removed and replaced or overlaid as determined by the Public Works Director. If any one (1) core is determined to have a density of less than 86%, additional cores shall be taken at 10 foot intervals parallel to the centerline in each direction from the affected location until, in each direction, a core is found which has a density of at least 91%. The area that is determined to have deficient compaction shall be removed from pavement edge to pavement edge and replaced, or a penalty will be paid to the City of Livingston in the amount of 1.5 times the unit price bid times the amount of pavement that is deficient in density.

G. Unit Prices: If unit prices for the project are unavailable, unit prices shall be as determined from time to time by the Public Works Director for the various items of work.

8. Project Close-out and Acceptance

Upon completion of the work, the following documentation (1 hard copy and 1 digital copy) shall be submitted to the City Public Works Director:

A. An executed "Certificate of Completion and Acceptance" (included in the Appendix of this Policy).

B. Project Inspection Record and Testing Records.

C. Certified Checklist for Testing and Documentation Requirements.

Within 90-days of project completion, the Engineer shall sign and submit record drawings (as-built plans) to the Public Works Director. The drawings shall be full-size and consist of one reproducible set (Mylar), one half size set, and one digital (PDF) copy. In addition, all coordinates of new water, sewer, and storm appurtenances (valves, hydrants, manholes, etc.) shall be provided in a GIS file (.SHP or .GDB) for incorporation into the City's GIS mapping. Failure to provide all of the necessary close-out documentation within the 90-day period may result in delaying approval for future projects submitted by the Engineer until such time as the necessary documents are provided.

9. Two-Year Warranty Inspection

The Project Engineer, or his designated representative, shall conduct a two-year warranty inspection to be attended by a least one representative from the Public Works Department. The inspection shall take place not less than seventy-five (75) or more than one hundred and twenty (120) days prior to the expiration date of the Maintenance Bond. The Maintenance Bond will be released when all deficiencies have been corrected to the satisfaction of the Public Works Director.

The Public Works Director, the Project Engineer, or the designated representative shall notify the Principal and Bonding Company as listed in the Maintenance Bond of any work found to be deficient. The Principal shall restore the work to meet the requirements of the approved construction documents prior to release of the Maintenance Bond. The City of Livingston expressly reserves the right to draft the Maintenance Bond for repairs not completed by the Owner, Developer, or Contractor within thirty calendar days of being advised that repairs are required.

DESIGN STANDARDS AND SPECIFICATIONS

I. CONSTRUCTION PLANS AND SPECIFICATIONS REQUIREMENTS

A. GENERAL REQUIREMENTS

1. Any required design reports may be submitted prior to or along with submittal of the plans and specifications.

2. Project plans and specifications will not be accepted until the project has been approved by the City of Livingston.

3. All project infrastructure plans must be submitted at the same time. Separate approval of infrastructure elements may be provided if necessary.

4. Where existing infrastructure is being extended, existing material, size, elevation, horizontal alignment, and grade shall be field verified, and all critical utility crossings shall be field verified, prior to plan and specification submittal.

5. All full-sized plans shall be on 24-inch by 36-inch plan sheets or 22-inch by 34-inch plan sheets. Reduced scale plans may be submitted for review if approved by the City's Public Works Director, but all plans for final approval (excepting the one required ½ size set) and all record drawings shall be full-sized (excepting the one required ½ size set). All plans submitted for review and approval will be stamped, signed, and dated by a professional engineer licensed in the State of Montana.

6. Separate plans shall be submitted for water facilities and sanitary sewer facilities. Plans for storm sewer facilities may be included with plans for street facilities.

7. All plans will have both plan and profile views of the proposed improvements. A general location map shall be provided showing the relationship of each page to the overall development.

8. Project datum and benchmarks shall be clearly identified on the plans. Vertical datum shall be NAVD 88 unless approval for a different datum is secured from the Public Works Director.

9. English units are required.

B. SPECIFICATIONS REQUIREMENTS

1. The City of Livingston has adopted "Montana Public Works Standard Specifications" (MPWSS) as the standard specifications for new construction. A separate document, "City of Livingston Modifications to MPWSS" has been adopted which supplements and supersedes MPWSS. All project manuals must incorporate, preferably by reference, MPWSS (latest adopted edition) and the "City of Livingston Modifications to MPWSS", including any addenda.

2. Additions or changes to the above standard specifications must be done through Special Provisions or similar supplemental sections in the project manual.

C. DRAWING SCALES

The following scales are required. Other scales will be considered on a case by case basis if all information can be clearly shown.

1.	Plan View:	1" = 50'
2.	Profile View, Horizontal:	1" = 50' (or match plan view scale)
	Profile View, Vertical:	1" = 5'
3.	Stationing interval:	100 feet or 50 feet

D. PLAN REQUIREMENTS

The following items will be required on all plans. Existing features should be shown dashed or with a lighter shading than proposed new features. All construction will be tied to the centerline of a City right-of-way, to the centerline of a City easement, to a platted property line, or to section lines.

1. Plan View:
    a. North arrow
    b. Legend of symbols
    c. Property lines and ownership or subdivision information
    d. Street names and easements with width dimensions
    e. Project stationing
    f. Limits of existing paved or graveled surfaces
    g. Monument boxes
    h. Culverts
    i. Existing and proposed utilities and structures, including:
        i. Line size and material where appropriate;
        ii. Water lines (main lines and service lines), valves, and hydrants;

iii. Sanitary sewer lines (main lines and service lines) and manholes;
iv. Storm sewer lines, manholes, and inlets;
v. Gas lines;
vi. Electric lines, poles, transformers;
vii. Telephone lines, manholes, junction boxes;
viii. Cable T.V. lines, junction boxes;
ix. Irrigation ditches and structures;
x. Irrigation systems;
xi. Fiber optic lines, manholes, junction boxes;
xii. Street lights;
xiii. Proposed method of restoration of all areas disturbed during construction.

2. Profile View:
   a. Vertical and horizontal grids to scales
   b. Final grade (solid)
   c. Existing grade (dashed)
   d. Existing utility lines where crossed
   e. Project stationing
   f. Utility crossings

E. UTILITY PLAN REQUIREMENTS

1. The following general notes must appear on all plan sets:
   a. All construction will conform to MPWSS, (Latest) Edition, and COL Modifications to MPWSS.
   b. Any existing or new valves which control the COL's water supply shall be operated by COL personnel only.
   c. The Contractor shall notify the Water Department a minimum of 24-hours prior to beginning any work.
   d. Contractor shall field-verify line and grade of existing connections.

2. Plans for water facilities shall show the following:
   a. Size, type and structural class of proposed new water line(s), including AWWA specifications.
   b. Bedding class.
   c. Type of excavation and backfill.
   d. Existing water lines including size and material.
   e. Proposed valves, fittings, fire hydrants, and service lines, with stationing.
   f. Depth of cover from finish grade to proposed water line(s).
   g. Requirements for pipe deflection, if necessary
   h. Type of joint restraint, if required

i. Size of gravity thrust blocks based on calculated design
j. Existing or proposed pressure reducing valves

3. Plans for sanitary sewer facilities shall show the following:
   a. Size, type, and structural class of proposed new sewer line(s), including:
      i. American Society for Testing and Materials (ASTM) specifications
   b. Slope of each proposed pipeline segment
   c. Bedding class
   d. Type of excavation and backfill
   e. Existing sewer lines and manholes including size, material, field-verified:
      i. invert elevations
      ii. field-verified slopes
   f. Proposed manholes with stationing and rim and invert elevations
   g. Existing and proposed sewer service lines with size and stationing
   h. Existing and proposed cleanouts

4. Plans for storm sewer facilities shall show the following:
   a. Size, type, and structural class of proposed new storm sewer line(s), including ASTM specifications
   b. Slope of each proposed pipeline segment
   c. Bedding class
   d. Type of excavation and backfill
   e. Proposed manholes with stationing and rim and invert elevations
   f. Proposed inlets and inlet service lines with stationing and invert elevations
   g. Points of stormwater discharge

F. ROADWAY PLAN REQUIREMENTS

1. Plans for streets or roadways shall show the following:
   a. Limit of cut or fill
   b. Existing and proposed utilities, including manholes and valves
   c. Proposed new construction, including paving width and limits, curb and gutter, crosspans, sidewalks, and pedestrian ramps
   d. Existing and finished grades, with finished grade slopes
   e. Vertical and horizontal curves, with curve data:
      i. Horizontal curves - R, Δ, L, PC and PT Stationing
      ii. Vertical curves - K, L, Station of PT's
   f. Profile of centerline
   g. Profiles of left and right curb lines, if they are not the same

h. Any required utility adjustments
i. Existing and proposed signs and pavement markings
j. Existing and proposed storm drainage facilities, including culverts, pipes, inlets, sidewalk chases, ditches and detention/retention ponds, with invert and/or spot elevations
k. Top of curb elevations at P.C.s, P.T.s, and inlets
l. Existing and proposed street monuments
m. Typical roadway section(s), dimensioned and drawn to scale, showing:

    i. Right-of-way
    ii. Backslopes
    iii. Sidewalks
    iv. Curb and gutter
    v. Pavement thickness
    vi. Base and sub-base thickness
    vii. Compaction requirements
    viii. Cross-slopes

II. DRAINAGE POLICY

A. GENERAL DESIGN CRITERIA

A Stormwater Drainage Plan is required for all new developments. The following criteria shall be used in the design of all Drainage Plans:

1. The stormwater drainage plan shall be designed to limit stormwater runoff from the development site to the pre-development runoff rates. The pre-developed rate calculations shall be included as part of the required Engineering Design Report. Adequate on-site stormwater detention shall be provided for design storm runoff exceeding the pre-development rate.

2. The stormwater storage and treatment facilities shall be designed to remove solids, silt, oils, grease, and other pollutants. Where required, sand/oil separators shall be provided in the facility design.

3. Where the storm drainage plan includes storm sewers, they shall meet the following minimum requirements:
    a. Alignment between manholes shall be straight.
    b. The sewers shall be uniformly sloped to maintain a minimum velocity of 3-fps at the design storm depth of flow, or when flowing full, to prevent sediment deposits.
    c. Pond inlet and outlet piping shall be protected and designed to prevent erosion (i.e. splash pads, rip rap, etc.).
    d. Publicly maintained storm sewers located in the public right-of-way shall be constructed of reinforced concrete pipe (RCP) or solid-wall PVC pipe, complying and installed in accordance with the current edition of MPWSS as modified by the COL. PVC pipe may only be used for pipe sizes of 36" diameter or less. Other pipe materials may be considered for private storm sewer facilities. Use 12-inch minimum pipe size for inlet structures and 15-inch minimum pipe size within the storm drain system.
    e. All storm sewer transport facilities shall be designed to handle a 25-year storm event.
    f. Inlets and manholes shall have 18-inch sumps for sediment collection unless otherwise approved by the Public Works Director.
    g. Drywells will only be considered on a case by case basis with approval from the Public Works Director.
4. For all new development or redevelopment projects greater than or equal to one acre, the drainage plan shall include an Initial Storm Water Facility to infiltrate,

evapotranspire, and/or capture for reuse the runoff generated from the first 0.5 inches of rainfall on impervious surfaces. The required volume for the Initial Storm Water Facility may be included in the design of any proposed retention, detention, or infiltration facility. The equation to calculate the minimum size is:

$$V = \frac{0.5 \times A_{imp}}{12 \frac{inches}{foot}}$$

Where: V = Minimum facility volume (ft^3)
A_{imp} = Total on-site impervious area (ft^2)

B. STORM DRAINAGE PLAN

A Storm Drainage Plan shall be submitted to the City's Public Works Department for all new developments or redevelopment projects. The plan shall include the following:

1. A map or plat showing building site(s), open areas, drainage ways, ditches, culverts, bridges, storm sewers, inlets, storage ponds, roads, streets, and any other drainage improvements. The map shall also include identification and square foot coverage of the various ground surfaces (i.e. vegetation, gravel, pavement, structures).

2. Topographic contours (one-foot intervals) and sufficient spot elevation data.

3. Description of the ultimate destination of stormwater runoff from the project site and an evaluation of its impact on downslope drainage facilities and water quality.

4. Design calculations determining runoff quantities and storage requirements.

5. A storm drainage facilities maintenance plan. The plan shall:
    a. Identify ownership of all facilities.
    b. Establish a schedule for maintenance activities necessary to keep the system operationally effective.
    c. Identify the responsible party in charge of the specific maintenance duties.

6. Details and specifications (including invert and other pertinent elevation information) for all storm drainage improvements, such as storm sewers, manholes, inlets, discharge structures; and retention/detention pond dimensions and volume, side slope, and top, bottom, and maximum water surface elevations.

C. STORAGE/TREATMENT FACILITIES

Detention is the storage and gradual release of runoff to a storm sewer system, waterway, or a soil of high porosity. Detention facilities dampen peak runoff rates and provide treatment of runoff flows. On-site detention must capture runoff and release it at a flow rate equal to or less than the pre-development peak flow rate for the 2-year storm event.

Complete retention facilities may be provided or required where discharge from a detention facility is not feasible or desirable. Retention facilities are designed to store runoff for gradual release by evaporation, infiltration, or re-use.

Designs must show that a retention facility, or discharge from a detention facility, will not overtop roads during a 10-year storm event and will not inundate buildings during a 100-year storm event.

1. Retention Facilities: Retention facilities must be sized for the difference between the pre- and post-development runoff volumes. With no consideration for infiltration or designed outlet. Retention facilities must be sized based on a 10-year, 2-hour storm event. Retention facilities must be designed to infiltrate, evapotranspire, and/or capture for reuse stormwater within 72 hours.

2. Retention Volumes: Retention volumes shall be calculated using the following formulas:

   $Q = c_w \times I \times A$
   $V = 7200Q$ (cfs)

   Where: c_w = Weighted average runoff coefficient (unitless)
   I = 0.51 in/hr (see figure I-2 for 10 year, 2 hr storm)
   A = Drainage area (acres)
   Q = Runoff rate (ft^3)
   V = Volume (ft^3)

3. Detention Facilities: Detention facilities utilize natural or manmade depressions or ponds for storage. Release of water is controlled by specially designed outlet structures (Figure A-2 in the Appendix of this Guide). Detention facilities must be designed to hold runoff for no more than 72 hours.

4. Basin Sizing: A minimum basin area of 145-square feet per 1-cfs release rate is required for sediment control. The controlling basin volume is determined by subtracting the total basin release volume from the runoff volume at different storm durations. The release rate is equivalent to the pre-development runoff rate at the piping system design frequency (Table I-3). The runoff rate is determined at the piping system design frequency using development runoff coefficients. Where the potential for major property damage exists due to downstream flooding and the terrain and availability of land permit the

construction of a large detention basin, a 100-year design frequency should be used for sizing the pond. A sample problem for sizing detention basins is included in the Appendix of this Policy.

5. Basin Location: Basins serving multiple lots shall be located in common open space owned by a Homeowners or Property Owners Association. Locating a basin within an easement on a lot will not be permitted unless approved by the governing body. Public park land shall not be used for storm water detention or retention ponds unless approved by the Public Works Director. Basins located in areas accessible to the public shall have a maximum water depth of 1½-feet. For areas protected by a fence, a maximum basin depth of 4-feet is allowed. Such deep basins designed only for stormwater detention shall be placed in remote areas and fenced.

6. Additional Requirements: The following additional requirements apply to the design of above ground earth formed detention basins:

    a. To prevent short circuiting, basin length shall be at least three times the width and inlet velocities should be dissipated;

    b. Basin slopes shall be 3:1 or flatter;

    c. Basins must be located where the increased runoff will naturally accumulate, or where runoff can be directed on the site;

    d. Vegetative channels shall be utilized wherever possible to remove wastewater contaminants;

    e. Basins in floodplains shall have adequate erosion protection on the embankments;

    f. Overflows shall be provided to prevent overtopping of dike walls;

    g. The outlet from a detention facility must be designed to provide a stabilized transition from the facility to the receiving area at non-erosive velocities;

    h. Cross-sections and design details must be provided on the plans.

D. INFITRATION FACILITIES

Infiltration facilities include features such as drainage swales, boulder pits, catch basins, and surface areas such as pervious pavers and lawns. Drywells or French drains are NOT allowed unless prior approval is received from the Public Works Director. Infiltration facilities collect and discharge stormwater runoff through infiltration into surrounding subsurface soils. They are normally dry during non-rainfall periods since they only temporarily impound runoff.

Some infiltration facilities may be classified as Class V EPA injection wells. These design

standards do not replace or supersede the regulations and standards of the EPA.

Lawns and landscaping areas proposed as infiltration facilities must be sized using the appropriate runoff coefficient consistent with the proposed land use and as designated by the Modified Rational Method.
Infiltration facilities, expect lawns and landscaping, shall be designed with the following requirements:

A. Facility Sizing: Infiltration facilities must be sized based on infiltration rates in accordance with Table I-1 or according to results from a percolation test performed within 25 feet of the proposed facility. Percolation test results or site specific soil date must be submitted with the design. Facilities must be sized based on test data for the specified fill material or by assuming a fill material with 30% void space. Facilities must be sized to drain within 48 hours after a storm event;

B. Additional Requirements:

   a. Facilities must be constructed above the seasonal high groundwater level;

   b. Facilities must be lined with a minimum 30 mil filter fabric or other material approved by the reviewing authority when needed to prevent clogging;

   c. Must include a pre-treatment facility where sediment, trash, debris, or organic materials are likely to impact the operation of maintenance of the infiltration facility.

TABLE I-1
INFILTRATION RATES IN INCHES PER HOUR

TEXTURE	INFILTRATION RATE (IN/HR)
Gravel, gravelly sand, or very coarse sand	2.60
Loamy sand, coarse sand	1.05
Medium sand, sandy loam	0.90
Fine sandy loam, loam	0.70
Very fine sand, sandy clay loam, silt loam	0.70
Clay loam, silty clay loam	0.07
Sandy clay	0.07
Clays, silts, silty clays	0.00

E. PRE-TREATMENT FACILITIES

Pre-treatment facilities are required where sediment, trash, debris, or organic materials are likely to impact the operation or maintenance of stormwater conveyance, storage, and infiltration facilities. Pre-treatment facilities preserve the longevity of all infiltration facilities, as well as reduce the maintenance demands on detention, retention, and conveyance systems.

Pre-treatment facilities must be selected and designed to effectively treat storm water runoff for the purpose for which the facility was designed. Only the following pre-treatment facilities may be used, unless specifically approved by the Public Works Director:

1. Vegetative Filter Strips: Reduce the velocity of stormwater runoff, allowing settlement of sediment. They work best when receiving runoff as sheet flow, making them suitable alongside roads, parking lots, and other paved surfaces;

2. Vegetated Swales: An open channel conveyance facility designed with shallow slope and proper vegetation to allow sediment and trash to deposit;

3. Screens: Screens are used to prevent leaf litter and other debris from entering the stormwater system or pond;

4. Sand/Oil Separators: Sand/oil separators are specifically designed to remove petroleum hydrocarbons, grease, sand, and grit from stormwater runoff;

5. Proprietary Spinners/Swirl Chambers/Centrifuges: These facilities cause stormwater to move in a circular motion to promote settling of sediments, particulates, oils/grease, floatable sands, and debris. These must be installed in accordance with manufacturer specifications;

6. Drain Inlet Inserts: Drain inlet inserts are placed into storm drain curb inlets or catch basins to remove pollutants from runoff prior to entry into the storm sewer system. They use an inert filter material, such as polypropylene, to enhance pollutant removal. Drain inlet inserts have the ability to remove debris, trash, and sediment. If a filter is present, they can also remove oils/greases and other pollutants from runoff.

F. DISCHARGE STRUCTURES

1. A design detail shall be provided including adequate elevation information. Discharge structures shall be adequately protected from damage. A typical discharge structure is shown in Figure A-2 in the Appendix of this Policy.

2. Orifice or weir calculations shall be provided for controlling the discharge to

the pre-development rate. For discharge structures similar to that in Figure A-2 of the Appendix, the slot width shall be sized using the equation:

$Q = CLH^{3/2}$

Where: Q = Discharge (cfs)
C = Weir Coefficient = 3.33
L = Horizontal length (ft)
H = Head (ft)

3. Failsafe features shall be provided including:

   a. An emergency free-flowing overflow for rates exceeding design storm events.

   b. Discharge piping shall be a minimum of six (6) inches in diameter for maintenance, and capable of conveying a 25-year storm event.

   c. Ponds shall be designed so as to avoid long-term standing water in the pond.

G. ESTIMATION OF RUNOFF

1. GENERAL

The Rational Method is appropriate for estimating peak flow of storm water runoff for areas less than 200 acres in size. This method shall be used to determine peak runoff rates with a slight modification of the method to determine runoff volumes. The basic assumptions that apply to the Rational Method are:

   a. Rainfall is uniformly distributed over the area for the duration of the storm.

   b. The peak runoff rate occurs when the duration of the storm equals the time of concentration.

   c. The runoff coefficient for a particular watershed is constant for a similar land use.

The method is based on the Rational Formula:

$Q = c_w \times i \times A$

Where: Q = Peak runoff rate (ft^3)
c_w = Weighted average runoff coefficient (unitless)
i = Average rainfall intensity (in/hr) from IDF curves
A = Drainage area (acres)

2. RUNOFF COEFFICIENTS

The runoff coefficient (c) must be the weighted average (c_w) of the site conditions shown in Table I-2. Coefficients from other engineering texts may be

considered for specific applications such as pervious pavers, pervious concrete, etc.

TABLE I-2
RUNOFF COEFFICIENTS (c) FOR USE IN THE RATIONAL FORMULA

LAND USE	RUNOFF COEFFICIENTS (c)
Paved or other hard surface areas	0.90
Gravel areas	0.80
Undeveloped areas	0.20
Lawns or other landscaped areas	0.10

3. TIME OF CONCENTRATION

A basic assumption of the rational method is that the peak runoff rate occurs when the duration of the storm equals the time of concentration. The time of concentration is the time required for runoff to travel from the hydraulically most distant point in the drainage area to the outlet. The hydraulically most distant point is the point with the longest travel time to the outlet point, but not necessarily the point with the longest flow distance to the outlet. It generally consists of overland flow time and channel flow time. Time of concentration will vary depending on slopes, the character of the drainage area, and the flow path.

Shallow concentrated flow is assumed to occur after sheet flow ends. Beyond that, channel flow is assumed to occur. Channel flow time in gutters, ditches, or pipes may be determined by estimating velocities using Manning's equation:

$$V = \frac{1.486\, R^{\frac{2}{3}} S^{\frac{1}{2}}}{n}$$

Where: V = Mean velocity (ft/sec)
n = Manning roughness coefficient (typical values in Table I-3)
R = Hydraulic radius

$$R = \frac{a}{P_w}$$

a = Cross sectional flow area (ft^2)
P_w = Wetted perimeter (ft)
S = Slope of the hydraulic grade line (ft/ft)

TABLE I-3
MANNING'S EQUATION - TYPICAL ROUGHNESS COEFFICIENTS ("n" VALUES)

Channel Type	"n" Factor
Open Unlined Channels	0.035
Concrete and RCP Pipe	0.013
Corrugated Steel Pipe	0.024
PVC pipe	0.013

4. RAINFALL INTENSITY

The intensity of the storm is determined from the Intensity-Duration-Frequency (IDF) curve equations in Figure I-1. Duration is assumed to be equal to the time of concentration, but no less than five (5) minutes. The values in Table I-4 are the City of Livingston design frequencies.

TABLE I-4
RAINFALL FREQUENCY FOR USE IN THE RATIONAL FORMULA

Land Use	Design Rainfall Frequency
Open Land	2-year
Residential	10-year
Commercial or Industrial	10-year

5. RUNOFF RATES AND VOLUMES

The Rational Method provides a peak runoff rate which occurs at the time of concentration. The Modified Rational Method approach shall be used to compute runoff volume for storm durations equal to or greater than the time of concentration. This method assumes the maximum runoff rate begins at the time of concentration and continues to the end of the storm. Maximum runoff rates for durations greater than the time of concentration are less than the peak runoff rate because average storm intensity decreases as duration increases. Total runoff volume is computed by multiplying the duration of the storm by the runoff rate.

6. RAINFALL INTENSITY DURATION FREQUENCY CURVE

In order to use the rainfall Intensity Duration Frequency (IDF) curves, the time of concentration must be known. This can be determined by the following equation:

$$T_c = \frac{1.87(1.1-c\times C_f)D^{\frac{1}{2}}}{S^{\frac{1}{3}}}$$

Where T_c = Time of concentration, minutes
S = Slope of basin, %
c = Rational Method runoff coefficient
D = Length of basin, feet
C_f = Frequency adjustment factor[1]

Time of concentration calculations should reflect channel and storm sewer velocities as well as overland flow times.

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[1]RATIONAL METHOD FREQUENCY ADJUSTMENT FACTORS

Storm Return Period (years)	Frequency Factors C_f
2 to 10	1.00
11to 25	1.10
26 to 50	1.20
51 to 100	1.25

Note: The product of c times C_f shall not exceed 1.00.

