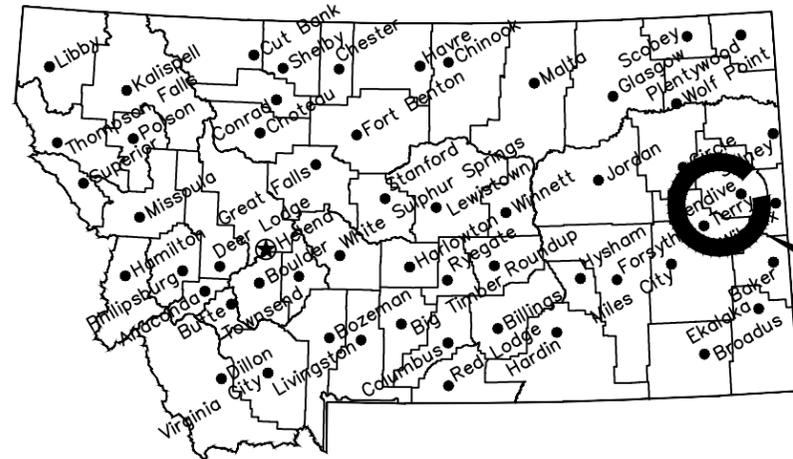


MONTANA FISH, WILDLIFE & PARKS

FALLON BRIDGE FAS BOAT RAMP IMPROVEMENTS - REBID

near Fallon, Prairie County, Montana

FWP # 7193723

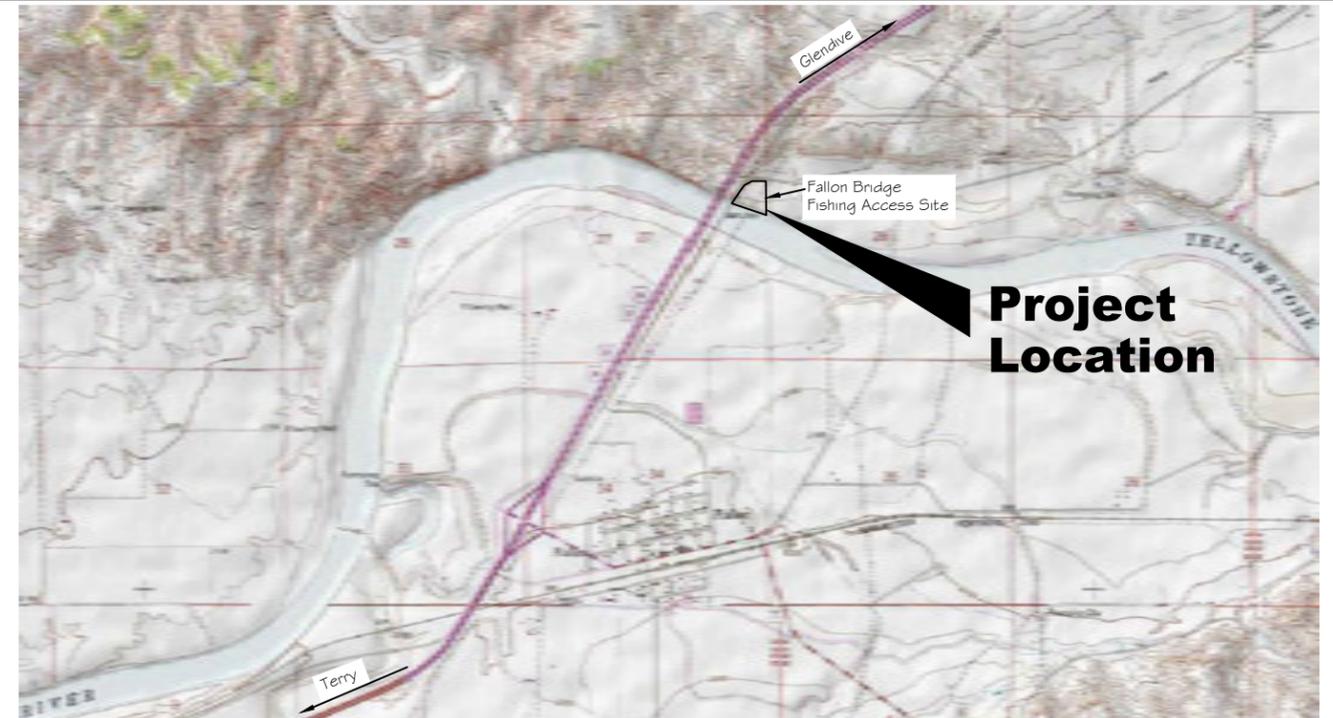


Project Location

Location Map

No Scale

North



Project Location

Vicinity Map

No Scale

MONTANA FISH, WILDLIFE AND PARKS
DESIGN AND CONSTRUCTION

MAILING ADDRESS: PO BOX 200701
HELENA, MT 59620-0701
TEL 406.841.4000
FAX 406.841.4004
fwp.mt.gov/Doing Business/Design&Construction

PHYSICAL ADDRESS:
1522 9th AVENUE
HELENA, MT 59601

DRAWING INDEX

- 1 COVER SHEET
- 2 SITE PLAN
- 3 PLAN & PROFILE
- 4 CAST IN PLACE BOAT RAMP DETAILS
- 5 PUSH IN SLAB CONCRETE BOAT RAMP DETAILS

Tom Mannatt	July 15, 2019
DRAWN BY:	DATE:
Phillip Jagoda	July 15, 2019
CHECKED BY:	DATE:

APPROVED BY:	DATE:
APPROVED BY:	DATE:

APPROVED BY:	DATE:
APPROVED BY:	DATE:



