



CONSTRUCTION PLANS FOR:

# MULLAN BUILD 30% DESIGN ROAD & TRAIL CONSTRUCTION

PROJECT #7065  
Missoula County



**LOCATION MAP**

## Type of Construction:

Paved road construction and reconstruction, intersection construction and improvements, concrete sidewalks, concrete curb and gutter, boulevards, trail/path construction and stream restoration construction.

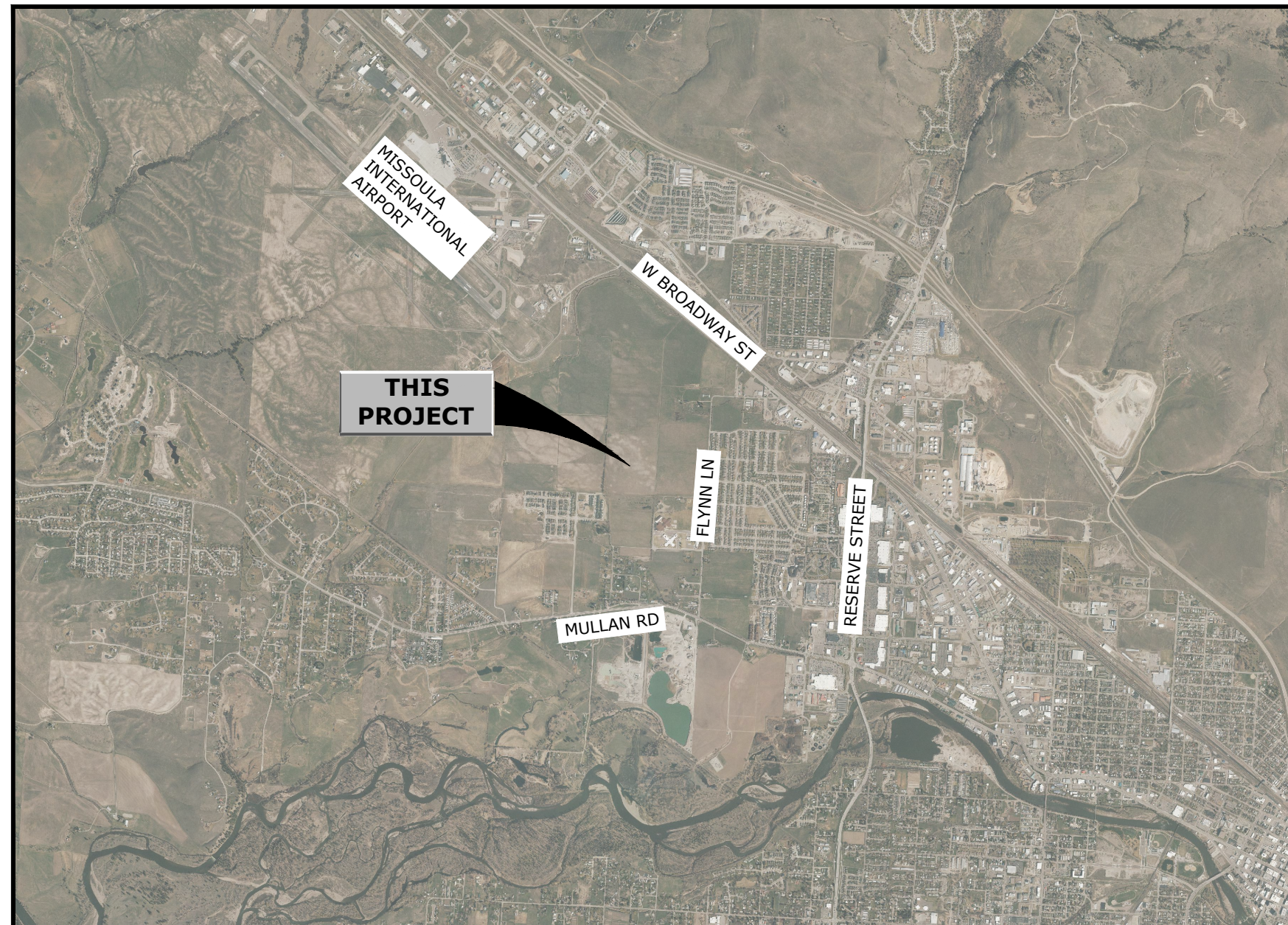
## Design Designation:

City of Missoula Design Standards

## Specifications:

Montana Public Works Standard Specifications, Sixth Edition, 2010 with project specific modifications

See Sheet A.1 - Index Sheet for Index to Sheets



**AREA MAP**  
NO SCALE



PRELIMINARY 30% NOT FOR CONSTRUCTION





Index to Sheets

A. General Information

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Cover

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Legend and abbreviations

Summary of estimated quantities & general notes

Mary Jane Boulevard Typical Sections

England & George Elmer Drive South (1b-1) Typical sections

George Elmer Drive Typical Sections

Trail Typical Sections

General Earthwork Details

B. Road plan and profile, Intersection and Crossing Sheets

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(7) George Elmer Drive North road plan and profile

(4-1) George Elmer Drive South road plan and profile

(4-2) George Elmer Drive South road plan profile

(5) England Boulevard street plan and profile

(2) Mary Jane Boulevard North road plan and profile

(1) Mary Jane Boulevard South road plan and profile

Mullan Road Intersections

Mary Jane & O'Leary Street Intersection

England Boulevard Intersections

West Broadway Street Intersections

Grant Creek Crossing Options

C. Trail plan and profile sheets

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(10) Grant Creek trail plan and profile

(9) Milwaukee trail plan and profile

(8) Tipperary Way trail plan and profile

(3) Flynn Lane trail plan and profile

(6) Mullan Road trail plan and profile

D. Stream Restoration Sheets

D.1 - D.13

(10) Grant Creek Stream Restoration



30% DESIGN PROJECT ELEMENTS

- 1

/

MARY JANE BOULEVARD SOUTH
- 2

/

MARY JANE BOULEVARD NORTH
- 3

/

FLYNN LANE TRAIL
- 4-1 & 4-2

/

GEORGE ELMER DRIVE SOUTH
- 5

/

ENGLAND BOULEVARD
- 6

/

MULLAN ROAD TRAIL
- 7

/

GEORGE ELMER DRIVE NORTH
- 8

/

TIPPERARY WAY TRAIL
- 9

/

MILWAUKEE TRAIL
- 10

/

GRANT CREEK TRAIL AND
- STREAM RESTORATION

NOTE:

PROPOSED ROAD, TRAILS AND STREAM RESTORATION ALIGNMENTS SHOWN ON PROJECT ELEMENT MAP ARE APPROXIMATE LOCATIONS

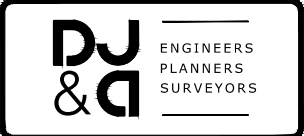
PROJECT ELEMENT MAP

Scale: 1" =1500'



REVISION	DATE	DESCRIPTION

DESIGNER	---	PROJ. NO.	---
DRAWN	---	DATE	---
CHECKED	---	SURVEYED	DJ&A, P.C.



Mullan BUILD  
PRELIMINARY 30% NOT FOR CONSTRUCTION

Index and Project Element Map

SHEET	OF
A.1	A.8



Abbreviations

aluminum cap	AC
American Association of State Highway and Transportation Officials	AASHTO
American National Standards Institute	ANSI
and	&
Avenue	Ave.
balled and burlapped	B&B
begin vertical curve elevation	BVCE
begin vertical curve station	BVCS
beginning point	BP
brass cap	BC
centerline	CL, C/L
control point	CP
cubic yard	CY
diameter	dia., D, Ø
dry density	DD
east	E
elevation	elev., el.
end point	EP
end vertical curve elevation	EVCE
end vertical curve station	EVCS
finish ground	FG
foot (measurement)	ft. or '
found	FND
inch	in. or "
length of vertical curve	LVC
liquid limit	LL
Manual on Uniform Traffic Control Devices	MUTCD
maximum	max.
millimeter	mm
minimum	min.
moisture content	MC
north	N
North American datum	NAD
North American vertical datum	NAVD
number	no.
on center	OC
ounce	oz
percent	pct. or %
plastic limit	PL
point of curve	PC
point of intersection	PI
point of tangent	PT
point of vertical intersection	PVI
quantities	quant., QTY
radius	R
rebar	RB
square foot	ft², ft2 or sf
standard	std
station	STA
top back of curb	TBC
typical	typ