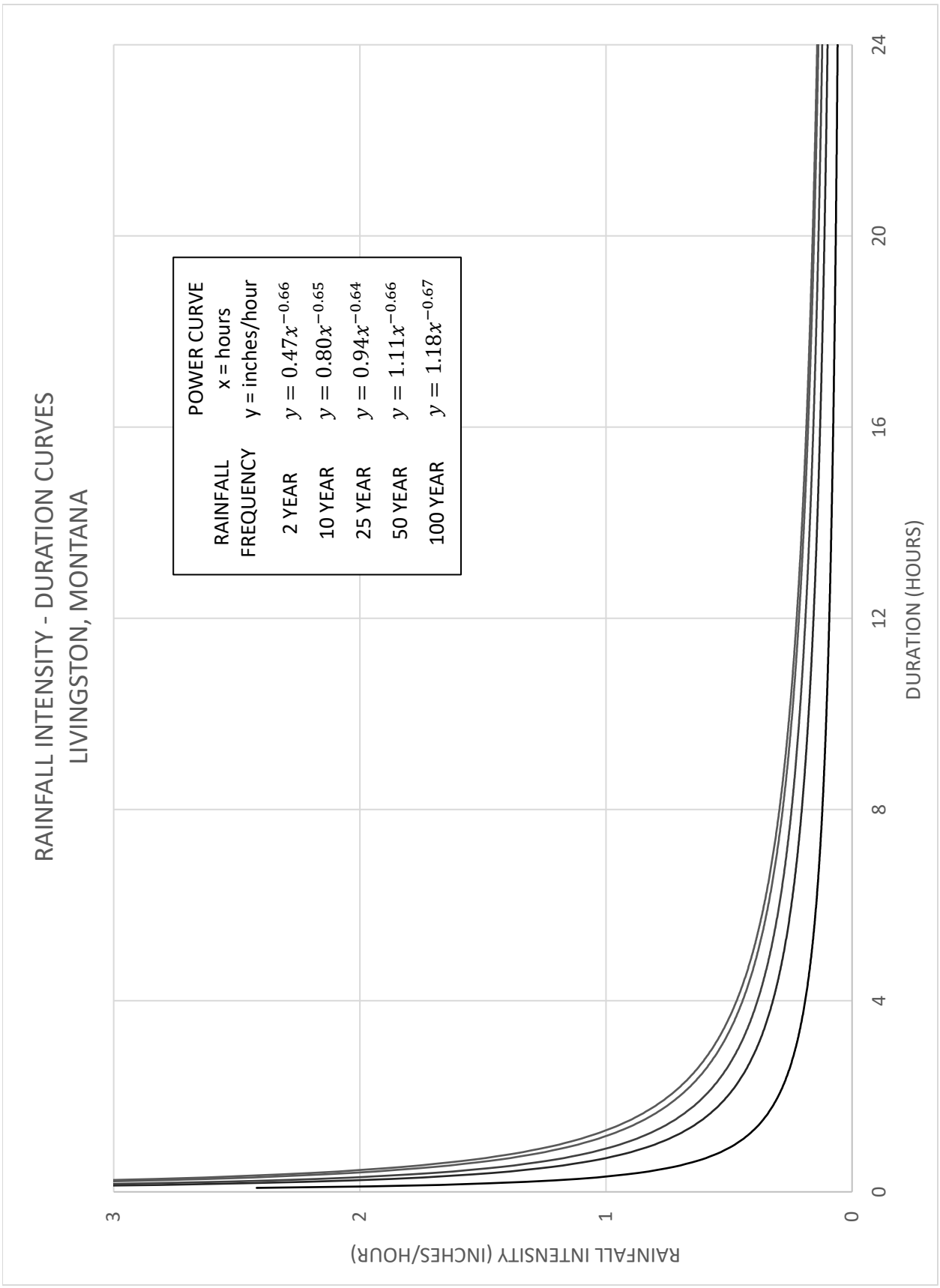


FIGURE I-1 RAINFALL INTENSITY - DURATION IN HOURS

III. FLOODPLAIN REGULATIONS

A. GENERAL

Floodplain regulations are detailed in Chapter 29 of the Livingston Municipal Code (LMC). These regulations are intended to protect the public health, welfare and safety in order that citizens and property owners can remain under the national flood insurance program. All proposed developments shall conform to the requirements of Chapter 29 of the LMC.

IV. ROADWAY DESIGN AND TECHNICAL CRITERIA

A. GENERAL.

This section sets forth the minimum design and technical criteria and specifications to be used in the preparation of all roadway plans. All roadway plans should also be designed in conformance with MPWSS; City of Livingston Modifications to MPWSS; Americans With Disabilities Act; and City of Livingston Sidewalk Policy.

B. SIDEWALKS, CURBS AND GUTTERS AND DRIVEWAYS

1. Roadway typical sections are detailed in Figure A-1 in the Appendix of this Policy. Roadway typical sections shall conform to conditions of approval for the project.

2. Concrete sidewalks shall be constructed on both sides of all roadways unless otherwise approved by action of City Commission. Sidewalks shall be 6-inches thick across driveways, and 4-inches thick elsewhere. Sidewalk design and construction shall be in accordance with the City of Livingston ADA Accessibility Plan.

3. All sidewalks shall have a minimum width of five (5) feet, except the minimum width shall be ten (10) feet in the central business district.

4. Integral curb and gutter shall be used on all roadways.

5. Pedestrian ramps shall be installed at all intersections and at certain mid-block locations for all new construction or reconstruction of curb and sidewalk. Pedestrian ramps shall be constructed in accordance with City of Livingston Standard Drawings and Americans with Disabilities Act (ADA) requirements. Pedestrian ramps may be shown at all curb returns or called out by a general note on the development plans.

6. Guardrails may be required in certain situations. Guardrails shall be designed and constructed in accordance with AASHTO Standards or as directed by the Public Works Director.

7. Drop-curbs for driveways may only be installed with the initial curb

construction when the final building locations have been determined.

8. Curb transitions for curb bulbs shall be accomplished using 35' minimum radius curves to achieve the desired pavement narrowing. All curb bulbs shall be adequately marked with flexible roadway delineators and yellow curb paint as necessary. The minimum curb bulb throat width is 24 feet (back of curb to back of curb).

C. DRAINAGE

Drainage systems shall be designed in accordance with these Design Standards and Specifications, Section II, Drainage Policy. Development plans, including a drainage report, for the drainage system are required for concurrent review with, and shall be considered part of roadway design.

1. Crosspans. Crosspans (valley gutters) shall be constructed in accordance with City of Livingston Standard Drawings. Crosspans are not allowed across collector or arterial roadways, nor are they allowed on roadways with storm sewer systems.

   Crosspans may be used parallel with collector or arterial roadways to convey storm runoff across residential roadways. The use of crosspans elsewhere is discouraged, and will only be allowed after all other alternatives have been investigated.

2. Inlets:

   a. Inlets shall be located to intercept the major curb flow at intervals sufficient to ensure the depth of flow in the curb line is a maximum of 0.15' below the top of curb. This will result in a maximum spread width of approximately 9.5'. Inlets should be aligned with lot lines wherever possible.

   b. Inlets shall also be installed to intercept cross-pavement flows at points of transition in super elevation. Due to the presence of pedestrian ramps, inlets are not allowed in the curb return, but will be located at the tangent points of the curb returns. Justification must be provided to the Public Works Department if an inlet is not provided upstream of a pedestrian ramp to capture storm water before it crosses the pedestrian ramp.

   c. All inlets within the public right-of-way, or to be maintained by the City of Livingston, shall be constructed in accordance with the Montana Public Works Standards and Specifications (MPWSS) and the City of Livingston Modifications to the MPWSS.

3. Cross Slope: Except at intersections, or where super-elevation is required, roadways shall be level from top of curb to top of curb and shall have a two (2) percent crown as measured from centerline to lip of curb, or lip of median curb

to lip of outside curb on roadways with raised center islands. Parabolic or curve crowns are not allowed. Maximum pavement cross slope allowed is five (5) percent at warped intersections, as measured above. In no case shall the pavement cross slope at warped intersections exceed the grade of the through street. When warping side streets at intersections, the crown transition should be completed within 75-feet horizontally for local streets, 100-feet horizontally for collector streets, and 150-feet horizontally for arterial streets. The crown of the through street shall be decreased to 1.5% through intersections, with the crown transitions being accomplished within 100 feet on either side of the intersections. Quarter crowning may be accepted on a case by case basis needing prior approval from the Public Works Director.

4. Temporary Erosion Control: Temporary erosion control is required at the ends of all roadways that are not completed due to project phasing, subdivision boundaries, etc. Prevention of erosion at the roadway terminus shall be by methods approved by the Public Works Director.

5. Sidewalk Chases:

   a. Storm waters from concentrated points of discharge shall not be allowed to flow over sidewalks, but shall drain to the roadway by the use of chase sections. The use of sidewalk chases is discouraged, and their use is limited to situations where it is not possible to use standard storm inlets and piping.

   b. Chase sections shall not be located within a curb cut of driveway. Chase sections shall be identified by station and elevation.

   c. Sidewalk chase sections are to be constructed in accordance with the City of Livingston Standard Drawings.

D. HORIZONTAL ALIGNMENT

1. Turning Radius: All roadways shall intersect at right angles as nearly as possible. In no case shall the angle of intersection be less than seventy-five degrees (75°).

2. Curb Return Radius: Minimum curb returns shall be as shown in Table IV-1 of these specifications. A larger radius may be used with the approval of the Public Works Director.

3. Design Speed: Design speed shall be as shown in Table IV-2 of these specifications.

4. Horizontal Curves: The minimum centerline radius for horizontal curves shall be as shown in Table IV-2 of these specifications. Variances from the requirements of Table IV-2 for local streets only may be considered on a case by case basis.

5. Two streets meeting a third street from opposite sides shall meet at the same point, or their centerlines shall be off-set at least 125 feet.

TABLE IV-1
CURB RETURN RADIUS AT INTERSECTIONS*

	LOCAL	COLLECTOR	MINOR ARTERIAL	MAJOR ARTERIAL
LOCAL OR PRIVATE ST.	15'	15'	15'	15'
COLLECTOR	15'	25'	25'	25'
MINOR ARTERIAL	15'	25'	**	**
PRINCIPAL ARTERIAL	15'	25'	**	**

* Measured from back of curb
** Per AASHTO Standards

TABLE IV-2
MINIMUM STREET DESIGN STANDARDS FOR CITY STREETS

STREET TYPE	PRINCIPAL ARTERIAL	MINOR ARTERIAL	COLLECTOR	LOCAL	RURAL
Right-of-way width	110' - 120'[3]	100'	90'	60'	90' – 110'[3]
Centerline radius on curves	[1]	[1]	300'	150'	300'
Tangent length between reverse curves	[1]	[1]	100'	50'	100'
Stopping sight distance	[1]	[1]	300'	200'	300'
Angle at intersection centerline	[1]	[1]	>75°	>75°	>75°
Curb radius at intersections	[2]	[2]	[2]	[2]	N/A
Length of tangent at intersection	[1]	[1]	150'	100'	150'
Back of curb to back of curb	82'	50', 63', 71'[3]	45', 48', 52',62'[3]	31', 33', 35'[3]	33', 39', 62'[3, 4]
Length of cul-de-sac[5]	N/A	N/A	N/A	500'	N/A
Outside radius on cul-de-sac right-of-way[5]	[5]	[5]	N/A	50'	N/A
Grade – maximum	[1]	[1]	7%	10%	10%
Grade – minimum	1 %	1%	1%	0.7%	0.7%
Grade within 150 feet of intersecting centerlines	[1]	[1]	3%	3%	3%
Design Speed (MPH)	50	45	45	30	45
K Factor (minimum)					
Crest	[1]	[1]	105	50	105
Sag	[1]	[1]	65	35	65
Minimum VCL					
Crest	[1]	[1]	90	50	90
Sag	[1]	[1]	70	50	70

[1]All design criteria shall meet AASHTO standards.

[2]*See Table IV-1*
[3]*The specific right-of-way and back of curb to back of curb street width will be determined on a case by case basis through the subdivision review process, and will be based on the specific needs, impacts and context of the development proposal.*
[4]*The rural street standard does not include curb and gutter. The street width is measured from the edge of pavement to the edge of pavement.*
[5]*Cul-de-sacs are generally not allowed. The City's Public Works Director may consider and approve the installation of a cul-de-sac only when necessary due to topography, the presence of critical lands, access control, adjacency to parks or open space, or similar site constraints.*

6. Super-elevation: Super-elevation may be required for arterial roadways and selected collector roadways. Horizontal curve radius and super-elevation shall be in accordance with the recommendations of AASHTO.
   Super-elevation shall not be used on local roadways.

7. Spiral Curves: Spiral curves shall not be used on road-ways within the COL (State highways excluded) except by written approval of the City Public Works Director.

8. Railroad Crossing: All railroad crossings on streets shall be steel reinforced rubber for the full width of the roadway.

9. Barricades: Whenever roadways terminate due to project phasing, subdivision boundaries, etc., barricades are required in accordance with the Manual of Uniform Traffic Control Devices (MUTCD) and City standards.

E. VERTICAL ALIGNMENT

Design controls for vertical alignment are shown in Table IV-2.

1. Permissible Roadway Grades: The minimum allowable grade for any roadway or alley is 0.7 percent. The maximum allowable grade for any roadway is shown in Table IV-2 of this Policy. The maximum grade for an alley is subject to the approval of the City's Public Works Director.

2. Changing Grades: Continuous grade changes or "roller-coastering" shall not be permitted. The use of grade breaks, in lieu of vertical curves, is not encouraged. Where the algebraic difference in grade (A) exceeds one percent (1.0%), a vertical curve is to be used.

3. Vertical Curves: All vertical curves shall be symmetrical. Design criteria for vertical curves are found in Table IV-2. The minimum grade within a sag (sump) vertical curve is five-tenths (0.50) of a percent. Minimum length of a vertical curve is shown in Table IV-2. All vertical curves shall be labeled, in the profile, with length of curve (L) and K (=L/A).

4. Intersections: The following additional criteria shall apply at intersections.

   a. The grade of the "through" street shall take precedence at intersections. At intersections of roadways with the same classification, the more important roadway, as determined by the

COL Public Works Department, shall have this precedence. Warp side streets to match through streets. See Section IV.C. 3 above;

b. The elevation at the point of tangency (PT) of the curb return on the through street is always set by the grade of the through street in conjunction with normal pavement cross slope;

c. Carrying the crown of the side street into the intersecting through street is not permitted;

d. At an arterial-arterial intersection, a more detailed review of the entire intersection's drive ability will be done.

5. Curb returns: Minimum fall around curb returns, when turning water, shall be three-tenths (0.3) of a foot for a fifteen (15) foot radius; four-tenths (0.4) of a foot for a twenty (20) foot radius; one-half (0.5) of a foot for a twenty-five (25) foot radius. For all other curb return radii use a grade of 1.25-percent within the return to establish minimum fall when turning water. The maximum fall around a curb return is 3.00-percent. Show and label high point location, elevation and intersection of flow line in plan view if applicable.

6. Connection with Existing Roadways: Connections with existing roadways shall be smooth transitions conforming to normal vertical curve criteria if the algebraic difference in grade (A) between the existing and proposed grade exceeds one percent (1.0%). When a vertical curve is used to make this transition, it shall be fully accomplished prior to the connection with the existing improvement. Field-verified slope and elevation of existing roadways shall be shown on the plans.

7. Offsite Design and Construction: The design grade, and existing ground at that design grade, of all roadways that dead end due to project phasing, subdivision boundaries, etc., shall be continued in the same plan and profile as the proposed design for at least three hundred (300) feet or to its intersection with an arterial roadway. This limit shall be extended to six hundred (600) feet when arterial roadways are being designed. If the offsite roadway adjacent to the proposed development is not fully improved, the developer is responsible for the design and construction of a transition with a 4-foot road base shoulder for the safe conveyance of traffic from his improved section to the existing roadway. The following formula shall be applied to the taper or land change necessary for this transition:

Speed Limit

40 MPH or Less $L = \frac{WS^2}{60}$

45 MPH or Greater $L = W \times S$

Where: L = Length of transition in feet
W = Width of offset in feet
S = Speed limit or 85th percentile speed

The City of Livingston Public Works Department should be consulted for any unusual transition conditions. Grade breaks greater than 1-percent are not allowed when matching existing dirt or gravel streets.

8. The cost of offsite pavement transitions shall be borne by the developer.

F. MEDIAN TREATMENT

Median curbs should be integral curb and gutter (with spill curb) unless otherwise approved. Medians less than eight (8) feet wide should be capped with M-4000 concrete a minimum of three (3) inches thick. Wider medians should be top soiled and seeded with an approved seed mix. The minimum median width is 4 feet. All medians or raised islands should be made clearly visible at night through the use of adequate reflectorization and/or illumination. Flexible delineators shall be placed at the beginning and end of all medians, and at the point of any horizontal alignment change. All median curbs and island curbs shall be painted yellow with epoxy paint.

G. ROADWAY SPECIFICATIONS

Following are the requirements of the minimum roadway surfacing standards:

Surfacing. The pavement thickness design will be based on the current AASHTO Guide for Design of Pavement Structures, or the current Asphalt Institute Manual Series No. 1 (MS-1) for thickness design. A Pavement Design Report, based upon specific site soil data and design-year traffic loading conditions, prepared by a Professional Engineer, or other qualified professional approved by the City's Public Works Director, shall be submitted to the Public Works Director for approval prior to plan and specification submittal if using the self-certification process or with the plans and specifications if using the standard process. The design shall be based on at least a 20-year performance period traffic volume; however, the minimum design lane Equivalent 18,000-lb Single Axle Load (ESAL) used in the pavement design shall not be less than 50,000-ESAL. The minimum asphalt pavement thickness for any new local roadway shall be three (3) inches. The minimum asphalt pavement thickness for any new collector or arterial roadway shall be four (4) inches. A minimum of six (6) inches of high quality untreated aggregate base shall be provided for designs utilizing asphalt pavement over untreated aggregate base. Where full-depth asphalt is designed, an adequate stabilizer lift shall be included, consistent with unpaved roadway design practices, to provide a suitable sub-base capable of withstanding the traffic required for the initial construction of the roadway. The Public Works Director may require intersections with roundabouts or traffic circles to be constructed with Portland Cement Concrete surfacing.

H. SIGNS and MARKINGS

1. Street identification signs shall be installed at all new intersections in accordance with City of Livingston Modifications to MPWSS. The design

Engineer should consider, and the Public Works Director may require, regulatory traffic control signs and pavement markings in accordance with the MUTCD. Stop signs shall be installed on local streets when they intersect with any collector or arterial streets.

2. Unless otherwise approved, all transverse markings, words and symbols, and 8" or larger lane line pavement markings shall be inlaid thermoplastic or pre-formed plastic tape. All other markings may be either inlaid or preformed thermoplastic or epoxy paint. The materials proposed for all markings shall be specified on the plans.

3. Crosswalk markings should not be used indiscriminately. An engineering study should be performed before they are installed at locations away from traffic signals or stop signs. Mid-block crosswalks are discouraged.

    a. All marked crosswalks for designated school crossings shall be longitudinal white bars ("City of Livingston Type B" style). "School Crossing" signs and "School Advance Warning" signs shall be installed at all designated school crossings.

    b. At stop or signal controlled intersections, marked crosswalks shall be two 8" white lines, 8' apart typically, installed transverse to traffic and in-line with sidewalks, if any ("City of Livingston Type A" style).

    c. Marked crosswalks at uncontrolled intersections, and all mid-block crosswalks shall be "Type B", with "Pedestrian Crossing" signs. "Pedestrian Crossing Advance Warning" signs should be installed if deemed warranted by engineering judgment.

    d. Parking shall be restricted by the use of signs and curb markings within 20 feet of crosswalks at a minimum, or longer based on engineering judgment.

    e. All crosswalk signs and advance crosswalk signs shall have a fluorescent yellow green background.

4. All signs shall comply with the "Standard Highway Signs" book (FHWA).

5. Street name signs shall consist of white letters on a green background.

I. MONUMENTATION

Monuments in monument boxes shall be provided in new or reconstructed streets at all section corners, quarter corners, and sixteenth corners.

J. LIGHTING

The design engineer shall consider the need for roadway lighting in the development of plans for any new or reconstructed roadways.

Lighting shall comply with the following requirements:

1. General.

   a. All street lighting shall be operated and maintained through the creation of a new SILD, through the annexation to an existing SILD or through some other equivalent means approved by the City of Livingston. The application to create or annex to an existing SILD shall be submitted to the City within 2 months of preliminary approval of the development. The approval to create or annex to an SILD shall be granted prior to final plat for a subdivision or Occupancy if a final plat is not required.

   b. Street lighting shall be installed according to the Night Sky Protection Act of the LMC.

   c. Individual yard lights on private property shall not be used for street lighting.

   d. Unless otherwise specified herein, installation of equipment for lighting shall conform to the requirements of "Standard Specifications for Road and Bridge Construction", latest edition, published by the Montana Department of Transportation.

2. Street Lights at Intersections.

   a. Non-Signalized Intersections. A street light shall be installed at each non-signalized street intersection with the exception of intersections where the width of one or more of the approaches is greater than or equal to 50 feet, as measured to the back of curb or edge of pavement, then two street lights shall be installed on diagonally opposite corners.

   b. Signalized Intersections. At signalized intersections where all approaches are narrower than 50 feet, as measured to the back of curb or edge of pavement, two street lights shall be installed on the diagonally opposite corners. At signalized intersections where the width of one or more of the approaches is greater than or equal to 50 feet, four street lights shall be installed, one on each corner.

3. Street Light Location and Placement of Equipment. The following layout and spacing criteria shall be used:

   a. When a street light location falls near an unlit intersection, the light shall be located at the intersection;

   b. Street lights shall be located at property lines to the greatest extent possible, but not in conflict with other utility service providers;

c. Light poles shall be spaced 200 feet apart, on alternating sides of the street, and may vary by up to 15 percent. For the uniformity of appearance, the variance in spacing between adjacent spans should not be more than 15 percent;

d. All proposed streets within the proposed subdivision, having a curve of 300 feet or longer in length, shall have a street light in the middle of the horizontal curve or as required by the Public Works Director;

e. Wiring for street lights shall be underground and in 2" minimum diameter conduit. Conduits shall typically be placed 2 feet from back of curb. All wiring shall be installed to meet the National Electric Code. Pull boxes shall be reinforced concrete and shall be located to not impede access to properties.

f. Additional street lights may be required by the City when potential traffic hazards are identified during plan review;

4. Street Lights & Support Structures.

a. The City standard ballast for local streets is LUMEC S55-32W32LED4K-T-ACDR-LE3-240-SFX-BRTX. The City standard ballast for collector streets is LUMEC S55-55W32LED4K-T-ACDR-LE3-240-SFX-BRTX.

b. All street light poles shall be 12-foot LUMEC R80A-12-TBc1-BRTX poles with base covers.

c. Light poles shall be powder coated with a bronze textured (BRTX) finish color.

d. Pole shaft shall be 12-feet high, 4-inch diameter, 8 fluted round extruded 6061-T6 aluminum tubing with a 0.167-inch wall thickness, and welded to the pole base.

e. Pole base shall be a round fluted cast 356-T6 aluminum base with a 0.167-inch wall thickness. Base must include a cast-in anchor plate.

f. LEDs shall be Philips Lumileds LUXEON T. Color temperature shall be Neutral White, 4000 Kelvin nominal (3985K +/- 275 or 3710K to 4260K), CRI 70 min. 75 typical per ANSI/NEMA.

g. Gauge (#14) TEW/AWM 1015 or 1230 wiring, 6-inch minimum exceeding from luminaire.

h. All exposed screws shall be coated with a ceramic primer-seal basecoat to reduce seizing of parts and offer a high resistance to corrosion.

i. All street light poles shall be installed on a concrete foundation with breakaway bases. All poles, foundations, and breakaway bases shall meet the criteria set forth in the AASHTO publication Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.

j. Street light poles shall be placed as far away from the edge of roadway as practical, typically no closer than 5 feet from back of curb.

5. Luminaires and service equipment.

a. Luminaires shall be wired to match the voltage of the operating system.

b. Street lighting circuits shall be automatically controlled with turn lock mounting delayed response photo cells. One photo cell shall be installed per circuit, mounted at the service panel.

c. All street lighting systems shall be metered separately from other uses, with the exception of street lights installed in conjunction with traffic signal poles.

d. Electric services shall use NEMA Type 3R cabinets with hinged, lockable covers and 3/8" holes for a padlock. Locks shall be supplied by the City for city-maintained systems. Meters shall be installed a minimum of 4 feet and maximum of 5 feet above grade.

e. Services shall be equipped with 3-way switches for auto-on/on/off operation.

6. Record drawings shall be provided to the City for all new and re-constructed lighting systems that are to be maintained by the City.

K. BIKE LANES/PATHS

All bike lanes/paths shall be designed in accordance with the "Guide for the Development of Bicycle Facilities" (AASHTO, latest edition). Bike lanes shall be marked and signed in accordance with the MUTCD.