Montana Fish, Wildlife & Parks

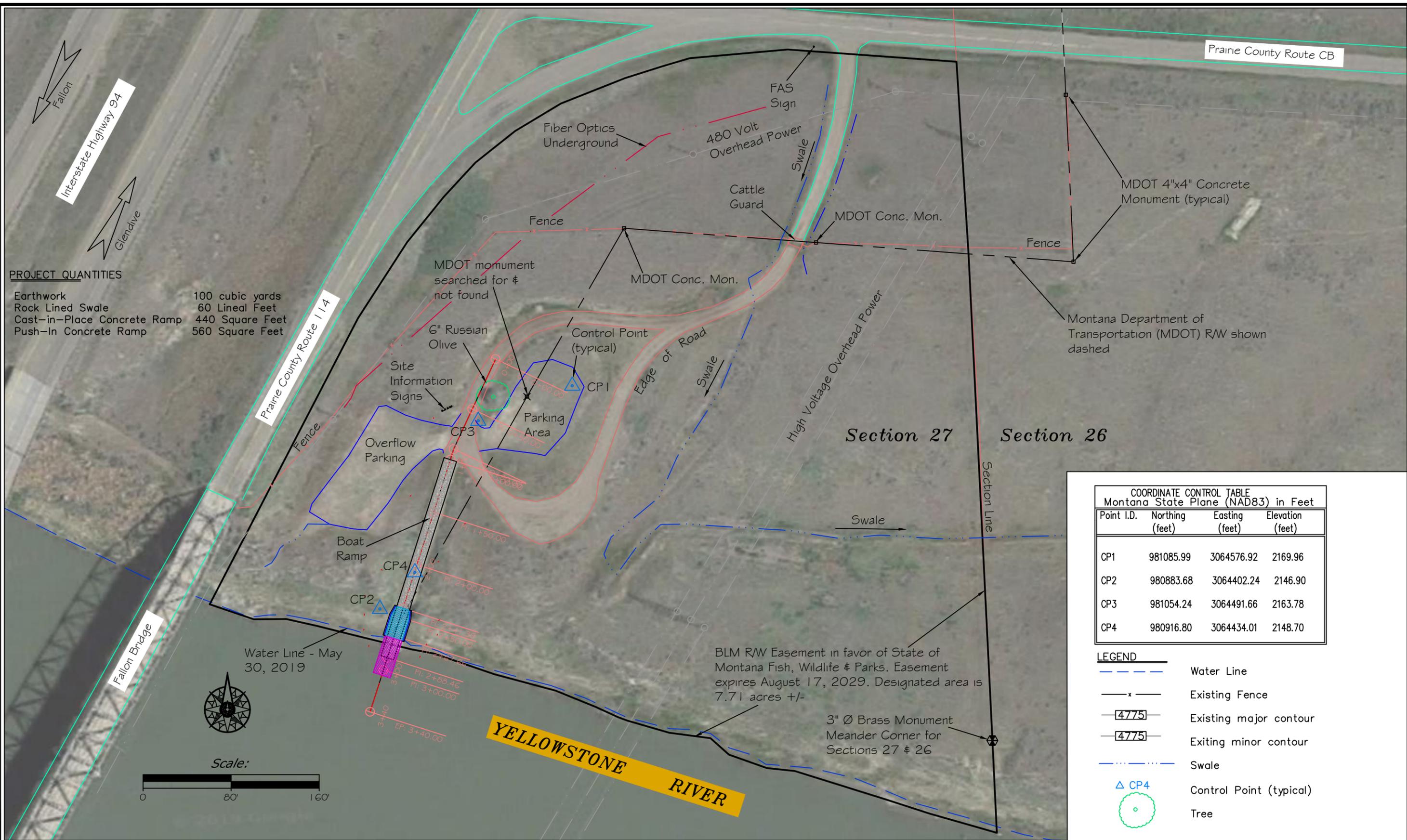
123

Cover Sheet

Fallon Bridge FAS Boat Ramp Improvements - Rebid



SHEET: 1 of 5



PROJECT QUANTITIES

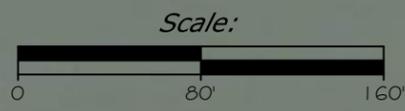
Earthwork	100 cubic yards
Rock Lined Swale	60 Lined Feet
Cast-in-Place Concrete Ramp	440 Square Feet
Push-In Concrete Ramp	560 Square Feet

COORDINATE CONTROL TABLE