Legend

	Existing	Proposed		Existing	Proposed
Edge of asphalt			Storm Drain Line		
Edge of gravel			Curb Cut		
Road centerline			Subsurface Infiltration Chambers		
Ditch/Swale			Catch Basin		
Signs			Sumps with equalizer pipe		
Minor contour			Detention Storage Basin		
Major contour			Approach Pipe/Culvert		
Fence					
Natural gas line					
Overhead power line					
Underground power line					
Fiber optic line					
Underground telephone line					
Underground television line					
Power pole					
Power pole anchor					
Utility box					
Vegetation					
Record Roadway Right-of-way line					
Record Right-of-way line					
Curb and gutter					
Drainage sump					
Construction limits					
Control point					
Asphalt concrete pavement					
Concrete					
Bollard					
Well / Ground Water Monitoring					
Bore Hole					
Topsoil and seeding					
Fire hydrant					
Water blow-off valve					
Water valve					
Water Line/Appurtenances					
Sewer Manhole					
Sewer Line					
Storm Drain Manhole					

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-	-	-

DESIGNER	-	PROJ. NO.	-
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ENGINEERS  
PLANNERS  
SURVEYORS

Mullan BUILD  
PRELIMINARY 30% NOT FOR CONSTRUCTION

Legend and Abbreviations

Summary of Estimated Quantities - Base Bid Schedule

<div><div></div><div>Mullan Build</div></div> <div>MULLAN BUILD PROJECT SUMMARY</div> <div>BASE SCHEDULE - 30% Preliminary</div>		Prepared By: <div><div></div><div>ENGINEERS PLANNERS SURVEYORS</div></div>	
		Job No.	7065
		Computed	BHB Date 7/24/2020
		Checked	DP Date 7/24/2020
PROJECT ELEMENT	ELEMENT DESCRIPTION	TOTAL	
1	MARY JANE BOULEVARD SOUTH	\$3,250,804	
2	MARY JANE BOULEVARD NORTH	\$3,519,632	
3	FLYNN LANE TRAIL	\$561,713	
4-1 & 4-2	GEORGE ELMER DRIVE SOUTH	\$3,562,428	
5	ENGLAND BOULEVARD	\$3,075,059	
6	MULLAN TRAIL	\$498,848	
7	GEORGE ELMER DRIVE NORTH	\$5,380,156	
8	TIPPERARY WAY TRAIL	\$630,665	
9	MILWAUKEE TRAIL	\$141,413	
10	GRANT CREEK TRAIL	\$212,772	
10	GRANT CREEK STREAM RESTORATION AND FLOOD CONTROL	\$1,386,802	
1	MARY JANE BOULEVARD SOUTH - WATER	\$386,444	
2	MARY JANE BOULEVARD NORTH - WATER	\$0	
4-1 & 4-2	GEORGE ELMER DRIVE SOUTH - WATER	\$696,200	
5	ENGLAND BOULEVARD - WATER	\$707,688	
7	GEORGE ELMER DRIVE NORTH - WATER	\$1,058,394	
1	MARY JANE BOULEVARD SOUTH - SANITARY SEWER	\$0	
2	MARY JANE BOULEVARD NORTH - SANITARY SEWER	\$179,250	
4-1 & 4-2	GEORGE ELMER DRIVE SOUTH - SANITARY SEWER	\$501,281	
5	ENGLAND BOULEVARD - SANITARY SEWER	\$679,031	
7	GEORGE ELMER DRIVE NORTH - SANITARY SEWER	\$105,194	
1	MARY JANE BOULEVARD SOUTH - STORM WATER	\$641,150	
2	MARY JANE BOULEVARD NORTH - STORM WATER	\$493,225	
4-1 & 4-2	GEORGE ELMER DRIVE SOUTH - STORM WATER	\$410,750	
5	ENGLAND BOULEVARD - STORM WATER	\$1,208,535	
7	GEORGE ELMER DRIVE NORTH - STORM WATER	\$1,469,708	
Note: Total costs shown include a 20% contingency. Detailed cost estimates for each scope element can be found below.		WATER SUBTOTAL	\$2,848,726
		SANITARY SEWER SUBTOTAL	\$1,464,756
		STORM WATER SUBTOTAL	\$4,223,368
		ROAD/TRAIL SUBTOTAL	\$22,220,292
		8% CONSTRUCTION ADMINISTRATION AND ENGINEERING	\$2,460,571
		TOTAL ESTIMATED COST	\$33,217,713