V. UTILITY DESIGN CRITERIA

A. WATER DISTRIBUTION LINES DESIGN CRITERIA

1. All additions or modifications to the COL water system will be designed in accordance with the criteria set forth in this and other sections of this Policy as approved by the Public Works Director. DR 18, Class 200 PVC and Ductile Iron Pipe (DIP) shall be used unless special approval, in writing, of alternate materials is given by the City's Engineer. All additions to the water system will be designed and installed in accordance with the Montana Department of Environmental Quality (DEQ) Circular No. 1; MPWSS; COL Modifications to MPWSS; and COL Fire Service Line Standard.

2. Master Water Plan: A master water plan shall be submitted for each subdivision or other major development prior to approval of any portion of the water system. An overall plan of the development, including all areas outside of the study area which would naturally be served through the study area shall be submitted.

3. A design report prepared by a professional engineer licensed in the State of Montana demonstrating compliance with these requirements shall be submitted with the plans and specifications for any new development. Design parameters and the critical conditions shall be shown on an overall plan of the study area. An overall plan of the development, including all areas outside of the study area which would naturally be served through the study area shall be included.

4. Main Size: The water distribution system shall be designed to meet the maximum demand plus fire flow and the peak hour demand. The design shall be based on a maximum hour to average day ratio of 5.28:1 (maximum day to average day ratio of 2.36:1 for an average daily usage of 127.5-gallons per day per person), plus fire flow demand as determined by ISO (Insurance Services Office) criteria. A "C" Factor of 130 shall be used in modeling system designs. The working residual water pressure shall not be less than 20-psi at any point in the water distribution system under maximum day plus fire flow. The velocity of the water in the system shall not exceed 10-feet per second through a public main line. The minimum diameter for any new main is 8-inch, unless specific approval in writing is obtained from the City of Livingston for smaller diameters.

5. Main Extensions: All main extensions shall be looped, where possible. All dead end 8" mains shall end with a fire hydrant or 2" blowoff. Larger diameter dead end mains shall end with a fire hydrant. Permanent dead-end mains shall not exceed 500-feet long. Temporary 8" dead-end mains scheduled for future extension may end with a blow-off in lieu of a fire hydrant.

6. Services

    a. A water line is designated as either a service line or water main based on its use, not its size. Generally, a line serving a single building or facility is considered a service line; a line serving more than one building, or intended to serve more than one building or facility is generally designated a water main. The standard sizes of service lines are 3/4-, 1-, 1½-, 2-, 4-, 6-, or 8-inch. The minimum size of a fire service line is 2-inch. The minimum size of a domestic water service line stub is 3/4" for copper services and 1" for polyethylene services;

    b. For service pipe sizes less than 4-inch, the service pipe shall be type "K" annealed copper meeting AWWA Standard C800 or polyethylene pressure pipe meeting AWWA Specification C901. Polyethylene services shall be a minimum size of 1" copper tubing

size (cts) Class 200 with a DR of 9. Polyethylene pipe shall be Phillips, Drisco, Ultraline 5100, or approved equal. Service pipe that is larger than 4-inch shall be PVC or ductile iron. Plans and specifications prepared by a Professional Engineer licensed in the State of Montana shall be submitted for 4-inch and larger service lines.

c. The service stubs shall be installed in accordance with the COL Standard Drawings for service lines. The service line stubs shall be installed at the center of each lot unless otherwise approved by the Public Works Director.

d. Backflow prevention devices as required by the Public Works Director shall be installed on each fire and domestic service line. Meters will be installed inside the building by the Water Department on all service lines except for fire service lines. Meter pits shall not be used unless specifically approved by the Public Works Director.

e. All service connections shall be uniform size from the service line tap to the building structure or structures unless otherwise approved or required by the Public Works Director. Water meters shall be the same size as the service unless approved otherwise by the Public Works Director. The Water Department shall reserve the right to require a larger service connection to any building, structure or development if the water requirements when calculated by the fixture unit method, as specified in the Uniform Plumbing Code, cause the service line velocity to exceed ten (10) feet per second. Each service line and meter shall supply a specific building.

f. All service line stubs shall be sized to adequately serve the maximum anticipated demand for the property being served.

g. The Public Works Director may require the termination of any existing service stubs (either for domestic or fire service) that are not utilized for service upon the development of the lot. Lines to be terminated shall be capped or plugged at the main, and any curb boxes or valve boxes on the line shall be removed.

h. All fire sprinkler underground supply lines with fire department connections (FDCs) shall conform to NFPA 24, the 2012 International Fire Code as adopted by the City of Livingston, and the City of Livingston Fire Department requirements for underground fire lines.

7. Valves: Valves shall be installed in accordance with the following unless otherwise approved or required by the Public Works Director:

a. All connections to an existing water main will begin with a new valve.

b. Valves shall be located at not more than 500-foot intervals in commercial districts and at not more than one block or 800-foot intervals in other districts.

c. Every leg of a main intersection shall have a valve.

d. Valves shall be placed so that main shut-downs can be accomplished with only one fire hydrant being out of service at a time.

8. Hydrants: Hydrants shall be provided at each street intersection and at intermediate points so that hydrants are spaced from 250 to 600-feet depending on the area being served. Mid-block hydrants shall be installed in line with lot lines.

9. Air Relief: Air relief shall be provided at all high points in the line where air can accumulate by means of hydrants, services, or air relief valves.

10. Pressure Reducing Valves: Pressure reducing valves shall be installed when the anticipated average-day line pressure exceeds 100 psi.

11. Thrust Restraint: All thrust restraint shall be designed to withstand the test pressure or the working pressure plus surge allowance, whichever is larger. Adequate factors of safety shall be employed in the design.

B. SANITARY SEWER SYSTEM DESIGN CRITERIA

1. All additions or modifications to the COL sanitary sewer system will be designed in accordance with the criteria set forth in this and other sections of this Guide as approved by the City's Public Works Director. All additions to the sewer system will be designed and installed in accordance with Montana Department of Environmental Quality (DEQ) Circular No. 2; MPWSS; COL Modifications to MPWSS, the Uniform Plumbing Code, and the City of Livingston Wastewater Facility Plan.

2. A design report prepared by a Professional Engineer licensed in the State of Montana demonstrating compliance with these requirements shall be submitted with the plans and specifications for any new development. Design parameters and the critical conditions shall be shown on an overall plan of the study area. An overall plan of the development, including all areas outside of the study area which would naturally be served through the study area shall be included. The design report must address sewer flows at full build-out of the proposed development.

3. New sewer lines shall be sized to flow at no more than 75-percent of full capacity at peak hour conditions upon the full build-out of the development. The effects of the proposed development's sewer loading on existing downstream sewer lines shall be analyzed.

~~4.~~ New sanitary sewer lines to serve residential areas shall be designed to accommodate an average daily flow rate of 100-gallons per capita per day.

5. New sanitary sewer lines shall be designed to accommodate the average daily flows as shown in Table V-1, V-2, and V-3 of this Policy.

6. A Manning's friction factor of 0.013 shall be used in designing new sewers. A peaking factor shall be calculated for each pipe segment based on the following formula;

$$\frac{Q_{max}}{Q_{avg}} = \frac{18 + P^{\frac{1}{2}}}{4 + P^{\frac{1}{2}}}$$

(P = Population/thousands)

For non-residential flows an equivalent population shall be calculated for use in the peaking factor formula.

To evaluate future collection needs, wastewater loading needs to be assigned to areas based on anticipated future land use characteristics. In areas within the City limits the assigned zoning provides the best tool to approximate future wastewater loadings. Table V-1 shows the recommended wastewater flow rates based on a per acre basis for zoned areas. Detailed information on how the flow rates were developed may be requested from the Public Works Department.

TABLE V-1 WASTEWATER FLOW RATE FOR ZONED UNDEVELOPED AREAS[1]

Zoning Designation		Dwelling Units per Acre	Gal./Acre/ Day
R I	Low Density Residential	4.5	1,125
R II	Medium Density Residential	12.4	3,100
R II (MH)	Med. Den. Res. (Mobile Home)	12.4	3,100
R III	High Density Residential	21.9	5,463
RMO	Mobile Home Residential	7.3	1,825
CBD	Central Business District	–	2,400
NC	Neighborhood Commercial	–	1,200
HC	Highway Commercial	–	1,000
LI	Light Industrial	–	1,000
I	Industrial	–	960
P	Public	–	1,030

[1] The flow allocation in this table is based on gross area.

7. Manhole Spacing: The maximum distance between manholes shall be as follows:

SANITARY SEWER

PIPE SIZE	MAXIMUM DISTANCE
8" to 15"	400'
18" to 30"	500'
Larger than 30"	600'

8. Barrel Size: The alignment and number of pipes into the manhole will determine the barrel size for the size of pipe used. All 48-inch manholes will have eccentric cone top sections if total manhole height is greater than six feet. All other manholes will have flat tops. All drop manholes shall be "inside drop" with a minimum barrel diameter of 60-inch. The internal diameter of the manhole barrel shall be typically as follows:

SANITARY SEWER

PIPE SIZE	BARREL SIZE
12" or less	48"
15" to 27"	60"
30" to 48"	72"

Manholes larger than seventy-two (72) inches may be allowed with specific approval by the Public Works Director.

9. Manhole Channels: All manholes shall have full-depth channels. When a smaller main is being connected to a larger main at a manhole, the manhole inverts shall be set so that the 8/10 depth of flow of each main is equal in elevation. The minimum drop across a manhole (invert in to invert out) is 0.2' (cut-in manholes are an exception).

10. Sanitary Sewer Mains: The minimum diameter of a sewer main is 8-inches. Main lines shall be sized for ultimate development design flow, not available slope. Nothing shall preclude the City from requiring the installation of a larger sized main if the City determines a larger size is needed to meet the requirements for future servicing. PVC pipe shall be used for all gravity flow main lines unless other materials are specifically approved.

11. Sanitary Sewer Services: The minimum diameter of a service is 4-inches. Services shall connect to the main with in-line gasketed wyes. The service line stub, from the main to the property line or easement line, shall be installed with a maximum slope of ½-inch per foot. The minimum slope of a 4-inch service line stub is 1/4-inch per foot. Upon approval from the Public Works Director, a 4" sewer service line can be installed at 1/8-inch per foot. The minimum slope of a 6-inch service line stub is 1/8-inch per foot. Sewer service line stubs will typically be installed 15-feet from the downstream lot line. Services are to be installed perpendicular to the main.

Each building shall have a separate service line from the building to the sewer main, with the following exception: Accessory Dwelling Units (ADUs) may share sewer service with the service from the primary dwelling unit on the lot, provided that the service is television inspected at the owner's expense, and the Public Works Director determines that the service is in an acceptable condition for shared use.

12. Access Roads: A 12'-wide all-weather gravel access road, with turn-arounds if needed, shall be constructed to provide access to all sanitary sewer manholes not located within a paved public or private street or parking lot.

13. Cut-in Manholes: Pre-cast manhole bases are preferred for cut-in manholes. Poured-in-place cut-in manholes may be used if approved by the Public Works Director.

C. LIFT STATION DESIGN CRITERIA

Lift stations must meet the requirements of Montana DEQ Circular 2 and the following additional requirements:

1. Submittals by the design engineer must include:
    a. Structural plans;
    b. Mechanical plans;
    c. Electrical plans:
    d. Heating and air circulation;
    e. Design report.

2. A written design report shall be submitted for any development that will create a new sewage lift station or will contribute to an existing sewage lift station. The report shall provide the following information:
    a. A description of the existing and/or proposed wet well, pumping system, and force main;
    b. The capacity of the existing and/or proposed lift station service area;
    c. A map showing the existing and/or proposed lift station service area;
    d. A list of the existing and proposed users and their average design flows;
    e. The existing and/or proposed peak design flow and reserve capacity;
    f. The pump run and cycle times for the existing and/or proposed average and peak design flows;
    g. The hydraulic capacity of the existing and/or proposed force main(s);

h. The proposed average and peak design flows to the lift station;

i. The reserve capacity of the lift station with the proposed project at full capacity;

j. Recommendations for improvements to an existing lift station, if necessary, to enable the lift station to serve the proposed development.

3. COL owned and maintained lift stations shall have a minimum discharge pipe size of 4-inches.

4. Permanent emergency backup power designed by a licensed electrical engineer will be required for all lift stations.

   a. Where available, natural gas fuel type preferred;

   b. Generac manufacturer preferred;

   c. Shall be installed on a concrete pad per manufacturer recommendations;

   d. Shall include an appropriately sized transfer switch, manufactured by the same manufacturer as the generator;

   e. Shall include an O&M manual;

   f. Manufacturer shall perform initial start-up and training.

5. An alarm system compatible with the City's Micro-Comm SCADA system must be provided.

   a. The alarm system shall be capable of detecting power interruptions, phase loss, low water, motor failure, 1st motor on/off, 2nd motor on/off, seal failure, high temperature, high water, and high high water;

   b. The station should be equipped with a dual backup tip over float system for start and stop commands for dual pump run.

   c. A security system alarm shall be included and capable of communication with the City's Micro-Comm system. The security system shall include an operator for a building key code.

6. The lift station must be designed at a minimum as a dual pump system. Pumps shall be submersible manufactured by Flygt.

   a. Each pump shall have an hour meter, suction pressure gauge tap and valve, discharge pressure gauge tap and valve, and variable frequency drive;

   b. The City may require a triplex system or require the lift station to be designed and built with the ability to add a third pump for large lift stations or specialty lift stations.

7. Bypass: The lift station shall have a dedicated bypass valve connected downstream of the lift station check valves. It shall be provided with a 4-inch cam-lock style connection with cap.
8. One full joint of Class 50, cement lined, ductile iron influent pipe shall be provided. The spigot end must extend 6-inches beyond the interior of the wet well wall.
9. Controls:
    a. Pump run alternator;
    b. Uninterrupted Power Supply (UPS) for lighting/surge protection for all power supply and other instrumentation. UPS must provide a minimum of 20 minutes of backup power and should not be hardwired but rather be of the 120 volt plug-in configuration for ease of changing out;
    c. Primary level control – pressure transducer (submersible KPSI type with standard range of 0-23 feet and 0-10 psi). A wet well level indicator shall be provided on the drywell side or in above-ground controls;
    d. Backup control – 5 float mercury system shall be installed and function if primary control is lost;
    e. Transfer switch and control panels shall be located inside the lift station building;
    f. Above ground controls must be equipped with a heat system to keep all electronics above 32^{o} F.
10. Electrical:
    a. An hour meter is required on each pump;
    b. Amperage meters are required on each leg of the electrical wiring;
    c. Cathodic protection is required for all lift stations having a metal exterior, which are only allowed with Public Works Director approval;
11. Enclosure:
    a. The foundation shall be constructed of a minimum 4-inch thick monolithic concrete slab and include a treated sole plate anchored to the foundation;
    b. The roof shall be gable style with trusses spaced at 24-inches maximum, 4:12 slope, 5/8-inch OSB sheathing, 30-year 3-tab shingles, and designed to meet wind and snow loads;
    c. Building walls shall be 8-foot high and constructed with 6-inch wall studs, R-19 insulation, ½-in OSB sheathing, and lap siding with 7-inch reveal or metal siding;

d. Interior walls shall be T-111 siding;

e. Interior ceiling shall be insulated with R-49 insulation and covered with 5/8-inch unfinished gypsum board;

f. 6-foot high chain link security fencing with a 3-foot wide personnel gate and two 6-foot leaves for vehicle access. Gate placement shall promote maintenance vehicle access for pump removal and shall include duckbill style gate holders;

g. Security fencing shall be installed such as to provide adequate room for access and maintenance, offset a minimum of 5-feet away from the structure and all appurtenances;

h. 4-inches of clean 1-inch minus gravel or other landscaping rock as approved by the City of Livingston shall be placed around the structure and in all areas outside of public right-of-way;

i. Other requirements:

i. 3068 steel door with deadbolt lock;
ii. Motion activated security light;
iii. Heating and air circulation system;
iv. Ceiling mounted industrial lights in protective cages;
v. All other necessary materials for a finished building.

D. STORM SEWERS

1. Materials: RCP (reinforced concrete pipe) or PVC pipe may be used, however PVC pipe may only be used for pipes sized 36" diameter and smaller. PVC pipe shall have a minimum stiffness of 46 PSI. Structural strength shall withstand HS-20 design load. If PVC pipe is used, all pipe exposed to sunlight shall be protected with concrete headwalls or prefabricated end sections in accordance with MPWSS Section 02725.

2. Minimum Sizes: Storm sewer mains shall not be less than 15-inch diameter. Privately owned storm sewers may be smaller, but shall still be designed in accordance with section C.5 below.

3. Manhole Spacing and Size:

Storm Sewer Pipe Diameter or Vertical Rise	Maximum Manhole Spacing (Ft.)
12" - 36"	400
42" - 60"	500
66" and Larger	750

Storm Sewer Pipe Diameter	Barrel Size* (Ft.)
15" - 18"	4
20" - 28"	5
30" - 48"	6

* Multiple pipe penetrations may require larger manhole barrels

4. Storm Inlets

   a. Publicly owned storm inlets shall comply with the applicable standard drawing in the COL Modifications to MPWSS. Where inadequate overflow paths are provided, inlets must be oversized 50-percent to accommodate plugging.

   b. The size of outlet pipes from storm water inlets shall be based upon the design capacity of the inlet, but shall not be less than 12-inches in diameter. The outlet pipes shall connect to the storm sewer main with a manhole.

   c. Computations for storm sewer design and storm inlet designs shall be submitted with the plans and specifications. Adequate details of inlets, manholes and other appurtenances shall be included in the overall drainage plan submitted for approval.

   d. Combination manhole/inlets may be used where approved as detailed in the City of Livingston Modifications to MPWSS.

5. Hydraulic Design

   Storm sewers shall be designed to convey the 25-year storm event with no surcharging (i.e. pipe full with no head). Inlets and sidewalk chases shall be designed to convey the 25-year storm flow with a maximum water surface elevation of 0.15’ below the top of curb.

   Drainage reports shall include hydraulic grade line calculations including losses from friction and transitions. Approved erosion control shall be designed and installed at all outlets.

6. Alignment

   a. Manholes are required wherever there is change in size, direction, elevation, grade or at sewer main junctions.

   b. The minimum vertical clearance between a potable water main and a storm sewer main is 1.5-feet. The minimum horizontal clearance between a potable water main and a storm sewer main is 10-feet.

   c. Horizontal alignment between manholes shall be straight.

7. Culverts

a. A culvert is considered to be any structure which connects two open channels. The culvert is to be designed to convey the 25-year frequency flow of the tributary drainage basin. The headwater depth will be limited by upstream conditions, but in no case shall exceed 1.5 times the culvert diameter. Excessive ponding above culvert entrances will not be acceptable if damage appears likely to surrounding property or to the roadway.

b. Culverts shall be designed with an emergency overflow path. The emergency overflow capacity shall be 100-percent of the whole culvert for the major storm for culverts with area less than twenty square feet and for culverts with area greater than or equal twenty square feet, the overflow capacity shall be 100-percent of the capacity provided by the first twenty square feet plus 20-percent of the capacity provided for the additional area as established by the formula:

$$\%\ \text{overflow} = (110\%) \times \frac{20+(A-20)\times 0.20}{A}$$

where "A" is the area of the culvert opening

If the culvert is located in a low point in the road the required overflow capacity can be provided by overtopping the road, as long as this does not result in more than 50 feet of street being flooded. Where the culvert is not in a low point, or where more than 50 feet will be flooded, the overflow capacity shall be provided by either increasing the culvert size, or additional culverts.

8. Culvert Hydraulics

a. The culvert including inlet and outlet structures shall convey water, sediment and debris at all stages of flow.

b. End Treatment: Flared end sections or headwalls with wingwalls are required. Inlets are to be designed to minimize head losses. Approved erosion control is to be provided at all culvert outlets and inlets. Trash racks should be used for culverts greater than 100-feet in length.

c. Slopes: Culvert slopes shall prevent silting, yet avoid excessive velocities. Generally, the minimum culvert slope is 0.50-percent. Minimum barrel velocity is 3-fps and maximum is 12-fps.

d. Hydraulic Analysis: Inlet and outlet control conditions shall be analyzed. Calculations shall be submitted with the design report.

e. Minimum Size: Culverts crossing a roadway shall not be smaller than 24-inch equivalent diameter. Driveway approach culverts shall not be smaller than 15-inch equivalent diameter. Culvert length shall be adequate to provide back slopes of 4:1 or less from pipe inverts to finished street section, including existing or future sidewalks. Materials: Culverts shall be RCP unless otherwise approved by the City.

f. All culverts shall be designed to withstand HS-20 loading in accordance with American Association of State Highway and Transportation Officials (AASHTO) "Standard Specifications for Highway Bridges" and with the pipe manufacturers recommendation.

9. Utility Culverts

Conduits placed in right-of-way to facilitate placement of future gas, electric, communication, or other utility lines shall have the structural strength to withstand HS-20 loading. Conduits shall have a minimum stiffness of 46 PSI. Conduits shall be adequately sized to accommodate all anticipated utility lines.

E. ALIGNMENT, DEPTH, AND EASEMENTS

1. General: Water mains, sanitary sewers, and storm sewers within the proposed development shall be arranged to allow the suitable development of any adjoining un-developed land, and shall be constructed to the boundary lines of the tract being developed, unless prevented by topography or other physical conditions, in which case a variance must be approved by the City of Livingston. The alignment of all water, sanitary sewer, and storm sewer mains and services lines shall be arranged so that there is a minimum of ten (10) feet of horizontal separation between these lines and with any gas lines, power lines, communication lines, utility poles or other above-grade utility structures, and street lights.

2. Water Mains:

a. Water mains located in public street right-of-way shall be placed nineteen (19) feet off the north or west right-of-way lines for streets 35 feet in width or greater (back of curb to back of curb). For streets less than 35 feet in width, water mains shall be placed 5.5 feet west and north of the street centerline. On curvilinear street alignments, water mains will be a minimum of two (2) feet from the edge of the concrete gutters at all locations.

b. A minimum depth of cover of six and one-half (6 ½) feet below final grade will be maintained over all water mains.

c. When water mains cross sanitary or storm sewer mains, the water line must have an eighteen (18) inch minimum vertical separation, with all water pipe joints no closer than ten (10) feet horizontal from the sewer pipe centerline, and the crossing will be perpendicular to the sewer line. A minimum of ten (10) feet horizontal separation shall be maintained between any water main and any sanitary or storm sewer main. The vertical separation may be reduced to a minimum of six (6) inches IF either the water or sewer main is encased in a watertight carrier pipe which extends ten (10) feet on both sides of the crossing or the mains must be encased in a minimum of six (6) inches of flowable fill for a minimum of ten (10) feet each side of the crossing.

3. Sanitary Sewer Mains:

a. Sanitary sewer mains located in public street right-of-way shall be placed along the centerline of the street for streets 35 feet in width or greater (back of curb to back of curb). For streets less than 35 feet in width, sewer mains shall be located 5.5 feet east and south of the street centerline. On curvilinear street alignments, sewer mains will be a minimum of two (2) feet from the edge of the concrete gutters at all locations.

b. Sewer mains shall have a minimum depth of cover of five (5) feet below final grade. Sewer mains may be designed to a shallower depth of four (4) feet below final grade upon approval from the Public Works Director. All sewer mains and services with less than five (5) feet of cover must be adequately insulated.

c. Where streets are curvilinear, manholes should be located in the center of the street wherever possible, however non-centerline locations that are not in vehicle wheel paths are acceptable if it will reduce the total number of manholes required.

4. Storm Sewer Mains

a. Storm sewer mains located in public street right-of-way shall typically be located on the opposite side of the street from the water main. Storm sewers may be located beneath curb and gutter if combination inlet/manholes are used.

b. Storm sewer mains shall have a minimum depth of cover of two (2) feet below final grade, provided that the pipe material shall withstand the design load. Storm sewers shall be placed to maintain a minimum horizontal clearance of five (5) feet and a vertical clearance of six (6) inches from any sanitary sewer main.

c. Manholes shall not be located in vehicle wheel paths.

5. Easements:

a. A "utility easement" granted to the public is required for all public utility mains not located within public street right-of-way. An easement shall be a minimum of twenty (20) feet wide for one utility main. An additional ten (10) feet is required for each additional main that occupies the easement. Wider easements may be required at the discretion of the City of Livingston for large utility lines. Easements not established by plat will be executed on standard forms available from the City Planner.

b. At no time will the utility line in question be less than nine (9) feet from the edge of the easement or less than ten (10) feet from a parallel utility line. Utility easements will also be required for all meter pits and fire hydrants maintained by the City of Livingston.

c. No permanent structures shall be placed within a utility easement unless an encroachment permit has been obtained. Trees or other significant landscaping features shall not be placed within ten (10) feet of any utility main or service lines.

d. All easements documents must conform to City of Livingston requirements and must meet the formatting requirements of the Park County Clerk and Recorder’s office.

APPENDIX

A. *City of Livingston Fire Service Line & FDC Standard*

B. *Backflow Prevention & System Classification*

C. *Certificate of Inspection for Fire Service Line Installation*

D. *Contractor's Material & Test Certificate for Underground Piping*

E. *Certificate of Completion and Acceptance*

F. *Sample Detention Basin Sizing Problem*

G. *Pre-Construction Meeting Criteria Checklist*

H. *Plan and Specification Certified Checklist*

I. *Certified Checklist for Testing and Documentation Requirements*

J. *Random Number Sampling Example*

CITY OF LIVINGSTON
FIRE SERVICE LINE & FDC STANDARD
FEBRUARY 2021

For all fire service lines (regardless of size) a City of Livingston water service application must be completed prior to beginning work on the fire service line. Applications may be obtained at the City Building Department located at 330 Bennett Street.

These guidelines are to be followed when an underground water supply serving an automated fire sprinkler system is to be installed of modified within the City of Livingston. All fire supply lines shall conform to the 2012 International Fire Code, as adopted by the City of Livingston, and NFPA 24. These guidelines are not intended to replace nor supersede any codes and/or ordinances adopted by the City of Livingston.

General Requirements:

1. The City of Livingston will only accept fire service lines which are 1", 1 ½", 2", 4", 6", or 8" in diameter, unless specifically approved by the Public Works Departments.
2. All underground fire service lines shall begin at the point of connection to the underground circulating public water main. A valve shall be provided at the point of connection such that the fire service line can be isolated from the public distribution system.
3. Fire service lines 4" in diameter and larger shall be installed, tested, and disinfected by a single Contractor from the point of connection at the City water main (or existing stub) to the first control valve (OS&Y) inside of the building. (Note Item 16 of this Standard for maintenance of the fire line.)
4. For all fire service lines 2" in diameter and smaller where no stub exists, a licensed contractor shall install the line from the main up to and including the first control valve (OS&Y) and double check valve inside the building. The Water Department shall tap the main at the owner's expense and inspect the line under pressure before it is backfilled. A curb stop and box shall be installed at a point 8' past property line unless otherwise directed by the City's Water Foreman. Installation of the fire service line will not begin until the plans for the project have received City of Livingston approval and a City of Livingston water service application has been completed.
5. When tapping tees are used for the fire service line connection to the main, the Contractor shall install the tapping tee and valve and the City of Livingston shall make the actual tap to the main at the Owner's expense.
6. The fire service line connection to the City water main without the use of a tapping tee will be made by the Contractor installing the appropriate sized tee in the water main. The City will operate all valves for the shutdown of the line to install the tee and must be provided with a minimum of 24 hours advance notice before work is scheduled to begin. The Contractor shall notify all affected water customers of the water shut down a minimum of

24 hours before the work begins. Temporary water service shall be provided to all affected water customers if the shutdown period is anticipated to exceed four hours. The City of Livingston reserves the right to determine the likely extent of the main shut down based on the proposed work and Contractor experience, and require the installation of temporary water services by the Contractor.

7. Fire Service piping shall have a 10-foot minimum separation from all other utilities and placed within a separate trench. Piping within 5-feet of the building may be combined with other utilities for entrance into the building.
8. All fire service lines shall terminate at the top of the spigot no more than 5-feet inside the building and 1-foot above the finished floor.
9. All ductile iron, retaining rods, and other non-corrosive resistant components shall be externally coated for corrosion or externally wrapped.
10. All piping shall be a minimum of Class 200 DR18 or greater. For service lines which are 3-inch and larger, Class 51 ductile iron pipe is required within 10-feet of building foundations.
11. Water supply shall be provided in conformance with the requirements of the respective standards, however, every fire protection system shall be designed with a minimum 5 psi safety factor at 20 psi residual pressure of City water mains.
12. All fire service lines not installed by the City of Livingston Water Department shall be designed, inspected, and certified by a Professional Engineer.
13. All water tests shall be witnessed and inspected by the Design Engineer and witnessed by the Public Works Department.

Fire Department Connections (FDC):

1. FDC shall be a separate and independent service line from the fire service line to the building.
2. FDC's for automated sprinkler systems and/or standpipe systems for new buildings shall be equipped with a 2-½ Siamese connection. (See details)
3. Check valves shall be accessible for a 5-year inspection, If located underground, valves shall be installed within a meter can/valve box.
4. FDC shall be facing and visible from the fire lane.
5. FDC will be within 100-feet of a fire hydrant when possible.
6. FDC installed in a "yard" should have a 12-inch by 12-inch concrete pad placed at the base to provide additional stability.
7. The FDC shall be clean and unobstructed with a minimum of 5-foot clearance all-weather path from the fire lane.
8. The FDC shall be installed 18 to 48-inches above finished grade.

9. Fire hose threads shall be national standard hose thread.
10. Underground piping shall be designed and constructed as required for all underground fire services using NFPA 24, Standard for Installation of Private Fire Service Mains and Their Appurtenances.
11. Where the FDC is subject to vehicular damage, the connection shall be protected. Protection shall not be closer than 36-inches to the connection and shall not interfere with the connection.
12. The pipe size and arrangement of the FDC should conform to the latest edition of NFPA 13, Standard for the Installation of Sprinkler Systems.

Inspection Requirements:

1. Visual: All underground piping, joints, and thrust blocks must be uncovered and exposed with labeling of the pipe visible from grade. All ductile iron, retaining rods, and other plastic components shall be externally coated for corrosion and poly wrapped.
2. Hydrostatic Test: Visual inspection must be approved prior to hydrostatic testing. The test will be at 200 psi or at 50 psi in excess of the maximum static pressure when the maximum static pressure exceeds 150 psi, for a maximum of 2 hours. Testing to be performed from the gate valve to the top of the spigot. No pressure drop or gain is allowed.
3. Flush: Upon completion of the hydrostatic test, the piping must be flushed. The flushing must be witness by the Design Engineer and the Public Works Department. All piping used to flush must be properly secured or restrained. The flushing must be completed prior to stacking the riser to the overhead piping.

Submittal Requirements:

1. Plans for all fire service lines will be reviewed by the City of Livingston Public Works Department. The review and subsequent approval or denial will be for that portion of the proposed fire service line that starts at the point of connection to the City of Livingston distribution system up to and including the backflow preventer and the flow detection device. The plans will be reviewed by the City of Livingston Public Works Department and Fire Marshall. Upon satisfactory completion of the review process, the plans will be forwarded to the Public Works Director with a recommendation for approval. The Public Works Director will review the plans and either approve or deny the project. ***Installation of the fire service will not begin until the plans have been approved by the City of Livingston and a City of Livingston water service application has been completed.*** For maintenance of the fire service line after City of Livingston's final acceptance, refer to Item 16 of this Standard. The Owner shall be completely responsible for assuring the fire service line is properly/adequately sized to provide the flows necessary for the fire protection system being serviced by the proposed fire service line.

2. Plans for all proposed fire service lines shall be drawn to scale on 24" x 36" plan sheet(s) and shall include all essential details such as:

a. Size and location of all water supplies.

b. Size and location of all piping indicating, where possible, the class, type and depth of existing pipe, the class and type of new pipe to be installed, and the depth to which it will be buried. For proposed fire service liens 4" in diameter and larger the plans must include a profile drawing of the proposed fire service line from the point of connection at the existing main up to and including the system riser. The profile drawing must show the finished grade, depth of cover for the line, and if applicable, all other utilities which the fire service line will cross or be adjacent to.

c. Size, type, and location of valves.

d. Classification of the system (See Attachment A).

e. Sprinkler and standpipe riser to be supplied by the system.

f. Location of fire department connections.

g. Size of orifice necessary to achieve the flushing flows required under NFPA 24.

3. Material and installation of fire service lines shall comply with the following standards:

a. **Montana Public Works Standard Specifications, Sixth Edition, April 2010.**

b. **City of Livingston Modifications to the Montana Public Works Standard Specifications.**

c. **City of Livingston Standard Drawings 02660-13 and 02660-14.**

d. **City of Livingston Fire Service Line Standard.**

e. **NFPA 24, Installation of Private Fire Service Mains and Their Appurtenances, (latest edition).**

4. The City of Livingston's requirements for the installation of double check valve assemblies and reduced pressure backflow prevention assemblies are as follows:

a. The first fitting inside of the building shall be a UL listed flanged American Flow Control, Kennedy or Mueller OS&Y valve the same size as the fire service line, for lines 4" and larger. For lines 2" and smaller, the first fitting inside the building shall be a NIBCO T-104-0 OS&Y valve.

b. All double check valve assemblies and reduced pressure backflow prevention assemblies shall be:

1. UL or FM listed

2. Approved by the University of Southern California Foundation for Cross Connection Control and Hydraulic Research (USCFCCCHR) for operation in the proposed position (vertical or horizontal) as shown on the approved plans.

3. Installed as shown on the approved plans.

c. A flow detection device shall be installed immediately following the double check valve assembly or the reduced pressure backflow prevention assembly (alarm check valve, flow/sensor alarm, meter, etc.) as shown on the approved plans.

d. A double detector check valve assembly may be used with a standard City of Livingston meter (for Class I, II and III systems only). The meter loop of the double detector check valve shall have a double check valve assembly installed which meets the same installation criteria specified above in requirement b.

e. Horizontal installations must be a minimum of 2 feet clear above the finished floor.

f. The fire service riser must be a minimum of 2 feet clear from any outside wall.

g. The incoming fire service line shall be a minimum of 6.5 feet and a maximum of 7.5 feet below the finished grade.

h. All fire service lines appurtenances shall have a minimum pressure rating of 175 p.s.i.

i. All fire service lines 3-inches and larger shall be Class 51 ductile iron pipe within 10-feet of building foundations.

j. Line Sizing: The double check valve assembly or reduced pressure backflow prevention assembly shall be equal in size to the outgoing pipe diameter (downstream).

Additional Requirements:

1. Prior to the City of Livingston's initial acceptance of the new fire service line (4" in diameter and larger) the line must be disinfected in accordance with Montana Public Works Standards and Specifications, and City of Livingston requirements. Flushing and pressure testing of the line shall be done in accordance with NFPA 24. Two (2) copies of the bacteriological tests results are to be submitted to the Public Works Department.

2. Prior to the City of Livingston's initial acceptance of the new fire service line (4" in diameter and larger) the "Contractor's Material and Test Certificate for Underground Piping" (See Appendix) must be completed and two (2) copies submitted to the Public Works Department.

3. Prior to the City of Livingston's initial acceptance and activation of the fire service line (i.e., putting the line into service) a final inspection will be conducted by the City of Livingston Water Superintendent, or his designated representative, to confirm that the installation is in accordance with the approved application and the approved plans. A Certificate of Inspection (see Appendix) will be completed by the Public Works Department, or designated representative, upon completion of the final inspection, with

copies of the Owner, Contractor, and Public Works Department. Installations that are in conformance with the approved plans for the project and have passed all required tests will be initially accepted by the City of Livingston as noted on the Certificate of Inspection. Installations that are not in conformance with the approved plans for the project will not be initially accepted by the City of Livingston and the line will not be activated (i.e., placed in service) until the installation is in conformance with the approved plans and all required tests have been taken and passed.

4. The required two-year warranty period for the fire service line begins on the date of initial acceptance as noted on the Certificate of Inspection completed by the City of Livingston Public Works Department.

5. Upon the City's initial acceptance (see Section 13) of the fire service line, the following must be submitted by the Project/Design Engineer to the Public Works Director within thirty (30) days:

6. Two (2) sets of accurate record drawings and one (1) digital set signed by the Engineer.

7. A letter of certification from the project Engineer stating that the fire service line was installed in accordance with the approved plans.

    a. The City of Livingston's final acceptance of the fire service line will be based on the letter of certification, record drawings, and correction of any deficiencies noted during the two-year warranty period.

8. Following the expiration of the two-year warranty period, the City of Livingston will maintain, at its expense, the fire service line from the main up to the curb stop or curb valve, or to the property line or easement line, whichever is more. Any maintenance or repairs to the fire service line or its appurtenances beyond the point of City of Livingston responsibility specified above shall be by a licensed contractor at the Owner's expense. The building owner shall also be responsible for maintenance, repairs, and testing of all fire service line piping and appurtenances beyond the first control valve (OS&Y) inside the building.

9. The building owner may operate the first control valve (OS&Y) inside of the building when necessary for maintenance or repairs. When the first control valve (OS&Y) inside of the building is shut off for any reason, the City of Livingston Fire Department must be notified immediately and informed of the shutdown date, time and duration. **The building owner is completely responsible to ensure that this valve remains open at all times (except for maintenance or repairs) for the proper operation of the building's fire protection system.**

10. Use of the fire service line shall be restricted to firefighting use, emergency use and approved auxiliary (e.g., closed loop heating/cooling systems) including routine testing and flushing. Combined use lines (i.e., domestic and fire) are not acceptable for all buildings except single-family residences (SFRs). Separate service lines must be installed for individual domestic and fire services, except for SFRs. Fire sprinkler systems for SFRs

may connect to the domestic supply inside the residence. Such connection must be made downstream of the backflow preventer. The backflow preventer must be a testable backflow preventer approved by the City of Livingston's Backflow Prevention Specialist.

Bonding Requirements.

The Owner shall require the Contractor to furnish a Maintenance Bond in favor of the Owner in an amount equal to one-hundred percent (100%) of the Agreement amount.

The bond shall be signed by a surety company authorized to do business in the State of Montana, and acceptable as a surety to the Owner and countersigned by a Montana Resident Agent.

The bond shall be filed with the Owner and the City of Livingston and shall include a copy of Power of Attorney certified to include the date of the bond.

Insurance Requirements.

The Owner shall require the Contractor to secure and maintain such insurance from and insurance company (or companies) authorized to write insurance in the State of Montana, with a minimum "A.M. Best Rating" of B+, VI, as will protect himself, his subcontractors, the Owner, and the City of Livingston and their respective agents and employees from claims for bodily injury, death, or property damage which may arise from operations and completed operations under the Agreement. The types and limits of coverage shall comply with the current edition of "Montana Public Works Standard Specifications". The Owner shall not authorize, nor shall the Contractor commence work under the Agreement until such insurance has been obtained and certificates of insurance, with binders, or certified copies of the insurance policy, have been filed with the Owner and the City of Livingston.

All insurance coverages shall remain in effect throughout the life of the Agreement, except that the Contractor shall maintain the Commercial General Liability coverage for a period of at least one year following the substantial completion date for property damage resulting from occurrences during the Agreement period.

Each insurance policy shall contain a clause providing that it will not be cancelled by the insurance company without 30 days written notice to the Owner, and the City of Livingston, of intention to cancel.

Warranty Period.

If, within two years after initial acceptance of the work by the City of Livingston, any of the work is found to be defective or not in accordance with the Contact Documents, and upon written notice from the City of Livingston, the Owner shall cause the Contractor to correct any work within seven (7) calendar days of said written notice. Should the Owner or Contractor fail to the written notice within the designated time, the city of Livingston may correct the work at the expense of the Owner/Contractor.

BACKFLOW PREVENTION & SYSTEM CLASSIFICATION

The City of Livingston requires that plans for the proposed fire service line include a description of the system including the "Class" of the system and the backflow prevention to be installed with the system. This Attachment provides standards for determining the Class of the proposed system and the required backflow protection to accompany the specific system. The standards in this Attachment are based on recommendations in American Water Works Association Manual M14, *Recommended Practice for Backflow Prevention and Cross-Connection Control*, and City of Livingston requirements.

Classification for Backflow Protection

Class 1. Direct connections from public water mains only; no pumps, tanks, or reservoirs; no physical connection from other water supplies; no antifreeze or other additives of any kind; all sprinkler drains discharging to atmosphere, dry wells or other safe outlets.

Class 2. Same as Class 1 except that booster pumps may be installed in the building after the first interior control valve (OS&Y).

Class 3. Direct connection from public water supply mains, plus one or more of the following: elevated storage tanks, fire pumps taking suction from aboveground covered reservoir or tanks; and pressure tanks. (All storage facilities are filled or connected to public water only, the water in the tanks is to be maintained in a potable condition. Otherwise, Class 3 systems are the same as Class 1.)

Class 4. Directly supplied from public mains, similar to Class 1 and Class 2, with an auxiliary water supply dedicated to fire department use and available to the premises, such as an auxiliary supply located within 1700 feet of the pumper connection.

Class 5. Directly supplied from public mains and interconnected with auxiliary supplies, such as pumps taking suction from reservoirs exposed to contamination, or rivers and ponds; driven wells; mills or other industrial water systems; or where antifreeze or other additives are used.

Class 6. Combined industrial and fire protection systems supplied from the public water mains only, with or without gravity storage or pump suction tanks.

Required Protection

All systems regardless of Class require a means of flow detection which must be approved by the City of Livingston.

Class 1. Minimum backflow protection requirement for a Class 1 system is an approved testable double check valve assembly to prevent water from back flowing into the public potable water system. The double check valve assembly should be the same size as the fire service line to the building and installed immediately following the first interior OS&Y control valve as shown on the approved plans. (Refer to City of Livingston Standard Drawing 02660-13 for specific

requirements.)

Exception: Special conditions may exist on the site of Class 1 fire systems such that actual or potential contamination hazards are presented to the domestic water supply. Under these conditions an approved reduced pressure backflow prevention assembly, or an appropriately sized air gap, may be warranted and/or required by the City of Livingston.

Class 2. Minimum backflow protection requirement for a Class 2 system is an approved testable double check valve assembly to prevent water from back flowing into the public potable water system. The double check valve assembly should be the same size as the fire service line to the building and installed immediately following the first interior OS&Y control valve as shown on the approved plans. (Refer to City of Livingston Standard Drawing 02660-13 for specific requirements.)

Exception: Special conditions may exist on the site of Class 2 fire systems such that actual or potential contamination hazards are presented to the domestic water supply. Under these conditions an approved reduced pressure backflow prevention assembly, or an appropriately sized air gap, may be warranted and/or required by the City of Livingston.

Class 3. Minimum backflow protection requirement for a Class 3 system is an approved testable double check valve assembly to prevent water from back flowing into the public potable water system. The double check valve assembly should be the same size as the fire service line to the building and installed immediately following the first interior OS&Y control valve as shown on the approved plan. (Refer to city of Livingston Standard Drawing 02660-13 for specific requirements.)

Exception: Special conditions may exist on the site of Class 3 fire systems such that actual or potential contamination hazards are presented to the domestic water supply. Under these conditions an approved reduced pressure backflow prevention assembly, or an appropriately sized air gap, may be warranted and/or required by the City of Livingston.

Class 4. The type of backflow protection for Class 4 systems will depend on the quality of the auxiliary supply. The type of backflow protection will be one of the following approved by the City of Livingston: air gap or reduced-pressure backflow-prevention assembly. Reduced-pressure backflow-prevention assemblies should be the same size as the fire service line to the building and installed immediately following the first interior OS&Y control valve as shown on the approved plans. (Refer to city of Livingston Standard Drawing 02660-14 for specific requirements.)

Class 5. The type of backflow protection for Class 5 systems will be either a reduced-pressure backflow-prevention assembly or an air gap. Reduced-pressure backflow-prevention assemblies should be the same size as the fire service line to the building and installed immediately following the first interior OS&Y control valve as shown on the approved plans. (Refer to City of Livingston Standard Drawing 02660-14 for specific requirements.)

Class 6. Class 6 system protection would depend on the requirements of both industry and fire protection and could only be determined by a survey of the premises.

CERTIFICATE OF INSPECTION FOR FIRE SERVICE LINE INSTALLATION

DATE	TIME	BUILDING ADDRESS
CITY OF LIVINGSTON WATER DEPARTMENT INSPECTOR		
THIS IS THE ☐ 1ST ☐ 2ND ☐ 3RD INSPECTION FOR THIS INSTALLATION		
FIRE SERVICE LINE INSTALLED FOR:	OWNER OF BUILDING:	
	OWNER'S ADDRESS:	
	OWNER'S PHONE:	
	BUILDING NAME:	
	BUILDING PHONE:	
FIRE SERVICE INSTALLED BY:	NAME OF CONTRACTOR:	
	CONTRACTOR'S ADDRESS:	
	CONTRACTOR'S PHONE:	
	CONTACT PERSON:	
THE FOLLOWING WERE PRESENT DURING THE INSPECTION:		

The fire service line is installed in accordance with City of Livingston requirements for the project:
☐ YES ☐ NO

Bacteriological tests have been completed and passed:
☐ YES ☐ NO

The "Contractor's Material & Test Certificate for Underground Piping" has been completed and submitted to the City Public Works Director (i.e. pressure tests have been conducted and have passed):
☐ YES ☐ NO

If the answer to <u>ALL</u> of the above is "YES" then the City of Livingston initially accepts the fire service line and the two year warranty period begins on the date of this inspection.

The fire service line was activated (placed into service) during this inspection:
☐ YES ☐ NO
(If "NO", indicate the reason and the date it is to be activated in the comments section below)

The first interior valve (OS&Y) was left in the ☐ OPEN ☐ CLOSED position at the completion of the inspection.

OWNER NOTE: When the first control valve (OS&Y) inside of the building is shut off for <u>ANY</u> reason, the City of Livingston Fire Department must be notified immediately and informed of the shut down date, time, and duration.

Comments:

Cc: Owner
Contractor
Public Works Director

CONTRACTORS' MATERIALS & TEST CERTIFICATE FOR UNDERGROUND PIPING

PROCEDURE

Upon completion of work, inspection and test shall be made by the contractor's representative and witnessed by an owner's representative. All defects shall be corrected and system left in service before contractor's personnel finally leave the job.

A certificate shall be filled out and signed by both representatives. Copies shall be prepared for approving authorities, owners, and contractor. It is understood the owner's representative's signature in no way prejudices any claim against contractor for faulty material, poor workmanship, or failure to comply with approving authority's requirements or local ordinances.

PROPERTY NAME		DATE
PROPERTY ADDRESS		
PLANS	ACCEPTED BY APPROVING AUTHORITIES (NAMES)	
	ADDRESS	
	INSTALLATION CONFORMS TO ACCEPTED PLANS ☐ YES ☐ NO EQUIPMENT USED IS APPROVED ☐ YES ☐ NO	
	IF NO, STATE DEVIATIONS	
INSTRUCTIONS	HAS PERSON IN CHARGE OF FIRE EQUIPMENT BEEN INSTRUCTED AS TO LOCATION OF CONTROL VALVES AND CARE AND MAINTENANCE OF THIS NEW EQUIPMENT? ☐ YES ☐ NO	
	IF NO, EXPLAIN	
LOCATION	SUPPLIES BUILDINGS	
	PIPE TYPES AND CLASS _____	TYPE JOINT _____
PIPES AND JOINTS	PIPE CONFORMS TO _____ STANDARD ☐ YES ☐ NO FITTINGS CONFORM TO _____ STANDARD ☐ YES ☐ NO	
	IF NO, EXPLAIN	
	BURIED JOINTS NEEDING ANCHORAGE CLAPED, STRAPPED, OR BLOCKED IN ACCORDANCE WITH _____ STANDARD ☐ YES ☐ NO	
	IF NO, EXPLAIN	
TEST DESCRIPTION	**FLUSHING**: Flow the required rate until water is clear as indicated by no collection of foreign material in burlap bags at outlets such as hydrants and blow-offs. Flush at flow not less than 390 GPM (1476 L/min) for 4-inch pipe, 610 GPM (2309 L/min) for 5-inch pipe, 880 (GPM 3331 L/min) for 12-inch pipe. When supply cannot produce stipulated flow rate, obtain maximum available. **HYDROSTATIC**: Hydrostatic tests shall be made at not less than 200 psi (13.8 bars) for two hours or 50 psi (3.4 bars) above static pressure in excess of 150 psi (10.3 bars) for two hours. **LEAKAGE**: New pipe laid with rubber gasketed joints shall, if the workmanship is satisfactory, have little or no leakage at the joints. The amount of leakage at the joints shall not exceed 2 qts. per hr. (1.89 L/h) per 100 joints, irrespective of pipe diameter. The amount of allowable leakage specified above may be increased by 1 fl oz. per in. valve diameter per hr. (30 mL/25 mm/h) for each metal-seated valve isolating the test section. If dry barrel hydrants are tested with the main valve open, so the hydrants are under pressure, an additional 5 oz. per minute (150 mL/min) leakage is permitted for each hydrant.	
FLUSHING TESTS	NEW PIPING FLUSHED ACCORDING TO _____ STANDARD BY _____ (company) ☐ YES ☐ NO	
	IF NO, EXPLAIN	
	HOW FLUSHING FLOW WAS OBTAINED: ☐ PUBLIC WATER ☐ TANK OR RESERVOIR ☐ FIRE PUMP	THROUGH WHAT TYPE OPENING: ☐ HYDRANT BUTT ☐ OPEN PIPE
	LEAD-INS FLUSHED ACCORDING TO _____ STANDARD ☐ YES ☐ NO	
	HOW FLUSHING FLOW WAS OBTAINED: ☐ PUBLIC WATER ☐ TANK OR RESERVOIR ☐ FIRE PUMP	THROUGH WHAT TYPE OPENING: ☐ Y CONNECTION TO FLANGE & SPIGOT ☐ OPEN PIPE

HYDROSTATIC TEST	ALL NEW PIPING HYDROSTATICALLY TESTED AT ____ PSI FOR ____ HOURS			BURIED JOINT COVERED ☐ YES ☐ NO	
LEAKAGE TEST	TOTAL AMOUNT OF LEAKAGE MEASURE NO LEAKAGE ALLOWED FOR VISIBLE JOINTS ____ GALS. ____ HOURS				
	ALLOWABLE LEAKAGE (BURIED) NO LEAKAGE ALLOWED FOR VISIBLE JOINTS ____ GALS. ____ HOURS				
HYDRANTS	NUMBER INSTALLED	TYPE AND MAKE		ALL OPERATED SATISFACTORILY ☐ YES ☐ NO	
CONTROL VALVES	WATER CONTROL VALVES LEFT WIDE OPEN ☐ YES ☐ NO				
	IF NO, STATE REASON				
	HOSE THREADS OF FIRE DEPARTMENT CONNECTION AND HYDRANTS INTERCHANGEABLE WITH THOSE OF FIRE DEPARTMENT ANSWERING ALARM ☐ YES ☐ NO				
REMARKS	DATE LEFT IN SERVICE _____				
	ADDITIONAL COMMENTS _____				
SIGNATURES	NAME OF INSTALLING CONTRACTOR				
	TESTS WITNESSED BY				
	FOR PROPERTY OWNER (SIGNED)	TITLE	DATE		
	FOR INSTALLING CONTRACTOR (SIGNED)	TITLE	DATE		

ADDITIONAL EXPLANATION AND NOTES

CERTIFICATE OF COMPLETION & ACCEPTANCE

OWNER: _____
PROJECT TITLE: _____
PROJECT NUMBER: _____
DATE OF ACCEPTANCE: _____
PROJECT LOCATION: _____
CONTRACTOR: _____
ENGINEER: _____
SUBSTANTIAL COMPLETION DATE: _____
TWO-YEAR WARRANTY EXPIRATION DATE: _____

The Work performed under the Contract for the above Project has been inspected by a representative of the Owner, Contractor, Engineer, and City of Livingston and has been found to substantially comply with the approved Contract Documents and is hereby declared complete. Acceptance by the Owner and City of Livingston and recommendation thereto by the Engineer does not affect the "Contractor's Continuing Obligation" as described in Article 14.15 of the Standard General Conditions of the Construction Contract, or the Owner's contractual obligations.