General Notes


1. Specifications: Construct the project in compliance with the project specifications and the City of Missoula standard details and drawings. The project specifications are derived from the Montana Public Works Standard Specifications (MPWSS) and have been revised and supplemented for this project.
2. Erosion Control Plan: Submit a soil erosion plan to the City Engineer and have it approved prior to beginning any work. Provide methods to prevent runoff from the construction site from entering directly into the adjacent waterways. The Contractor is responsible for creating and filing a Notice of Intent (NOI) Form and Storm Water Pollution Prevention Plan (SWPPP) for this project under the Montana Pollutant Discharge Elimination System (MPDES) with the Montana Water Quality Division for storm water associated with construction activities.
3. City of Missoula SWPPP: The Contractor must obtain a required City of Missoula SWPPP permit. The Contractor must submit all SWPPP reports to the Engineer so that the Engineer can turn in said reports to City of Missoula Engineering as part of the Stage 6 process in order for City of Missoula Engineering to accept infrastructure. The Contractor is required to submit to City of Missoula Engineering any additional reports at time of Notice of Termination (SWPPP Permit Close-Out) if final stabilization of site hasn't been achieved at time of Engineer's Stage 6 submittal.
4. Disposal: All materials designated for removal, except for material to be salvaged per the project specifications, become the property of the Contractor upon removal and are to be disposed of in an environmentally safe manner in accordance with all Local, State and Federal requirements.
5. Utilities: Utility locations shown on the plans are approximate. Not all utilities are shown. It is the responsibility of the contractor to verify locations of all utilities that may be impacted by this project. The contractor shall coordinate all utility relocations with the utility providers at no cost to the owner.
6. Coodination with Landowners: It is the responsibility of the contractor to coordinate with landowners adjacent to the project to schedule necessary work on driveways, approaches, and other work that may affect access to their properties.
7. Mailboxes: All mailboxes are to remain operational during construction, either by installing cluster mailboxes before removing existing mailboxes or by providing temporary mailbox use.
8. Resetting Existing Signs: Reset street signs in accordance with Project Specification Section 02114 and City of Missoula Standard Details. The Contractor shall contact Chad Pancake, City of Missoula Traffic Services, at (406) 552-6372 prior to removal and installation of all signs. Coordinate sign reinstallation procedures and sign locations with Chad Pancake.
9. Basis of Quantities: See the cost narrative for assumptions and methods used in the cost estimation.

Design Standards

1. Roadways: Roadways were designed to City of Missoula Standards & Details and conform to guidance set forth in NCHRP Report 672, Roundabouts: An information al Guide, Second Edition. The Design Basis Report further summarizes and documents the preliminary intersection design.
2. Intersections: Roundabouts were designed to MDT standards and conform to guidance set forth in . The Design Basis Report further summarizes and documents the preliminary roadway design.
3. Trails: Trails were designed to City of Missoula Standards & Details and conform to guidance set forth in the AASHTO Guide for the Development of Bicycle Facilities. The Design Basis Report further summarizes and documents the preliminary roadway design.

REVISION	DATE	DESCRIPTION
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DESIGNER	-	PROJ. NO.	-
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ENGINEERS  
PLANNERS  
SURVEYORS

Mullan BUILD

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Summary of Estimated Quantities and  
General Notes

SHEET OF	
A.3	A.8