Maintenance Bond with the City of Livingston named as dual obligee is attached.

ENGINEER'S RECOMMENDATION

On the basis of observation of the Work during construction, final inspection, and review of project testing, final application for payment and accompanying documents, the Engineer is satisfied and hereby certifies that the Work has been completed in accordance with the approved Contract Documents. This acceptance shall not relieve the Contractor of its obligations under the Contract Documents.

_____
Engineer

By: _____
Printed Name: _____
P.E. #: _____
Date: _____

CONTRACTOR'S CONCURRENCE WITH ENGINEER'S RECOMMENDATION

_____
Contractor

By: _____
Printed Name: _____
Title: _____
Date: _____

OWNER'S ACCEPTANCE AND GRANT OF POSSESSION

On the basis of independent observations and inspection and the recommendation of the Engineer, the Owner accepts the Project as complete. This acceptance does not relieve the Contractor of continuing obligations as described above. The Contractor is reminded this Project is under warranty beginning _____ and that bonds shall remain in effect for two years after the Date of Acceptance specified above. The Owner hereby grants possession of all public infrastructure improvements completed by this Project to the City of Livingston and warrants against defects in these improvements for a period of two years from the Date of Acceptance as specified above.

_____ By: _____

Owner Printed Name: _____

Title: _____

Date: _____

CITY OF LIVINGSTON ACCEPTANCE

The City of Livingston hereby accepts possession of all public infrastructure improvements, subject to the above indicated warranty. This acceptance does not relieve the Owner or Contractor of its continuing obligations for this work as described above or otherwise required through Improvements Agreements, Conditions of Plat Approval, or other contractual commitments.

City of Livingston By: _____

Title: _____

Date: _____

SIZING DETENTION BASINS – SAMPLE PROBLEM

(Rational Method)

Given:

Existing Land Use:	Agricultural
Proposed Land Use:	Industrial
Drainage Area:	5 Acres
Slope (s):	1%
Overland Travel Distance to Channel:	120 feet
Channel Time:	4 minutes
Max. Basin Water Depth Allowable:	1.5 feet

Problem:

Size a detention basin to control runoff to pre-development levels and to remove sediment (40-micron particle).

Solution:

1. *Pre-Development Condition*

Land Use:	Agricultural
Area (A):	5 Acres
Runoff Coefficient (c) =	0.20 (from Table I-2)
Design Storm Frequency:	10 year (from Table I-4) (Based on Future use Design Frequency)

Time of Concentration (T_c):

$$T_{c,overland} = \frac{1.87(1.1-c\times C_f)D^{\frac{1}{2}}}{S^{\frac{1}{3}}} = \frac{1.87(1.1-(0.20\times 1.0))120^{\frac{1}{2}}}{1^{\frac{1}{3}}} = 18.43 \text{ minutes}$$

T_c = 18.43 minutes overland + 4 minutes in channel = 22.43

Where
- S = Slope of basin, % = 1%
- c = Rational Method runoff coefficient = 0.20
- D = Length of basin, feet = 120 ft
- C_f = Frequency adjustment factor[1] = 1.0 for 10-yr event

Intensity (I) at T_c (Figure I-1):

$$I_{c,10yr} = 0.80x^{-0.65} = 0.80 \times \frac{22.43 \text{ min}}{60 \text{ min/hr}}^{-0.65} = 1.52 \text{ inches/hour}$$

Peak Runoff Rate (Q):

$Q_{pre\text{-}development}$ = cIA = (0.20)(1.52 in/hr)(5 acres) = <u>1.52 cfs</u>

2. Post-Development Condition

Land Use: Industrial
Area (A): 5 Acres
Runoff Coefficient (c) = 0.80 (from Table I-2)
Design Storm Frequency: 10 year (from Table I-4)
Time of Concentration (T_c):

$$T_{c,overland} = \frac{1.87(1.1-c\times C_f)D^{\frac{1}{2}}}{S^{\frac{1}{3}}} = \frac{1.87(1.1-(0.80\times 1.0))120^{\frac{1}{2}}}{1^{\frac{1}{3}}} = 6.15 \text{ minutes}$$

T_c = 6.15 minutes overland + 4 minutes in channel = 10.15 minutes

Where S = Slope of basin, % = 1%
c = Rational Method runoff coefficient = 0.80
D = Length of basin, feet = 120 ft
C_f = Frequency adjustment factor[1] = 1.0 for 10-yr event

Intensity (I) at T_c (Figure I-1):

$$I_{c,10yr} = 0.80x^{-0.65} = 0.80 \times \frac{10.15 \text{ min}}{60 \text{ min/hr}}^{-0.65} = 2.54 \text{ inches/hour}$$

Peak Runoff Rate (Q):

$Q_{post\text{-}development}$ = cIA = (0.80)(2.54 in/hr)(5 acres) = <u>10.16 cfs</u>

3. Detention Basin Sizing

Design Release Rate: 1.52 cfs*
*This must be equal to the pre-development runoff rate

Minimum Pond Volume Iterative Calculation:

Storm Duration (min)	Intensity (in/hr)	Post-Development Runoff Rate (cfs)	Runoff Volume (cf)	Release Volume (cf)	Required Storage (cf)
30	1.26	5.02	9,038	2,736	6,302
31	1.23	4.92	9,143	2,827	6,316
32	1.20	4.82	9,245	2,918	6,326
33	1.18	4.72	9,345	3,010	6,335
34	1.16	4.63	9,443	3,101	6,342
35	1.14	4.54	9,539	3,192	6,347
36	1.12	4.46	9,634	3,283	6,351
37	1.10	4.38	9,727	3,374	6,352
38	1.08	4.31	9,818	3,466	6,352
39	1.06	4.23	9,908	3,557	6,351
40	1.04	4.16	9,996	3,648	6,348
41	1.02	4.10	10,083	3,739	6,343

Note: 1. If controlling volume falls at a storm duration less than the future time of concentration, use the volume at the time of concentration.

2. Based on Minimum Volume and using 1.5-ft depth, Surface Area = 4,235 sf

4. Minimum Pond Area

Assumptions:

1. Non-flocculant particles.
2. Settling velocity of 40-micron particles = 0.0069 ft/sec.

Design Release Rate: 1.52 cfs
Minimum Area Required: 1.52 cfs ÷ 0.0069 ft/sec = 220 sf
(Since 6,352 > 220 sf, use 6,352 sf)

5. Final Basin Sizing

Water Depth:	1.5 ft
Surface Area:	4,235 sf
Volume:	6,352 cf
Length:	106 ft
Width:	40 ft

PRECONSTRUCTION MEETING CRITERIA CHECKLIST

Project Name: _____

Project Type: _____

(water, sanitary sewer, storm sewer, streets)

Owner/Developer: _____

Engineer: _____

Contractor: _____

SUBMITTALS CHECKLIST

REQUIRED SUBMITTAL	REQUIRED?	DATE RECEIVED	COMMENTS
Approved Plans & Specifications	☐ YES ☐ NO		
Executed Easements	☐ YES ☐ NO		
Abandoned Easements	☐ YES ☐ NO		
Shop/Fabrication Drawings[1]	☐ YES ☐ NO		
Traffic Control Plan[2]	☐ YES ☐ NO		
Electronic Plans on CD[3]	☐ YES ☐ NO		
Copy of Contractor's Bonds	☐ YES ☐ NO		
Copy of Contractor's License	☐ YES ☐ NO		
Dewatering Discharge Permit (MPDES/MGWPCS)*	☐ YES ☐ NO		
310 Permit (SCS/FWP)*	☐ YES ☐ NO		
404 Permit (Corps)*	☐ YES ☐ NO		
Stormwater Control Permit*	☐ YES ☐ NO		
Street Cut Permit (COL)*	☐ YES ☐ NO		
Utility Occupancy Permit*	☐ YES ☐ NO		

[1] Due 2 days prior to preconstruction meeting; shop/fabrication drawings shall bear Engineer's approval when submitted.

[2] Due 1 week prior to preconstruction meeting

[3] Due 2 days prior to preconstruction meeting

* To be determined by design engineer

PRECONSTRUCTION MEETING DATE: _____

(Will not be scheduled until ALL above applicable submittals are received)

CITY OF LIVINGSTON PLAN AND SPECIFICATION CERTIFIED CHECKLIST

Project Name: _____
Engineer: _____

Reports Received:
☐ Utility Design Report
☐ Traffic Impact Study
☐ Stormwater Facilities Design

This checklist may be used in lieu of a complete department review when the conditions listed below are met. The department reviews all certified checklists for completeness and accuracy and must approve all deviation requests. Deviation requests will result in slower turn-around by the department. Construction MAY NOT begin until approval of the certified checklist is granted by the department, and a preconstruction meeting is held. Department approval will be issued in a letter to the design engineer submitting the plans and specifications.

All sections of the certified checklist must be completed. *The answer "YES" may be checked when all the requirements of the section being addressed are satisfied.* When a "YES" answer cannot be given, a deviation must be requested or the applicant must explain why that section of the standard is not applicable. All deviation requests must be justified by the design engineer and supported with appropriate documentation.

All infrastructure certified checklists must be signed and stamped by the professional engineer responsible for the design of the project. In addition, four sets of plans and specifications signed and stamped by a professional engineer must be included.

The plans and specifications for the above referenced project are in compliance with the following sections of the City of Livingston Public Works Design Standards:

STANDARD PROCESS		
1.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
2.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
I. CONSTRUCTION PLANS AND SPECIFICATION REQUIREMENTS		
A.1.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.2.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.3.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:

A.4	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.5	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.6	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.7	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.8	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.9	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.1.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.2.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.1.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.2.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.3.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.1.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.2.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.1.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.1.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.1.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.1.d.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.2.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.3.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.4.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:

F.1.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
II. DRAINAGE POLICY		
A.1	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.2	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.3.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.3.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.3.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.3.d.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.3.e.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.3.f.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.4.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.1.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.2.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.3.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.4.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.5.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.5.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.5.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.6.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.1.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:

C.2.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.3.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.4.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.5.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.6.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.6.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.6.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.6.d.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.6.e.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.6.f.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.6.g.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.6.h.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.1.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.2.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.2.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.2.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.1.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.2.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.3.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.4.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:

E.5.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.6.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
F.1.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
F.2.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
F.3.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
F.3.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
F.3.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
G.1.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
G.1.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
G.1.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
G.2.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
G.3.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
G.4.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
G.5.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
G.6.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
III. FLOODPLAIN REGULATIONS		
A.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
IV. ROADWAY DESIGN AND TECHNICAL CRITERIA		
A.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.1.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:

B.2.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.3.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.4.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.5.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.6.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.7.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.8.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.1.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.2.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.2.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.2.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.3.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.4.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.5.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.5.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.5.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.1.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.2.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.3.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.4.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:

D.5.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.6.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.7.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.8.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.9.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.1.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.2.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.3.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.4.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.4.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.4.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.4.d.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.5.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.6.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.7.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.8.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
F.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
G.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
H.1.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
H.2.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:

H.3.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
H.3.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
H.3.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
H.3.d.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
H.3.e.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
H.4.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
H.5.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
I.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.1.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.1.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.1.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.1.d.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.2.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.2.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.3.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.3.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.3.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.3.d.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.3.e.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.3.f.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:

J.4.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.4.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.4.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.4.d.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.4.e.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.4.f.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.4.g.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.4.h.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.4.i	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.4.j.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.5.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.5.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.5.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.5.d.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.5.e.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.6.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
K.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
V. UTILITY DESIGN CRITERIA		
A.1.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.2.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:

A.3.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.4.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.5.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.6.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.6.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.6.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.6.d.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.6.e.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.6.f.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.6.g.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.6.h.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.7.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.7.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.7.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.7.d.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.8.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.9.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.10	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
A.11.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.1.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:

B.2.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.3.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.4.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.5.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.6.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.7.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.8.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.9.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.10.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.11.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.12.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.13.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.1.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.1.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.1.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.1.d.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.1.e.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.2.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.2.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.2.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:

C.2.d.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.2.e.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.2.f.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.2.g.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.2.h.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.2.i.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.2.j.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.3.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.4.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.4.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.4.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.4.d.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.4.e.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.4.f.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.5.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.5.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.5.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.6.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.6.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.7.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:

C.8.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.9.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.9.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.9.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.9.d.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.9.e.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.9.f.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.10.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.10.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.10.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.11.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.11.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.11.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.11.d.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.11.e.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.11.f.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.11.g.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.11.h.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.11.i.i.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.11.i.ii.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:

C.11.i.iii.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.11.i.iv.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.11.i.v.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.1.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.2.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.3.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.4.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.4.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.4.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.4.d.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.5.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.6.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.6.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.6.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.7.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.7.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.8.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.8.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.8.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.8.d.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:

D.8.e.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.8.f.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.9.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.1.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.2.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.2.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.2.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.3.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.3.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.3.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.4.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.4.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.4.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.5.a.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.5.b.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.5.c.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:

Certified By: _____ Date: _____

(Signature of Professional Engineer)

Montana P.E. Number: _____

CERTIFIED CHECKLIST FOR TESTING & DOCUMENTATION REQUIREMENTS FOR INFRASTRUCTURE IMPROVEMENTS

All sections of the certified checklist must be completed. The answer "YES" may be checked when *all the requirements of the section being addressed are satisfied*. Where a "YES" answer cannot be giver, a deviation must be requested or the applicant must explain why that section of the standard is not applicable. All deviation requests must be justified by the design engineer and supported with appropriate documentation. All infrastructure certified checklists must be signed and stamped by a Professional Engineer licensed in the state of Montana.

A.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
B.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
C.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
D.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
E.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
F.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
G.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
H.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
I.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
J.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:
K.	☐ YES	☐ Deviation Requested:
	☐ NA	Explanation:

Certified By: _____ Date: _____

(Signature of Professional Engineer)

Montana P.E. Number: _____

SAMPLING MATERIALS BY RANDOM NUMBER SAMPLING

1. SCOPE - This method provides a procedure, in the form of several examples, for selecting samples on an approximately random basis using a system of random numbers. To accomplish this selection, choose the random sample so that each unit of material (i.e., cubic yard, square yard, ton, etc.) has the same probability of being selected. Divide each material sampled into lots, and establish a frequency of sampling.

2. PROCEDURE -

2.1. Random numbers can be generated by some calculators by planting a seed number such as date, time of day, etc., expressed as a decimal between 0 and 1. Included in this method are two tables of random numbers for use. Enter the table in a random method, such as a blind placement of a pencil. After choosing the first random number in this manner, choose consecutive numbers, following a column (or row), until the entire table has been used. At that time, repeat the initial process of random entry into the table of numbers. This method will reduce the possibility of using a value from the table more than once.

2.2. Following are examples related to particular phases of highway construction:

2.2.1. EXAMPLE NO. 1

In this example, select station numbers for density coring of a 0.75-in. nominal-maximum mixture. Specifications require four density cores for each 1 000 tons of mixture placed. The sublot size is 1000 tons with a frequency of four cores per sublot. The sublot of mixture in question will be placed on a 12-ft.-wide lane that is 4545 ft. long. The lift thickness of the 0.75-in. nominal-maximum mixture is 3.0 in. The job starts at Station No. 0+00.

Since four density cores are required for the entire 4545-ft. length, obtain one core for each 1136.25 ft. of pavement. Use the following steps to determine the station number and offset for each density core:

2.2.1.1. Refer to the random number table (see p. 5 for example).

2.2.1.2. Enter the table at any point. Select four consecutive numbers from the random number table. Use these numbers for finding the station number of the core site in each 1136.25-ft. section.

Multiply each random number by 1136.25 to determine the station number at which to obtain the density core. After determining the

location of the first core, for each of the remaining cores, add increments of 1136.25 ft., increasing with each core, to provide locations throughout the entire sublot length.

SAMPLE NO.	RANDOM NUMBER CALCULATION	STATION NUMBER
1	0.420 x 1136.25 = 477.23 + 0.00 = 477	4 + 77
2	0.859 x 1136.25 = 976.04 + 1136.25* = 2112	21 + 12
3	0.011 x 1136.25 = 12.50 + 2272.50 = 2285	22 + 85
4	0.762 x 1136.25 = 865.82 + 3408.75 = 4275	42 + 75

*1136.25-ft. increments, as determined by the sublot length, provide resultant numbers throughout the entire sublot length.

According to Subsection 402.03.02 of the *Standard Specifications*, obtain cores no closer than three inches from the pavement edge or joint. To select the transverse distance from the pavement edge (left or right), select four additional consecutive numbers from the random number table (see p. 5 for example), and multiply each random number by 11.5 (12-ft. lane width minus the 0.25-ft. offset from each side). For this example, calculate the distance from 0.25 ft. inside of the right edge of the pavement.

SAMPLE NO.	RANDOM NO. CALCULATION	OFFSET FROM RIGHT EDGE
1	0.062 x 11.5 + 0.25 =	1.0 ft.
2	0.100 x 11.5 + 0.25 =	1.4 ft.
3	0.409 x 11.5 + 0.25 =	5.0 ft.
4	0.784 x 11.5 + 0.25 =	9.3 ft.

Therefore, from the calculations above, conform to the coring schedule given below for this sublot:

SAMPLE NO.	STATION NUMBER	OFFSET FROM RIGHT EDGE
1	4 + 77	1.0 ft.
2	21 + 12	1.4 ft.
3	22 + 85	5.0 ft.
4	42 + 75	9.3 ft.

With respect to this example, in other cases, the paving length and width will vary, but use the same procedure for obtaining random locations.

2.2.2. EXAMPLE NO. 2

In this example, select trucks to sample for running air content, slump, and concrete cylinders on Class AA Concrete for a bridge deck pour.

The pour will consist of 250 cubic yards of concrete. The trucks will be hauling 10 cubic yards each. The testing frequency is one test for each 50 cubic yards; therefore, perform five tests. There will be at least five tests required. Use the following steps to select the trucks to sample:

2.2.2.1. Refer to the random number table (see p. 5 for example).

2.2.2.2. Select five consecutive numbers from the random number table. Use these numbers to determine which trucks to sample. Multiply each number by 50 (a lot size of 50 cubic yards), and divide the answer by 10 (cubic yards per truck) to determine which trucks to sample.

SAMPLE NUMBER	RANDOM NUMBER	CALCULATED VOLUME (cubic yards)	TRUCK SAMPLED
1	0.007	x 50 = 0.35 + 0 = 0.35 ??10 = 0.04*	1st
2	0.922	x 50 = 46.1 + 50** = 96.1 ? 10 = 9.6	10th
3	0.729	x 50 = 36.5 + 100 = 136.5 ? 10 = 13.7	14th
4	0.949	x 50 = 47.5 + 150 = 197.5 ? 10 = 19.8	20th
5	0.606	x 50 = 30.3 + 200 = 230.3 ? 10 = 23.03	24th

*When this answer contains a decimal, always round upward to the next highest whole number to determine the truck number.

**Add increments of 50 cubic yards (lot size), increasing with each sample, in order to provide sampling throughout the full 250 cubic yards.

2.2.3. EXAMPLE NO. 3

In this example, select the accumulated tonnage of Crushed Stone Base for gradation testing. The frequency for gradation testing of aggregate bases is one test per 2000 tons of material. Plan quantities show 10,000 tons of Crushed Stone Base exist on this project. This quantity will require five gradation tests.

Again, select five consecutive random numbers from the random number table (see p. 5 for example). Use these numbers to determine the accumulated tonnage at which to select the sample.

Multiply each number by 2000 to determine the accumulated tonnage for sampling. Add increments of 2000 tons (lot size), increasing with each sample, in order to provide sampling throughout the full 10,000 tons.

SAMPLE NUMBER	RANDOM NUMBER CALCULATION	ACCUMULATED TONNAGE
1	0.658 x 2000 = 1316 + 0 =	1316
2	0.747 x 2000 = 1494 + 2000 =	3494
3	0.270 x 2000 = 540 + 4000 =	4540
4	0.715 x 2000 = 1430 + 6000 =	7430
5	0.418 x 2000 = 836 + 8000 =	8836

Obtain samples as near the above-listed accumulated tonnages as possible.

2.3. The system of selecting random samples can be related to periods of time, number of pieces, tons, etc. The key to randomness, using this method, relies heavily on the manner of entering the table. Do not use the same set of numbers repeatedly.

km113.doc

TABLE 1
RANDOM NUMBERS

.600	.504	.248	.230	.996	.462	.422	.054	.224	.121
.116	.227	.802	.349	.241	.956	.079	.632	.126	.677
.098	.726	.507	.607	.963	.410	.572	.777	.237	.851
.147	.867	.802	.416	.370	.377	.775	.256	.348	.148
.644	.067	.001	.158	.702	.148	.667	.217	.421	.149
.310	.531	.520	.560	.888	E.287	.567	.251	.593	.571
.493	.235	.886	.178	.490	X.007	.640	.343	.894	.079
.788	.272	.484	.487	.277	A.922	.435	.716	.924	.304
.652	.523	.317	.601	.705	M.729	.669	.435	.984	.239
.816	.045	.423	.943	.227	#.949	.395	.931	.887	.242
.086	.585	.177	.851	.513	2.606	.911	.253	.669	.328
.689	.755	.027	.183	.024	E.658	.041	.512	.518	.910
.117	.029	.309	.017	.926	X.747	.584	.570	.212	.504
.700	.989	.980	.532	E.640	A.270	.610	.257	.996	.978
.321	.431	.370	.814	X.420	M.715	.548	.148	.953	.450
.515	.775	.759	.438	A.859	#.418	.689	.924	.350	.724
.543	.575	.633	.097	M.011	3.170	.357	.429	.899	.087
.629	.502	.503	.036	#.762	.280	.605	.518	.275	.017
.221	.882	.206	.415	1.776	.548	.520	.417	.253	.808
.751	.446	.189	.776	.465	.936	.970	.467	.371	.077
.553	.160	.464	.309	.298	.304	.613	.512	.816	.270
.384	.778	.284	.435	.246	.319	.078	.695	.152	.637
.969	.740	.102	.093	.055	.155	.225	.782	.226	.250
.085	.125	.750	.900	.991	.887	.993	.183	.096	.542
.667	.355	.784	.803	E.072	.206	.508	.385	.691	.127
.076	.968	.527	.749	X.062	.075	.526	.292	.176	.310
.788	.943	.091	.141	A.100	.040	.750	.870	.249	.345
.165	.422	.601	.095	M.409	.897	.963	.271	.770	.100
.472	.201	.558	.725	#.784	.025	.943	.040	.984	.011
.668	.708	.776	.490	1.270	.868	.658	.954	.916	.955

TABLE 1
RANDOM NUMBERS

.600	.504	.248	.230	.996	.462	.422	.054	.224	.121
.116	.227	.802	.349	.241	.956	.079	.632	.126	.677
.098	.726	.507	.607	.963	.410	.572	.777	.237	.851
.147	.867	.802	.416	.370	.377	.775	.256	.348	.148
.644	.067	.001	.158	.702	.148	.667	.217	.421	.149
.310	.531	.520	.560	.888	.287	.567	.251	.593	.571
.493	.235	.886	.178	.490	.007	.640	.343	.894	.079
.788	.272	.484	.487	.277	.922	.435	.716	.924	.304
.652	.523	.317	.601	.705	.729	.669	.435	.984	.239
.816	.045	.423	.943	.227	.949	.395	.931	.887	.242
.086	.585	.177	.851	.513	.606	.911	.253	.669	.328
.689	.755	.027	.183	.024	.658	.041	.512	.518	.910
.117	.029	.309	.017	.926	.747	.584	.570	.212	.504
.700	.989	.980	.532	.640	.270	.610	.257	.996	.978
.321	.431	.370	.814	.420	.715	.548	.148	.953	.450
.515	.775	.759	.438	.859	.418	.689	.924	.350	.724
.543	.575	.633	.097	.011	.170	.357	.429	.899	.087
.629	.502	.503	.036	.762	.280	.605	.518	.275	.017
.221	.882	.206	.415	.776	.548	.520	.417	.253	.808
.751	.446	.189	.776	.465	.936	.970	.467	.371	.077
.553	.160	.464	.309	.298	.304	.613	.512	.816	.270
.384	.778	.284	.435	.246	.319	.078	.695	.152	.637
.969	.740	.102	.093	.055	.155	.225	.782	.226	.250
.085	.125	.750	.900	.991	.887	.993	.183	.096	.542
.667	.355	.784	.803	.072	.206	.508	.385	.691	.127
.076	.968	.527	.749	.062	.075	.526	.292	.176	.310
.788	.943	.091	.141	.100	.040	.750	.870	.249	.345
.165	.422	.601	.095	.409	.897	.963	.271	.770	.100
.472	.201	.558	.725	.784	.025	.943	.040	.984	.011
.668	.708	.776	.490	.270	.868	.658	.954	.916	.955

TABLE 2
RANDOM NUMBERS

.605	.973	.319	.294	.236	.572	.216	.973	.931	.870
.720	.497	.679	.634	.299	.578	.743	.835	.062	.200
.918	.295	.295	.777	.854	.281	.867	.864	.374	.748
.294	.396	.441	.321	.655	.191	.205	.899	.807	.186
.089	.927	.802	.530	.937	.257	.530	.005	.539	.999
.591	.409	.668	.967	.993	.920	.812	.018	.578	.618
.494	.808	.410	.097	.633	.149	.547	.895	.829	.953
.021	.699	.597	.286	.982	.953	.913	.422	.291	.979
.926	.085	.758	.624	.491	.694	.496	.490	.949	.457
.351	.709	.461	.093	.498	.377	.639	.801	.388	.334
.329	.857	.949	.550	.095	.906	.596	.462	.891	.758
.126	.525	.834	.677	.045	.699	.568	.147	.902	.664
.572	.101	.066	.147	.069	.006	.979	.259	.765	.460
.728	.374	.402	.679	.601	.492	.002	.512	.529	.089
.524	.346	.698	.133	.013	.907	.992	.453	.883	.684
.176	.870	.306	.179	.071	.854	.086	.414	.973	.785
.031	.437	.512	.107	.842	.507	.458	.018	.881	.506
.826	.110	.065	.878	.182	.460	.442	.504	.075	.027
.945	.640	.283	.330	.163	.496	.767	.543	.921	.923
.948	.890	.677	.328	.075	.752	.207	.692	.268	.204
.232	.639	.425	.434	.795	.329	.941	.026	.867	.035
.896	.502	.074	.092	.203	.625	.541	.505	.835	.021
.643	.838	.357	.294	.592	.440	.676	.186	.304	.212
.552	.892	.843	.851	.685	.847	.963	.189	.604	.634
.623	.955	.024	.718	.534	.978	.962	.208	.645	.811
.988	.648	.182	.983	.128	.784	.606	.138	.208	.337
.326	.500	.874	.958	.826	.523	.462	.823	.955	.773
.130	.545	.756	.164	.418	.817	.707	.882	.984	.903
.907	.419	.705	.597	.655	.566	.546	.738	.614	.373
.859	.365	.476	.351	.154	.458	.645	.303	.631	.832

RESOLUTION NO. 4949

A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF LIVINGSTON, MONTANA, ADOPTING PUBLIC WORKS DESIGN GUIDELINES AND SPECIFICATIONS POLICY.

WHEREAS, in order to provide clear guidance to prospective developers and their engineers, the attached guidelines have been produced to aid in the design process; and

WHEREAS, the attached Public Works Design Guidelines and Specifications Policy represent the most current best practices for municipal infrastructure design; and

WHEREAS, these guidelines are similar to the requirements found in many of the other municipalities in Montana;

WHEREAS, it is intended that these guidelines will be modified and updated as necessary by the City Administration.

NOW, THEREFORE, BE IT RESOLVED by the City Commission of the City of Livingston, Montana, as follows:

That the City Commission hereby adopts the Public Works Design Guidelines and Specifications Policy attached as Exhibit A and that said Guidelines will be provided to developers to aid in project design.

PASSED AND ADOPTED by the City Commission of the City of Livingston, Montana, this 2nd day of March, 2021.

_____

DOREL HOGLUND, Chair

ATTEST:

_____

FAITH KINNICK
Recording Secretary

APPROVED AS TO FORM:

_____

COURTNEY LAWELLIN
City Attorney

File Attachments for Item:

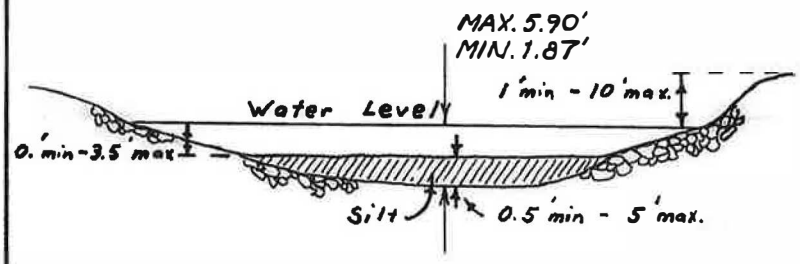
A. DISCUSS/APPROVE/DENY: CREATING A CAPITAL IMPROVEMENT FUND DEDICATED TO LAGOON REHABILITATION AND SUSTAINABILITY AND PLACING $110,000 DOLLARS IN THAT FUND.

The Lagoon

A Lesson In Losing History

Phases of the Lagoon

- Channel of the Yellowstone River
- Lagoon for Fleshman Creek created in 1939
  - Infiltration by silt and sediment
  - Too shallow for fish or recreation by 1959
- 1980 Lagoon Rehabilitation Project
- Flooding changed Yellowstone River channel flow patterns
- We are we now?



TYPICAL SECTION

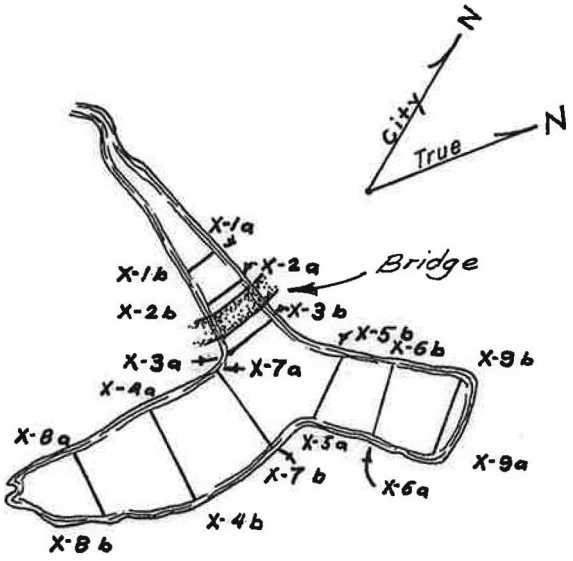
Scale:

SEE ATTACHED PARTIAL U.S.G.S. QUAD SHEET

LOCATION MAP

Scale:

Location:



PLAN

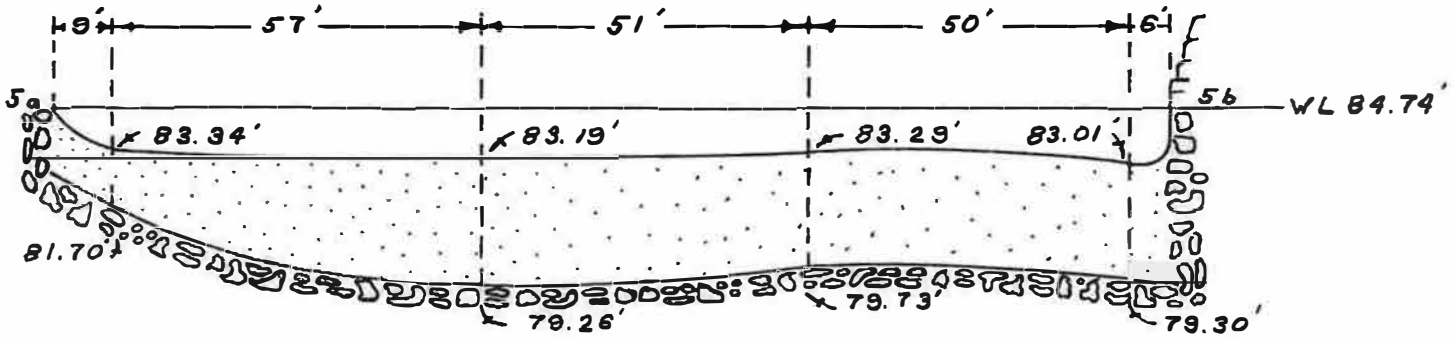
Scale: 1" = 400'

PROPOSED DREDGING PROJECT

Purpose: *Rehabilition of Sacajawea Park Lagoon*
Datum: *City B.M.*
Adjacent: Property Owners *See Exhibit II*

In: *Sacajawea Park*
At: *Livingston*
County of: *Park* State: *Montana*
Application by: *City of Livingston & Park County*

Sheet *1* of *10* Date *18 August 1977*

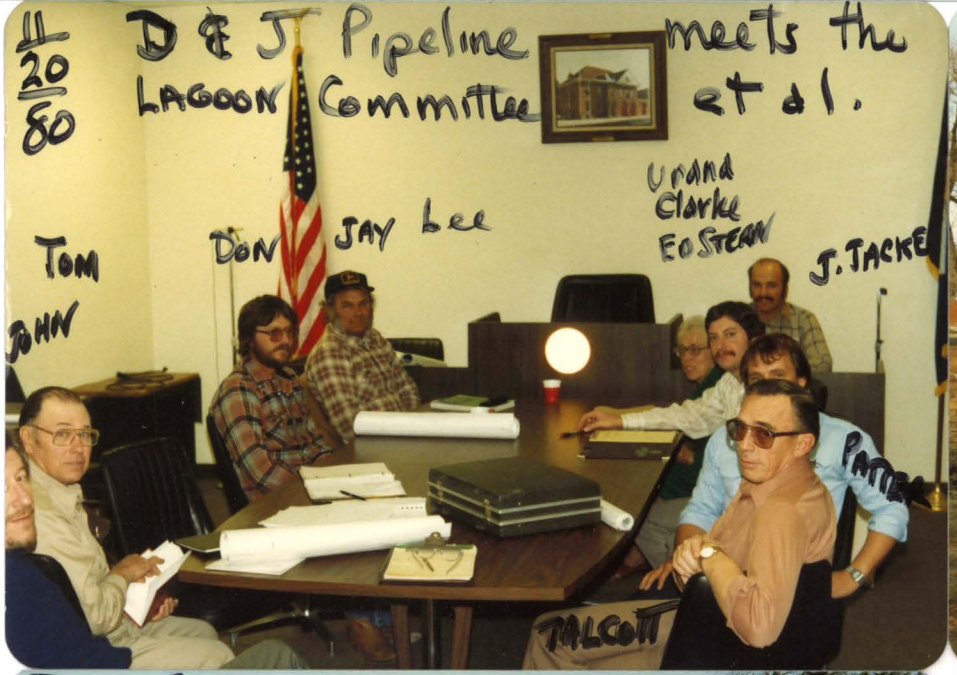


X - Section 5

X-SECTIONAL AREA OF SILT = 560.68 FT²

Note: All Elevations + 4400.'

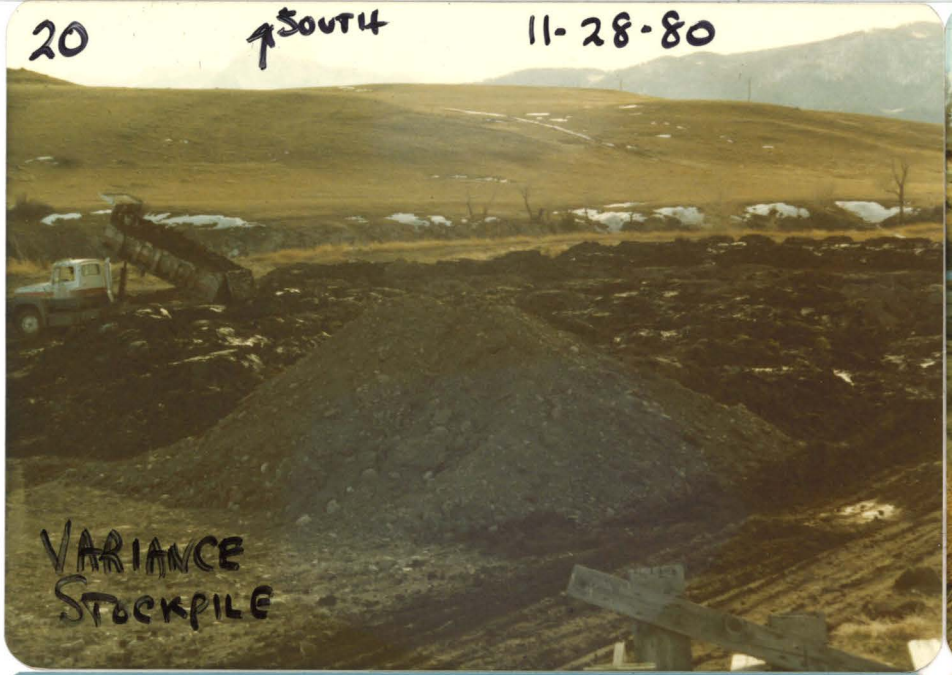
Horizontal Scale: 1" = 30'
Vertical Scale: 1" = 6'
Surveyed: 8-15-77
Drawn By: C. Lindeblad


11/20/80
D & J Pipeline meets the
LAGOON Committee et al.
TOM
DON
JAY Lee
Urana
Clarke
Eo Steam
J. TACKE
JOHN
PATTE
TALCOTT


2 - 11-24-80

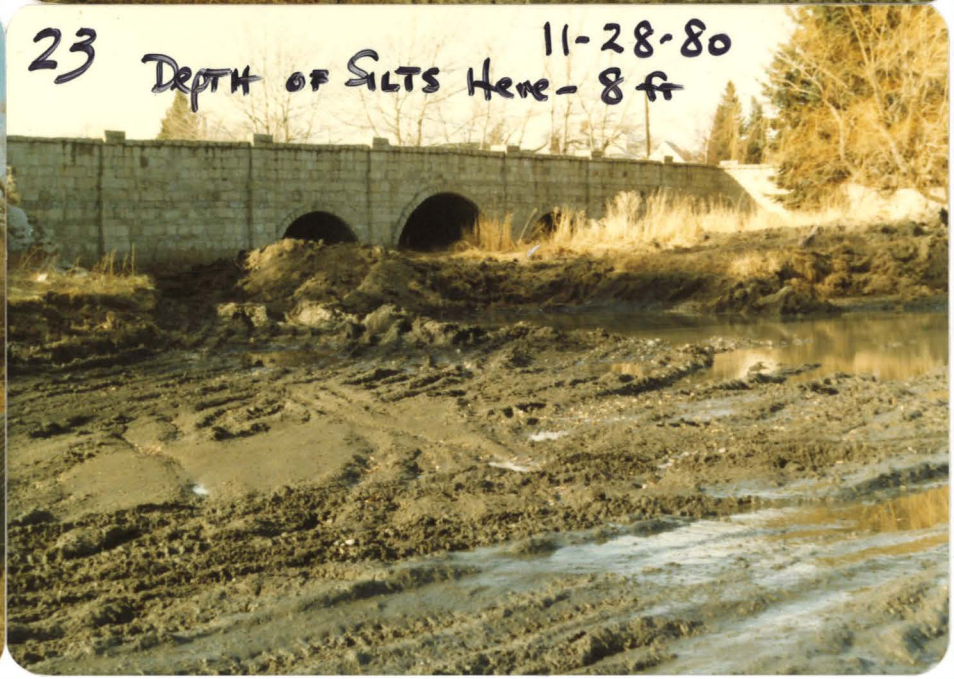

Day One Nov 24. 1980
1


3
11-24-80


20
↑South
11-28-80
VARIANCE
STOCKPILE


22


21
ORIGINAL & AUTHORIZED STOCKPILE
Civic
Center


23
11-28-80
DEPTH OF SILTS Here - 8 ft


60
12-14-80
ROGERS
HALBIN
Determining where level of
Pool will be when filled – 12" below
old levels

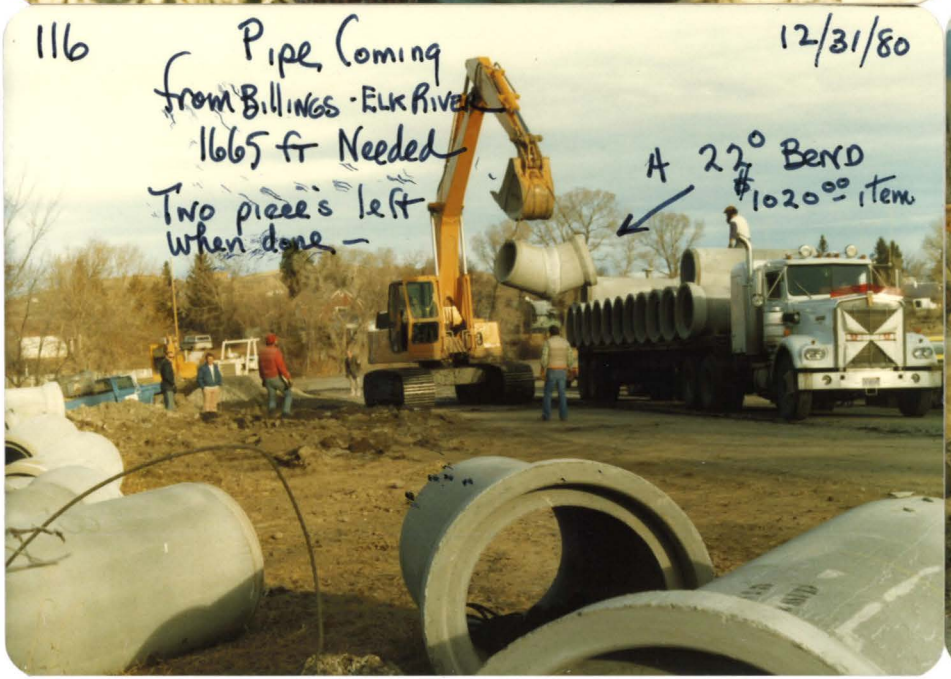

63
Excavation Above Yellowstone
St. begins in Earnest
12-15-80


61
Headgate level
lowered 15" and Aeshma
Creek enters Yellowstone
Here Now!
12-15-80


#62
12-15-80
Building
Cofferdam
around
Outlet
Gate
3rd
St.


115-
12/31/80

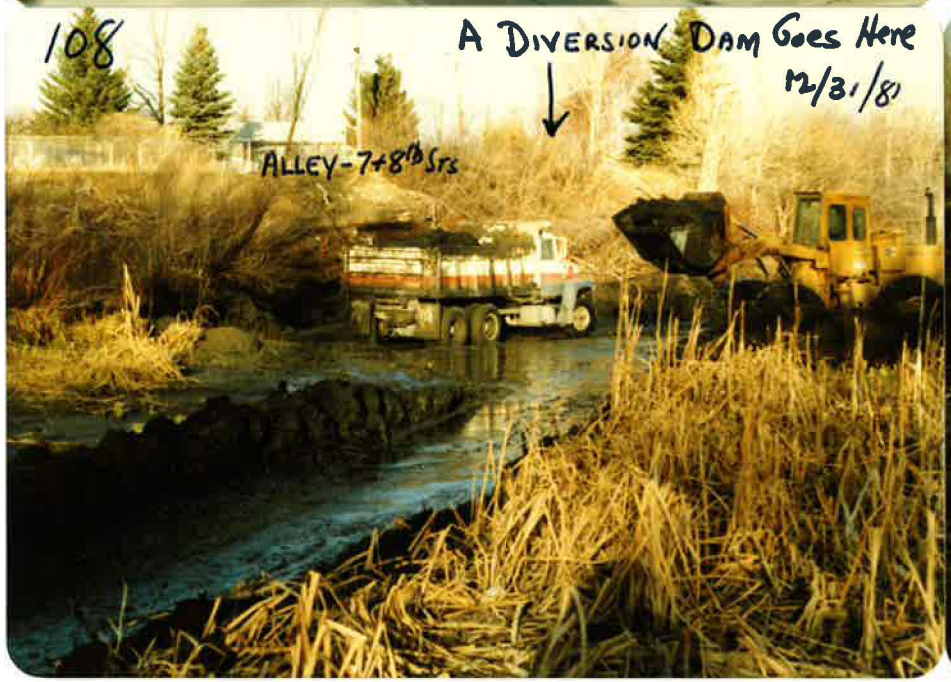

117
11⁰⁰ am
All Set for Concrete at 1⁰⁰ pm
12-31-80
TAILGATE


116
Pipe Coming
from Billings - Elk River
1665 ft Needed
Two piece's left
When done -
12/31/80
A 22° Bend
$1020⁰⁰ Item


118
1⁰⁰ pm - Kenyon Noble Concrete @ 39⁰⁰ yd
Eggar @ 47⁵⁰
A $5000⁰⁰ Bid Item


107
Dec 31·1980


109
7th St Foot Bridge
You had to Stoop to walk here
Before


108
A Diversion Dam Goes Here
12/31/80
Alley-7+8th Sts


110
Springs
Bird Island Here
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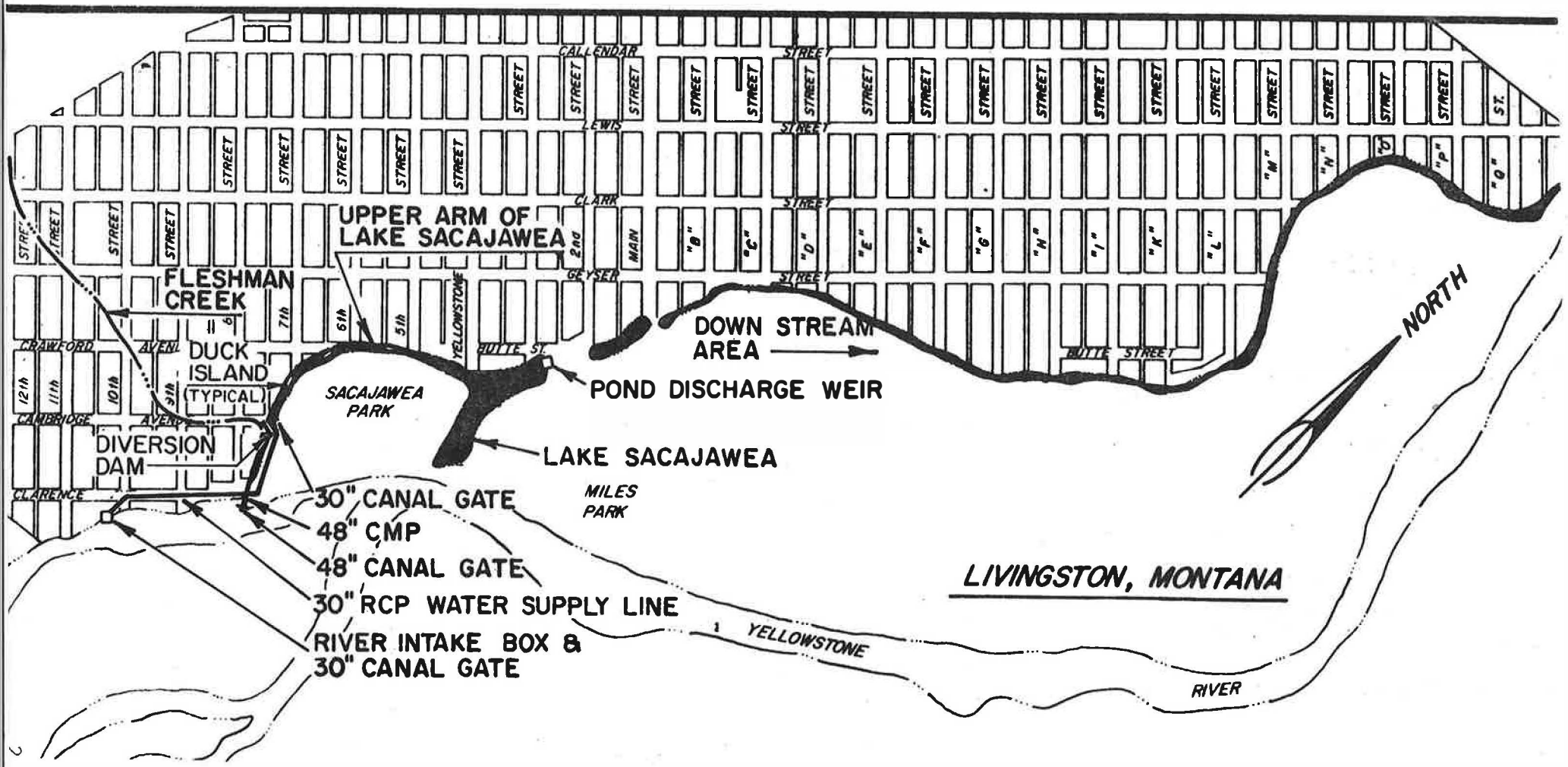

LOCATION MAP
FOR
LAKE SACAJAWEA PROJECT

HKM ASSOCIATES
ENGINEERS · ARCHITECTS · PLANNERS

FIGURE 1


Google Earth
N

Officials recommend people, pets avoid algae-covered Sacajawea Park lagoon

Published on Mon, 07/25/2016 - 2:27pm

By By Liz Kearney — Enterprise Staff Writer

Pets and people should stay out of the lagoon — just in case.

The green algae-like bloom currently covering much of the Sacajawea Park lagoon probably isn't toxic, but officials say people and pets should avoid contact with the water as a safety precaution.

PO Box 252, Shepherd, MT 59079

LIVINGSTON PRELIMINARY DESIGN REPORT

Prepared For: Shannon Holmes
City of Livingston Public Works Director
Prepared By: Bruce Kania, Floating Island International, Inc. and
Mark Reinsel, Ph.D., P.E., Apex Engineering, PLLC
Date: January 25, 2021

The following Preliminary Design Report (PDR) outlines a vision of innovation for the City of Livingston. This vision has been developed to provide Livingston with sustainable options that are both climate-conscious and environmentally sound, with which to sustain the water feature known as Sacajawea Lagoon.

A VISION OF SUSTAINABILITY

The Sacajawea Lagoon ("The Sac") is a fishery. It's a place where youngsters, and probably adults, have a good prospect of hook-and-line capture of large trout. In fact, during the sampling process, a large trout was observed examining one of the recently opened ice holes. Just a handful of sites exist across the United States where individuals have a realistic prospect of hooking the epitome of game fish, large trout, within minutes of where they live. The Sac is one such prospect. Currently the resident trout in The Sac are mostly released fish that come from hatcheries. One day, hopefully soon, the fish population will be native, wild trout. This vision represents the hope and promise of the following report.

Floating Island International (FII) is a Montana-based company located in Shepherd, Montana. The company launched in 2005, and since then its network of floating treatment wetland manufacturers has built and launched more than 9,000 floating treatment wetlands. The company's BioHaven® brand of floating island is the international leader around the relatively new floating treatment wetland industry.

While FII is not qualified or licensed to advise Montana municipalities regarding hydrologic policy, the company does offer a unique set of stewardship options that target both affordability and sustainability. These options are at the cusp of innovation and represent advanced stewardship based on "nature as model," otherwise referred to as "biomimicry."

The Sacajawea Lagoon ("The Sac") is a water resource recovery (WRR) prospect. With appropriate stewardship, this waterbody could continue to add to the quality of life of Livingston residents and Montana taxpayers. Instead of the Sac functioning as a municipal liability, it has the potential to achieve the vision of becoming a prized fishing lake due to its central location and strategic water inflow capacity. This can be achieved with a stewardship plan to cycle all

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forms of particulate, known as Total Suspended Solids (TSS), out of inflow water and into either desirable biota that enhance the quality of life (such as fish) or inert inorganics positioned strategically for affordable and efficient collection. This report will outline how both alternatives can be achieved.

ANALYSIS AND FINDINGS

On December 17, 2020, samples of sludge deposition in The Sac were pulled from six locations by a team from FII. The sludge was analyzed by Energy Laboratories in Billings. The percentage of organic content in the sludge was uniformly low, as shown in Table 1. The measured percent solids varied greatly because of the sampling method using a "sludge judge," which created difficulties in pulling consistent samples. However, this would not affect the organic content readings, which were corrected for percent moisture.

Table 1. Sludge Results

Sample #	Solids	Loss on Ignition (Organic Content)
1	3.8%	0.3%
2	28.8%	2.0%
3	15.9%	1.3%
4	3.8%	0.3%
5	18.8%	1.3%
6	10.4%	0.6%

Based on the time of year, and original source of the flow (the Fleshman Creek watershed), this was not surprising; it reflects normal winter runoff with minimal agricultural nutrient impact. The nutrients that are found in Fleshman Creek in December are likely associated with two primary sources: stormwater that occurs within the portion of the Fleshman Creek drainage above the lagoon and within city limits, and guano associated with The Sac's resident Canada geese. The stormwater most likely comes from two specific sources, lawn fertilizer and possibly historic septic systems. The waterfowl guano is directly associated with the small but impactful population of Canada geese and mallards that winter on the lagoon, which is relatively easy to treat. If research verifies that additional nutrient inflows come in from old septic systems, this would require more in-depth research to implement a rigorous remediation program, not attempted in this proposal.

At the sample sites, it was also apparent that siltation is contributing significantly to the shallowness of the lagoon. In most of the sampling sites, TSS accretion was in excess of one foot (Table 2). Since more than 98 percent of this accretion is inorganic, there is no practical ability to bio-digest it. We conclude that The Sac has sufficient existing surface area and circulation to

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biologically cycle most of the lagoon's inflow nutrients out of the sludge already, but the sludge inorganics need to be dealt with.

Table 2. Sampling Descriptions and Sludge Information

Location	Latitude	Longitude	Depth (ft)			Description
			To Sludge	Of Sludge	To Bottom	
1	45.65636	-110.55720	4.5	1.0	5.5	Toward swimming pool; 60 ft out
2	45.65636	-110.55720	4.6	0.8	5.4	In front of first green bench; 60 ft out
3	45.65636	-110.55720	3.9	1.0	4.9	Between house & statue; 47 yds out
4	45.65511	-110.55725	3.9	1.0	4.9	Farther west of #4; 50 yds out
5	45.65390	-110.55683	3.5	1.4	4.9	Toward Fleshman Cr. bridge
6	45.65475	-110.55844	3.6	1.2	4.8	Farthest southwest (toward ducks & geese)

In addition to sludge, water samples were also taken from three sites. The inlet, outlet and pond itself had very good water quality, with low levels of all measured parameters (Table 3).

Table 3. Water Quality Summary

Location	Concentration (mg/L)					
	Total Suspended Solids	Total Organic Carbon	Ammonia	Nitrate	Total Nitrogen	Total Phosphorus
Inlet	<10	1.7	<0.05	0.14	<0.5	0.013
Pond	<10	2.2	<0.05	0.15	<0.5	0.030
Outlet	<10	2.2	<0.05	0.09	<0.5	0.020

MODELING

The purpose of modeling BioHaven performance is to predict efficacy for various contaminants in new settings. FII has historically used this approach (pre-WRR) when specifying a BioHaven system where harvest is not part of the nutrient reduction program. Below we outline our proprietary modeling approach, then discuss the positive implications of augmenting with WRR.

The purpose of modeling is to calculate the system size needed as a starting point, to establish a baseline budgetary estimate which can then be adjusted as WRR components (such as fish harvest) are applied. All the modeling and results discussed below apply uniquely to FII's BioHaven Floating Islands.

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To develop its proprietary model, FII used contaminant removal data from numerous independently monitored BioHaven studies since 2006. Removal rates are expressed in terms of pounds of contaminant removed per year per cubic foot of BioHaven (lbs/yr/ft^3). Cubic feet are used rather than square feet to account for cases where different BioHaven thicknesses may be used.

An Excel spreadsheet model was developed to estimate BioHaven quantities, and subsequently costs, for new projects. The model addresses waterways with either continuous flow or no flow. A factor of 1.05($^{\text{new T} - \text{reference T}}$) is used to correct for temperature. This "theta" value of 1.05 is standardly used for temperature correction.

Model Input

Standard model input for a continuous-flow system is:

- Flow rate (gallons per minute or gpm);
- Current and desired effluent concentrations (mg/L) for each contaminant of concern; and
- Water temperature (^{o}C).

Model Output

For each contaminant of concern, the model provides the minimum BioHaven volume required (ft^3). One of the contaminants will be the limiting variable, in that it requires the largest volume. That then becomes the design volume. The area is converted to a number of islands required and subsequently, a cost.

For The Sac, we assumed a water temperature of 20^{o}C during the summer, when harmful algae blooms (HABs) may be a problem.

Modeling Results

Total phosphorus (TP) is the primary parameter of concern at Livingston, since it was one of the few parameters with measurable concentrations. The increase in TP from 0.013 mg/L in the inlet (Fleshman Creek) to the pond (0.030 mg/L) is probably primarily from waterfowl contributions. This in-pond TP concentration is probably enough to lead to periodic HABs.

For this project, we are using a TP removal rate of 0.066 lb/yr/ft^3, which was obtained from a lake water system in Pennsylvania and adjusted to a temperature of 20^{o}C.

We plan to install the following BioHavens in The Sac:

- Two waterfowl roosting islands, 150 square feet each, with 8 inches submerged. This will provide 200 cubic feet of island.
- One Science Island, 485 square feet and 12 inches thick, which will provide another 385 cubic feet of island.

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The model estimates that this island volume, 585 cubic feet, will remove about 39 lb/yr of TP. It would remove 0.01 mg/L of TP (e.g., from 0.030 mg/L to 0.020 mg/L) from about 2.0300 cubic feet of islands per cubic foot per second (cfs) of inflow to The Sac.

This 39 lb/yr of TP removed could potentially prevent creation of about 43,000 lb/yr of algae in The Sac.

We believe that Elevated BioSwales will significantly reduce TSS entering The Sac, which will maintain its depth. We do not have TSS data for BioSwales in order for us to model this effect, but our experience tells us that TSS removal will be substantial, especially when inlet TSS values are high. In case studies, BioSwales have also removed measurable amounts of TP, ammonia, nitrate and *E. coli*.

PREVENTION OF SILT ACCUMULATION

Phase One

Suspended solids are always present in runoff. They represent the natural breakdown of geologic structure. Wise stewardship is encapsulated in guiding TSS to fall out in appropriate, manageable locations. FII has developed a system called the Elevated BioSwale. It is essentially a 'leaky dam' that collects sediment while allowing water to pass through it. It biomimics a shallow beaver dam and is designed to function like one by inducing TSS to settle at specific points conducive to efficient and affordable collection and removal. Two case studies are attached to the email with this PDR.

Our custom-designed BioSwale system will intercept TSS in Fleshman Creek at strategic, accessible locations, where it can easily be removed from the stream, before it further contributes to depth reduction at The Sac. These locations will be determined during Phase 1 of the project implementation. Figure 1 below shows how a typical BioSwale might be deployed.

Figure 1a. Drawing of Elevated BioSwale showing silt deposition in front of swale.

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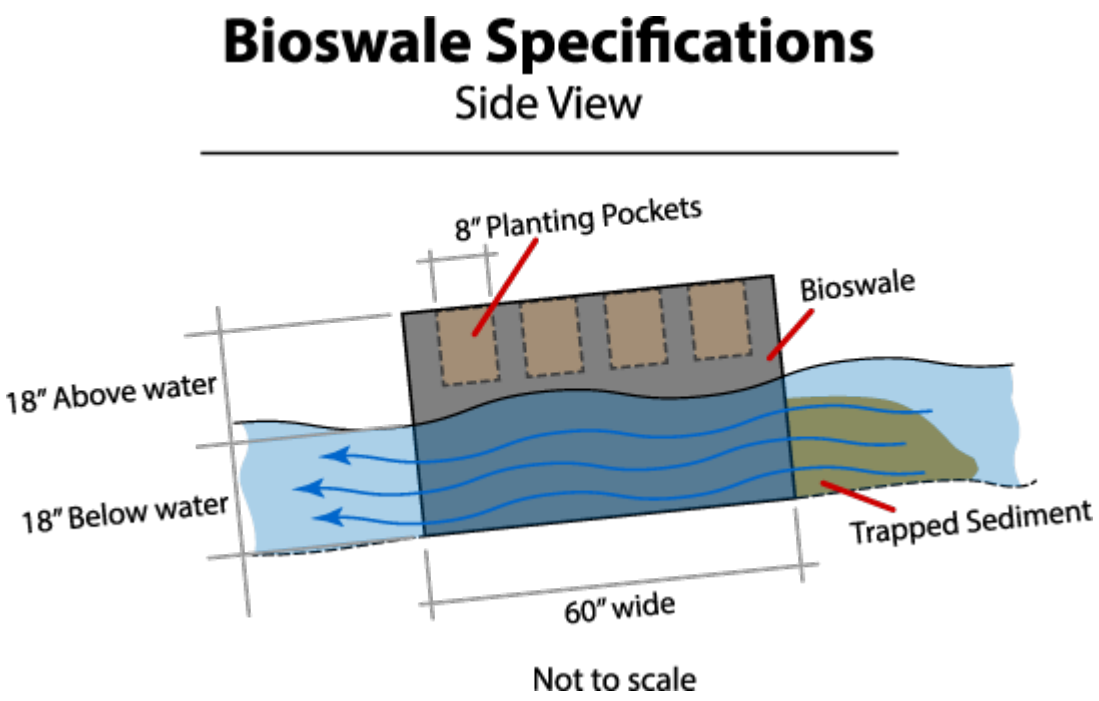

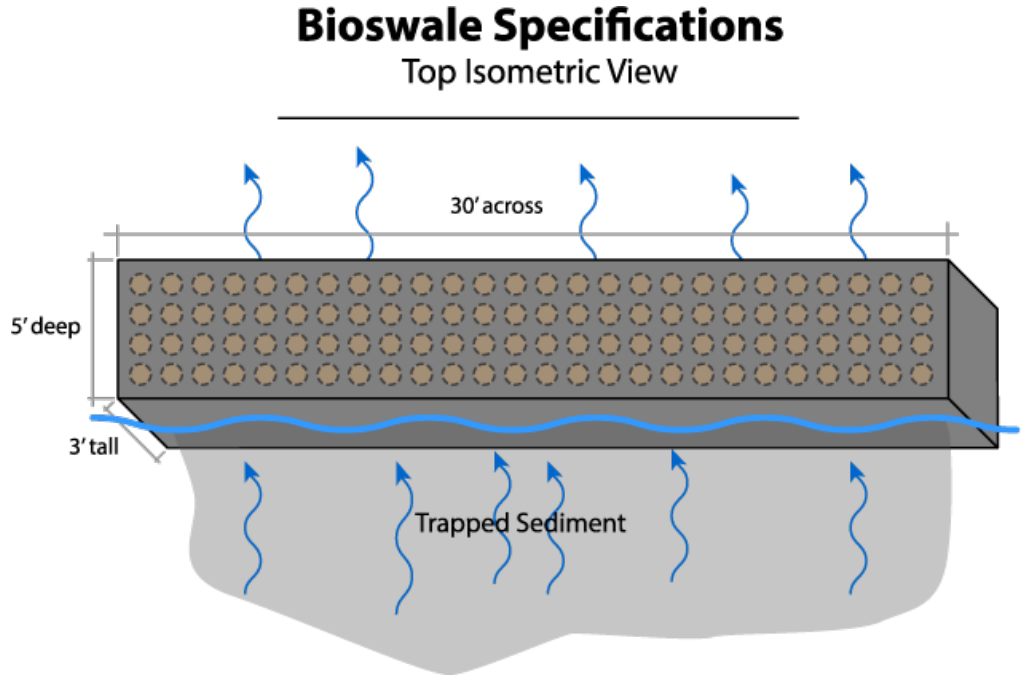

Figure 1b. Isometric view of BioSwale

Below: Photos of BioSwale matrix before and after biofilm growth (left) and matrix in stream (right).

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New Matrix

Matrix After

Matrix in Stream

Beaver dams are excellent examples of low-cost silt collection strategy. Since there is a current and active population of beaver working Fleshman Creek up-watershed from The Sac, providing this population with additional dam sites, in the event they essentially agree with our location choices and take over management of installed bioswales, could contribute to silt management goals for the lagoon itself. Note that the Fleshman Creek corridor includes significant vegetation, so a food source for beaver will not be an immediate limiting factor. Nevertheless, provision of protective wire barriers to limit girdling of landscape trees adjacent to the stream corridor is recommended.

Positioning of BioSwale structures that represent hydraulic opportunities for beaver to further enhance -- essentially to install and manage dams that contribute to silt collection -- will not be an expensive prospect but will call for biomimetic design thinking -- thinking like a beaver! But even without beaver collaboration, a series of elevated bioswales will significantly reduce inflow TSS.

There are benefits to soliciting beaver cooperation in addition to cost savings. The Elevated BioSwales are expected to enhance the existing Fleshman creek beaver population by intercepting silt that otherwise may fill in their current dam sites (their preferred habitat options) by expanding and managing the swale/dams. The average lifespan of a beaver dam is contingent on TSS volume. Beaver require sufficient water depth in front of their dams. By harvesting and removing TSS from their dam sites, their lifespan of their dam sites will be significantly extended.

With or without the help of beaver, positioning the Elevated BioSwales at strategic points where beaver are readily tolerated, and where periodic, seasonal, sludge pumping is straightforward,

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represents an ongoing silt reduction strategy for The Sac is critical to the potential success of this approach.

We anticipate that costs will be reduced if beaver are involved. This can be assessed at the end of Phase 1 and more BioSwales can be installed for Phase 2.

For an enlightening account of the benefits of beaver to the environment, please refer to environmental journalist Ben Goldfarb's award-winning book, Eager.

POTENTIAL COSTS AND RISKS

While beaver do not require a paycheck, they do require stewardship consideration. This will look like thoughtful protective perimeters, wire tree guards, and maintenance of a realistic stream corridor of natural macrophytes.

Our preliminary assessment of risk to the BioSwales by beaver concludes that the BioSwales are unlikely to be damaged, but the beaver may decide to supplement them with their own materials and risk causing flooding.

Specific permitting around installation of BioSwales in the creek is likely to be required and is being researched by FII. Montana's regulatory agencies such as DEQ and/or DNRC must be included in the design stage of such a stewardship strategy. The BioSwales must be demonstrated to be robust and fit for purpose in this environment. The end result of this stewardship collaboration will be TSS reduction in The Sac. This will contribute to further enhanced water quality, fishery health and reduction in incidence of harmful algae blooms (HABs). It's a potential first step towards sustainable environmental management of the Sacajawea Lagoon resource.

CANADA GEESE/WATERFOWL STEWARDSHIP

The Sac has a resident population of geese and mallard ducks. Currently the birds tend to utilize that portion of the lagoon nearest the old Yellowstone River inflow arm. Unfortunately, this is the portion of the lagoon that experiences the least circulation. Accordingly, guano-based nutrients may well be responsible for incidental HABs.

Waterfowl, both geese and ducks, flock up through fall and winter. During this time, they tend to choose roosting sites with open viewscapes as a predator avoidance strategy. Roosting locations will experience relatively high concentrations of nutrients as guano breaks down. If these roosting locations are actually in the lagoon, or immediately adjacent to the lagoon, guano can be eventually washed into the water. The nutrients are likely to cycle into algae, particularly in association with warm weather and minimal circulation, for example during windless days in late summer.

Algae is limited by sunlight, nutrient concentration and temperature. While sunlight is challenging to reduce, nutrients can be selectively cycled into other more desirable life forms,

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and temperature may also be impacted. Specifically, the deeper the lagoon, the better. In short, the mantra “grow fish instead of algae" is achievable.

We recommend providing BioHaven roosting islands for waterfowl on The Sac. BioHavens provide over 375 square feet of biofilm reactive surface area per cubic foot, which in combination with circulation and temperature, is what sustains microbes and their residue, i.e., biofilm. Biofilm-generating microbes are one of the few life forms that can outcompete phytoplankton/algae. Biofilm is the base material of periphyton, which is the “accumulation” that occurs on essentially any surface area under water. Periphyton grows a vast range of invertebrate life and is a major contributor to the freshwater food web. Ultimately, periphyton cycles into fish, far more so than filamentous algae or cyano bacteria.

Birds are very likely to find a non-planted, gravel-covered floating island, with open viewscape, very attractive as a more secure roosting site than a shore-based location. Positioning islands near the Fleshman Creek inflow point also provides a valuable and year-round circulation component. This strategy could account for a sizable fraction of the current bird guano volume the lagoon experiences, by causing it to occur on top of the islands where it will ultimately degrade and perk into island matrix and be bio-digested by the island. This will result in periphyton, and ultimately, fish. Our budget describes costs associated with two BioHaven floating islands designed as optimal waterfowl roosting sites.

SCIENCE ISLAND

A BioHaven Science Island, at 485 square feet of top surface area, could provide both a cool and aerated refuge for trout and a living classroom. The Science Island (Figure 2 below) is designed to support over 10,000 pounds of weight, which can include actual classroom exhibits portraying features like nature’s wetland effect, invertebrate pollinator habitat, solar power generation, hydroponic and terrestrial plant life in a floating island context, and more. Viewing stations can be included to show root growth, attached periphyton, water clarity and fish.

Since this would be attached to shore via an access walkway, consideration would need to be given to prevent unauthorized use and to ensure safety. Perimeter fencing could be readily installed (not included in budget).

The educational and community value of the Science Island would be greatly enhanced by a state-of-the-art nanobubbler aeration system, powered by solar panels, mounted on a BioHaven. This is an example of Montana ingenuity that can be showcased at The Sac. Engineering students at MSU have collaborated with FII to design the interface between solar panels and a nanobubbler, and have designed a robust mounting system to the BioHaven system for use on lakes. This is a unique and potentially game-changing innovation in the treatment of nutrient-impaired water.

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Figure 2a. Science Island with Educational Exhibits Functions as a Community Learning Center while providing shade and security cover for trout.

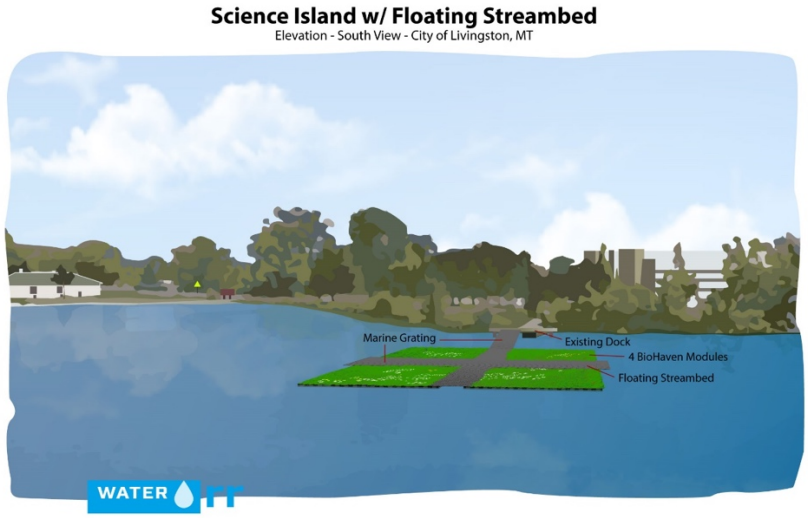

Figure 2b. Possible configuration of a Science Island with BioHaven StreamBed in The Sac

PRODUCT DETAILS

The products we are specifying for this project all feature the BioHaven floating island matrix, an engineered substrate that provides a “concentrated” wetland effect for supporting biofilms and microorganisms that both clean water and promote periphyton growth for nurturing the aquatic food web.

The matrix is “armored” with a human food-grade protective coating that provides excellent protection from UV light and waterfowl damage. On the floating islands, anchor or tether rings

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are built into the tough matrix from which cables or tethers will be run. Planting holes, in the Science Island and BioSwales, will be filled with a special planting mix designed to wick water up to the roots and planted with native wetland species, or other species at the client's discretion.

The BioHaven StreamBed is a highly innovative, low-cost circulation and aeration system. It consists of a floating island that forms a stream when water is pumped into it. The pump used is an airlift blower, which causes colder, denser water to be forced up from the bottom layers of the lagoon and pushed along the stream bed until it either sinks through the matrix or makes it out to the other end where it homogenizes with the lagoon water. Particulates are either digested by the microorganisms (organic) or filtered by the matrix (inorganic).

The StreamBed proposed for this project will be a simple version, taking advantage of the grating walkways to support the air-lift system.

More product details are available on Floating Island International's website.

Elevated BioSwale

BioSwales: Variable length depending on stream width, 3 ft high. Protective coating, planting pockets. Estimated requirements are 3 BioSwales, each measuring 375 cu ft.

BioHaven Floating Islands

The two BioHaven Floating Islands for goose roosting will be specified with naturalized edges, without planting holes but with pockets to hold gravel to inhibit plant growth and provide an open viewscape. Dimensions: W 7.5 ft x L 19 ft x D 10", supplied with at least 3 tether / anchor points.

BioHaven Science Island

The Science island, at 485 sq ft, can support over 10,000 lbs of reserve buoyancy (in additional to its own weight). The island is comprised of 4 modules, each 7.5' x 12.75' x 12 inches, joined together as shown in Figure 2. It will have a built-in rigidified walkway, planting pockets, support for signage and interactive learning sites. It may optionally feature the unique and patented low-pressure, high volume StreamBed aeration and circulation system, shown in Figures 3a and 3b below. A more innovative alternative in the form of a solar-powered nanobubbler is an option that would provide superior aeration throughout the water column.

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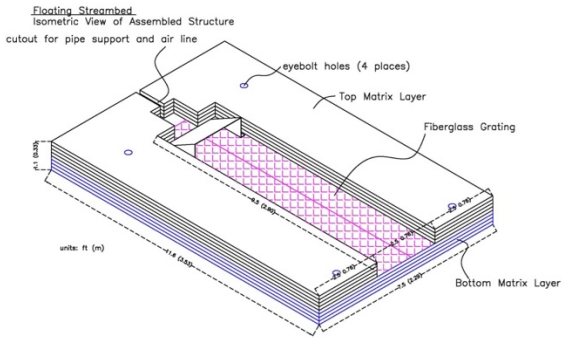

Figure 3a. Top view of BioHaven StreamBed (standard version)

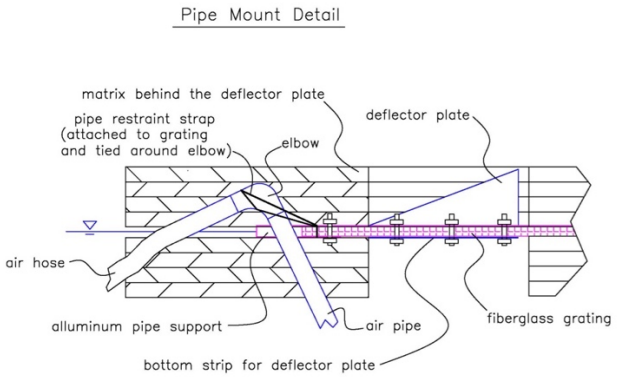

Figure 3b. Side view showing air-lift and pipe assembly

IMPLEMENTATION & MAINTENANCE

All materials will be shipped to and assembled onsite.

The Science Island, with optional aeration, requires the most complex assembly. We recommend that a qualified Island Master be present to supervise the assembly and installation of the Science Island. Once it is assembled, a crew of 4 untrained workers can plant the islands in less than 4 hours.

The recommended waterfowl roosting islands will support approximately 800 pounds of gravel. Islands can also be enhanced with several plants, ideally woody, fibrous native bushes, to enhance the waterscape. They would be positioned as close to the Yellowstone arm of the Sac as possible while still experiencing circulation associated with either Fleshman creek inflow or aeration /circulation associated with the Science Island described below.

The goose islands are easily prepared and launched by a crew of 4 people in approximately two hours. Installing the gravel requires some heavy lifting. Weed mat will hold it in place.

Installing the BioSwales will require strategic positioning in the creek, which will be determined after project acceptance. Methods of securing the BioSwales can be a simple rebar attachment for a low-flow stream, filling internal pockets with cobble to keep it weighed down and attaching securely to a heavy concrete object, such as a car-park bumper at each end. All three attachment methods may be used.

Maintenance of the islands will involve:

- Weeks 1 – 6: Frequent watering of the plants until they establish.

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- Checking of anchors, tethers, fixtures, pumps, island buoyancy, distribution of gravel etc. to ensure all parts are functioning as expected and aesthetic.
- Weeding out unwanted plants.
- Quarterly checks thereafter.
- Annual trimming of plants only if required for aesthetic purposes.

Maintenance of the BioSwales will involve:

- Strategic removal of silt.
- Checking / correcting for damage by beavers, excess flow, short-circuiting.
- Checking attachments.
- Checking / fostering plant growth and weeding if necessary.

PROJECT BUDGET

BioSwales, Goose Islands and Science Island, per quotation 1032, will cost $80,443, including freight. The cost of this PDR ($7,200) will be credited to the project against the final payment.

The budget does not include the optional StreamBed. The simplest version of this (the air-lift system without the StreamBed matrix cut-out) would add an extra $4,000 to the project.

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Alternatively, a nanobubbler option would add approximately $25,000 to the project. The solar panel assembly has been designed and tested by engineering students at MSU and would be supplied without cost to Livingston by FII (value $10,000).

Installation fees are not included. Other sundries, such as plants, soil, weed mat, gravel, anchors, anchor cables and tools will be provided by the client.

FII can provide an Island Master to supervise the assembly and installation if the City provides their own crew, at a cost of $750 per day plus expenses. Alternatively, we could arrange for a Montana distributor to provide a quotation for a full installation and maintenance service.

DREDGING AND ALTERNATIVES

The sludge samples taken from Sacajawea Lagoon suggest that draining and dredging of the lagoon may be necessary soon. If sludge buildup continues, the lagoon will be even more exposed to HABs as shallower water warms up more quickly than deep water, especially in a naturally shallow waterway that does not stratify. Ideally, draining and dredging would occur in advance of any island or BioSwale launch.

A potential alternative to draining and dredging would be to dredge several sites adjacent to shore, within reach of the arm of an excavator. Positioning BioHaven Floating Islands over such locations would provide cooler, shaded refuge sites for trout. The islands also enhance for aeration by slowing the upward progress of aeration bubbles in the event that island provides an aeration component, such the StreamBed or nanobubbler. As these bubbles work their way to the surface, their ascent is slowed as they wend their way through island matrix, allowing more time for oxygen transfer into the water.

For more images of how the islands will be deployed at Livingston please click here.

In the event islands are positioned in The Sac, it should be noted that they can withstand desiccation in the event the pond is drawn down. While this is not preferable island stewardship, BioHavens are resilient, having experienced countless freeze/thaw cycles, massive snow dumps, tornadoes, hurricanes and windstorms. Desiccation of up to several weeks is made possible by moisture retained within island matrix. This moisture can also be supplemented for a time extension if required.

Nature is both consistent and dynamic. Any or all of the above recommendations will help the lagoon. The Science Island is the most expensive single feature described here, but also potentially the most impactful, as it introduces an educational component into design considerations.

Overall, this three-tiered strategy -- collection and removal of sediment, floating roosting sites and the Science Island /floating islands that include aeration -- will regenerate Sacajawea Lagoon and position Livingston as an environmental showcase for Montana and the region. In the event

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all or part of the proposed action items occur, FII and our research-focused team would very much like to be included in the ongoing management. However, it is important to note that the City of Livingston has an Island Master on staff in the form of Russell Smith, who heads up the city's wastewater division. Livingston is well positioned to transition The Sac into an affordable model of sustainability.

Best Regards,

Bruce Kania
Chief Executive Officer
Floating Island International and WaterRR

floatingislandinternational.com
(406) 373-5200

Bioswale Installation

Plan View - City of Livingston, MT

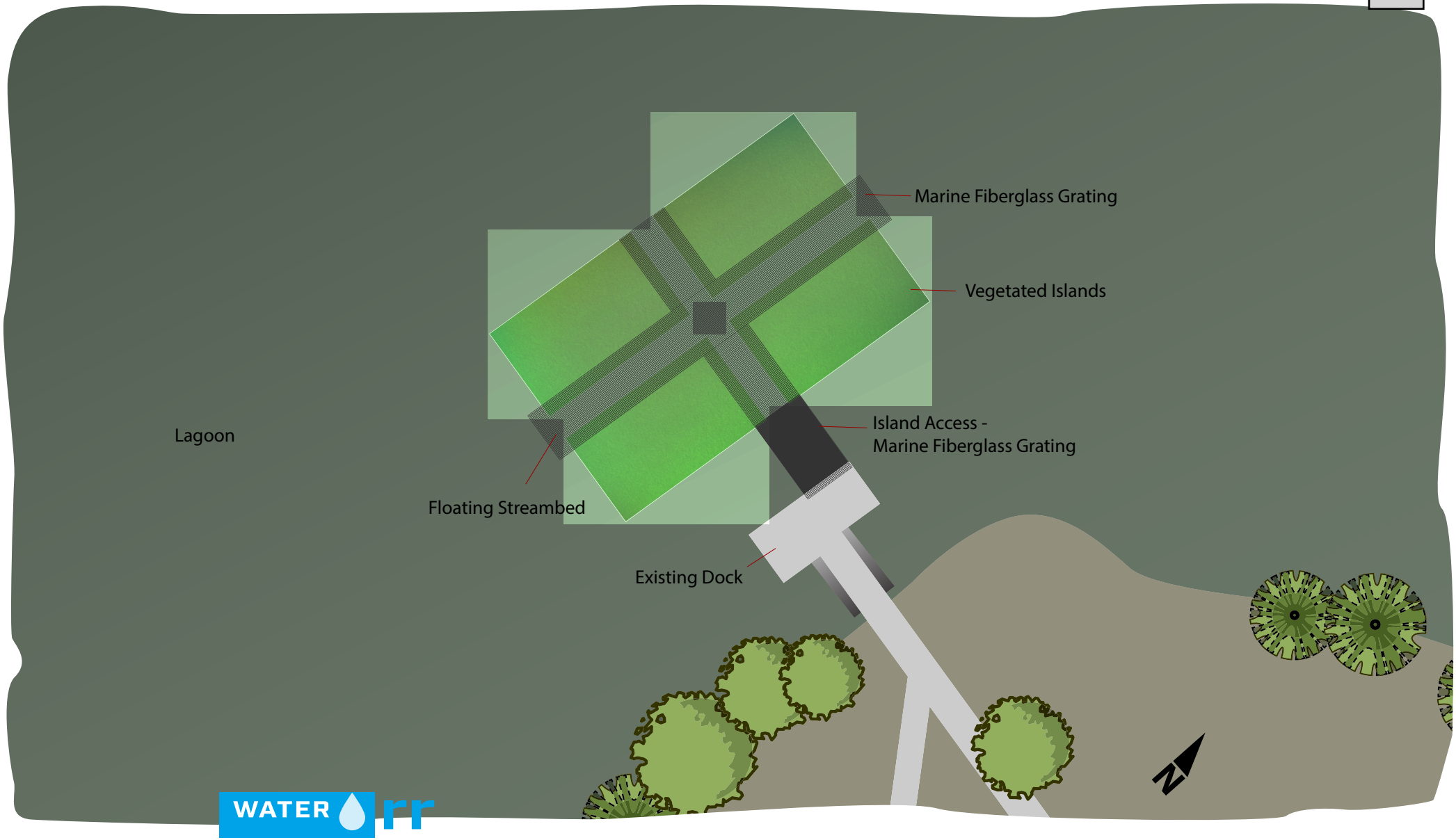
Sacajawea Lagoon

Science Island w/ Floating Streambed

Sacajawea Lagoon Site Plan - City of Livingston, MT

Science Island w/ Floating Streambed

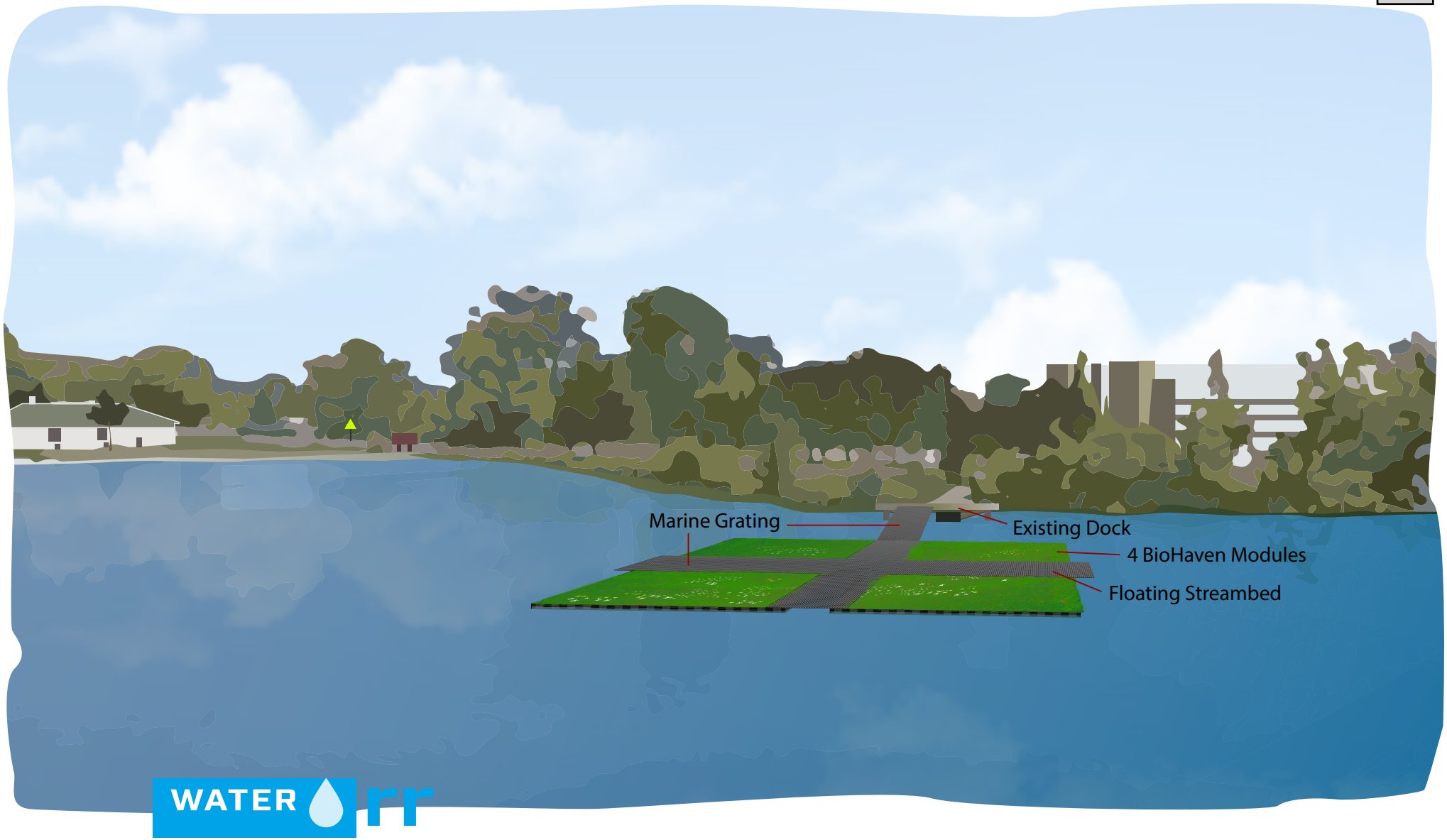
Sacajawea Lagoon Site Detail - City of Livingston, MT



WATER rr

Science Island w/ Floating Streambed

Elevation - South View - City of Livingston, MT



WATER rr


285

File Attachments for Item:

B. DISCUSS/APPROVE/DENY: PARKS AND TRAILS COMMITTEE'S REQUEST FOR ADDITIONAL $55,000 IN CARES ACT FUNDING.

January 28, 2021

To: Livingston City Commissioners

Fr: Livingston Parks & Trails Committee

Re: CARES Act allocations

The Parks & Trails Committee appreciates the $50,000 that was previously allocated for parks and trails. That money, in its entirety, will be used to develop a Trails and Active Transportation Plan. We are excited that plan is moving forward and recognize that it helps the City achieve one of its priorities within its Strategic Plan (5.4.1) of creating an Active Transportation Plan.

That commitment to develop the Trails and Active Transportation Plan means those funds are not available to meet other needs. There are several additional items initially proposed by the City Manager for CARES Act funds that have not yet been acted on as well as other projects the Parks & Trails Committee has identified as priorities. Consequently, the Committee requests the Commission consider an allocation of $5,000 for parks and trails sign projects and $50,000 for a neighborhood park with community gardens and a fenced dog area at Reservoir Park from those remaining uncommitted CARES Act Funds.

The City's parks and trails, like many outdoor recreation places across the state, experienced record numbers of users this past year as people sought public areas for recreation, socializing and family time that allowed an escape from the confines of indoor restrictions related to COVID. Many of our local trails and parking lots were full day after day, with heavy use extending into the colder fall and winter months.

We do not expect this increased interest in visiting our outdoor recreations spaces to diminish any time soon. While our parks and trails accommodated these users, the heavy use has highlighted some of the shortcomings of our parks and trails system.

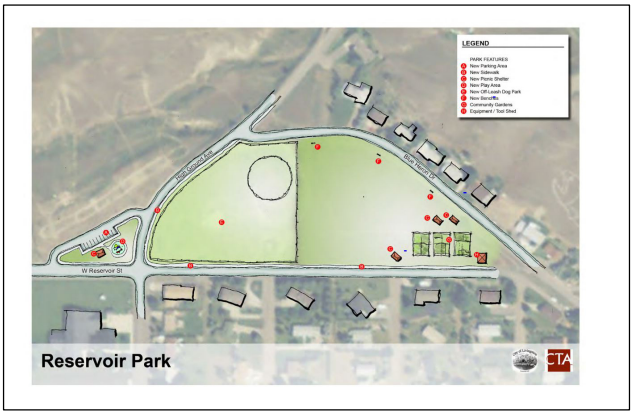
The requested $5,000 allocation would be used for identification signage for some parks and trails that currently have no identifying signs; Adopt A Trail/Park recognition signs for areas that have been 'adopted' by local groups, businesses or individuals for maintenance needs; and parks and trails system branding to provide consistency across our public spaces.

Illustrations of possible signs for trail identification and Adopt A Trail (sign on left by Clarke Smith)

Many of our parks and trails do not even have names identifying the public space (a complaint we have heard from some users), and there is great inconsistency in the materials and signage that do exist across the community. We have a wonderful cadre of Adopt A Park/Trail teams – seven in all so far, including our latest team from Fairfield Marriott – that

have committed to our volunteer maintenance program and we would like to be able to provide those groups with the recognition they deserve for their work in maintaining these public spaces.

The requested $50,000 allocation is to provide funding for the initial stages of a neighborhood park with community gardens and a fenced dog area to be developed at Reservoir Park. One of our Committee members, Dr. Alison Shannon-Lier, has invested significant time in researching the potential for a three-phased neighborhood park at Reservoir Park. This was initially proposed in the Parks & Trails Master Plan. Local residents continue to ask for more parks and trails on the north side as well as dog-friendly areas: 56% of respondents to our 2019 outdoor recreation survey indicated there were not enough dog-designated areas in the City. North side residents in particular have asked for more attention to developing parks and trails on that side of town and this helps meet that demand.



Reservoir Park plan, Parks & Trails Master Plan. The final plan would be different, for example, by fencing the water tower as requested by the City. Public input would be solicited on final design.

Example of a dog-themed shelter funded by donations from Anderson Dog Park in Bozeman

Dr. Shannon-Lier has garnered commitments of donated fencing, cash contributions, and volunteer labor for the development and maintenance of the park and is finding tremendous enthusiasm and support for the proposal. We're working on a long-term plan for funding for maintenance and are working with the City on plans to develop water access for park users, their dogs and the community garden. We are asking for City financial support to help fund this project, which would also help us raise additional support. The initial phase envisions fencing, a vault toilet, designated parking and landscaping. A community garden would be developed. The second phase anticipates addition amenities, benches and shelters, and the third phase envisions a dog agility course (as was requested at your last meeting by a young resident) and further development of a water feature for the dogs.

The Committee feels strongly that these CARES Act reimbursement funds can appropriately be used and are very much needed to support the outdoor recreation areas that helped keep our residents healthy and sane during this past year of COVID restrictions and are very much in demand. There is a need for a park on the north side and for safe access areas for dogs. We ask your support and again, express our appreciation for the previous funding allocation that will allow the development of a Trails and Active Transportation Plan.

File Attachments for Item:

. March 2021 Calender

March 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28	1	2 Regular City Commission Meeting 5:30 pm via Zoom	3	4	5	6
7	8	9 Historic Preservation Commission Mtg. 3:30 pm City Zoning Commission 5:30 pm	10 City Conservation Board Mtg 5:00 pm	11	12	13
14	15	16 Regular City Commission Meeting 5:30 pm via Zoom	17 Library Board Mtg 4:00 Planning Board Mtg 5:30 Sister City Board Mtg 7:00 pm	18 Tree Board Meeting Noon	19	20
21	22	23	24 Parks & Trails regular Meeting 6:00 pm	25	26	27
28	29	30	31	1	2	3
4	5	Notes All meetings held via Zoom, unless stated otherwise. To find out more information how you can participate in these meetings visit http://www.livingstonmontana.org/calendar.php				

File Attachments for Item:

. RECRUITMENT NOTICE HISTORIC PRESERVATION COMMISSION

Recruiting for membership on the Historic Preservation Commission

Passionate about preserving Livingston's History? The City of Livingston is now recruiting to fill two (2) vacancies on the Historic Preservation Commission, to serve a three (3) year term.

The purpose of the Livingston Historic Preservation Commission (HPC) is, through the preservation of historically significant buildings and the creation of a central business district that reflects the cultural and architectural past of the City, to promote the tourist industry; to inform property owners within the historic districts of potential tax incentives and federal grants that might be available for the preservation of those historic structures; and to enhance the property values and increase economic and financial benefits to the City and its residents through the preservation of historic buildings.

Qualification requirements:

The HPC By-laws require applicants for the Historic Preservation Commission must reside within the City or own property within the downtown historic district, be at least 18 years of age, a registered voter, a citizen of Montana and of the United States, and, insofar as possible, hold the professional expertise listed in Ord. 2054, §31.05A. Historic Preservation Commissioners shall not hold any other public office under the City.

Interested in sharing your time and talents? Applicants are encouraged to include a resume or bio, and a short cover letter outlining why they would like to serve on the Historic Preservation Committee, what special skills, talents, or credentials you offer, and what you hope to accomplish as a member. Applications are available:

Online: www.livingstonmontana.org

In-person: At the City Offices located at 414 East Callender Street, Livingston, MT 59047

Call for application: Call Faith for an application: (406) 823-6002.

The deadline for applications is March 19, 2021.

If you have questions about this or any other City Board/Committee vacancies, contact Faith Kinnick at (406) 823-6002 or visit the Historic Preservation Commission webpage.

File Attachments for Item:

. PUBLIC NOTICE OF GRANT OPPORTUNITY WITH LIVINGSTON URA.

PUBLIC NOTICE OF GRANT OPPORTUNITY
WITH LIVINGSTON URBAN RENEWAL AGENCY

The Livingston Urban Renewal Agency (URA) will begin accepting new applications for building façade and 3rd street sidewalk improvement projects through their grant program.

These programs are aimed at accomplishing the URA's goals of blight removal, remediation, and prevention by providing financial assistance to eligible property owners and/or tenants who intend to repair or rehabilitate the façade of buildings and/or make sidewalk improvements to properties within the boundaries of the designated district.

The deadline for new applications is 5:00 p.m. April 5, 2021.

More information can be found at
http://www.livingstonmontana.org/working/economic_development/urban_renewal.php

Applications are available at
http://www.livingstonmontana.org/Documents/URA/APPLICATION%20URA%202021_01_21.pdf

For additional information, contact Faith Kinnick at (406) 823-6002.

Please publish Friday, February 5, 19, March 5, and March 19, 2021.

Faith Kinnick
City of Livingston
February 3, 2021

File Attachments for Item:

. PARKS AND TRAILS COMMITTEE RECRUITMENT ANNOUNCEMENT

NOTICE OF VACANCY FOR THE PARKS AND TRAILS COMMITTEE

The City of Livingston is seeking to fill a vacancy on the Parks and Trails Committee. The vacancy is for a city resident. The appointment to the Parks and Trails Committee is to finish a term ending 12/31/2023. To qualify for the Parks and Trails Committee the applicant must possess the following qualifications: a U.S. citizen who is at least 18 years of age, a qualified elector, a resident of the County and State for at least 30 days and a city of Livingston resident who is a non-felon and of sound mind. The deadline is March 5, 2021 and the appointment is anticipated to occur during the regular City Commission Meeting scheduled April 6, 2021 at 5:30 p.m. Applications for interested persons may be obtained by contacting Faith Kinnick, 406-823-6002 or by mail address at 414 East Callender Street, Livingston, MT 59047 or on our website at http://www.livingstonmontana.org/living/boardsandcommittees.html

Please publish February 5, February 19, 2021.

Faith Kinnick
City of Livingston
February 3, 2021

File Attachments for Item:

. RECRUITMENT NOTICE FOR THE LIVINGSTON BUSINESS IMPROVEMENT DISTRICT BOARD

NOTICE OF RECRUITMENT FOR
THE LIVINGSTON BUSINESS IMPROVEMENT DISTRICT BOARD

The City is recruiting to fill two upcoming vacancies on the Livingston Business Improvement Board (LBID), to serve a four (4) year term.

Per the by-laws, the vacancy is to be filled by property owners or persons appointed to represent property owners, who own parcels within the boundaries of the LBID. Applicants must be a U.S. citizen who is at least 18 years if age, a qualified elector, a resident of the County and State for at least 30 days and a City of Livingston resident who is a non-felon and of sound mind.

The application deadline is March 31th, 2021 with the appointment anticipated to occur on April 20th, 2021, during the regular meeting of the City Commission.

For more information or to apply visit www.livingstonmontana.org. For questions about this or any other board vacancy call Faith Kinnick at (406) 823-6002.

Please publish Friday, February 26th and March 12th.

Faith Kinnick
City of Livingston
February 23, 2021