Montana State Plane (NAD83) in Feet

Point I.D.	Northing (feet)	Easting (feet)	Elevation (feet)
CP1	981085.99	3064576.92	2169.96
CP2	980883.68	3064402.24	2146.90
CP3	981054.24	3064491.66	2163.78
CP4	980916.80	3064434.01	2148.70

LEGEND

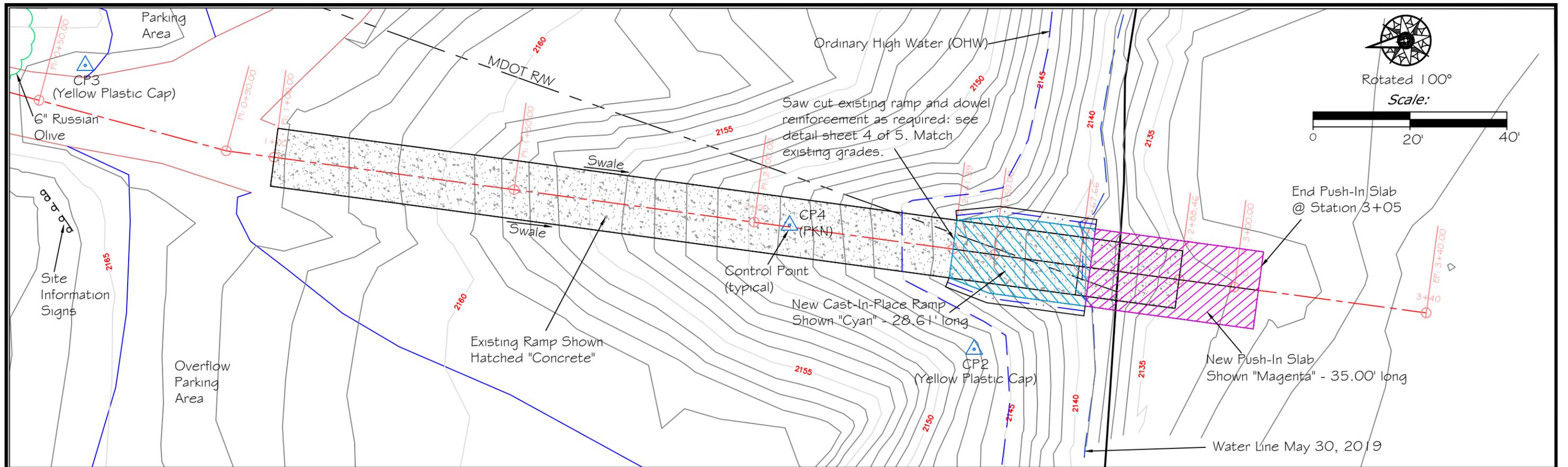
- Water Line
- Existing Fence
- Existing major contour
- Existing minor contour
- Swale
- CP4
- Control Point (typical)
- Tree



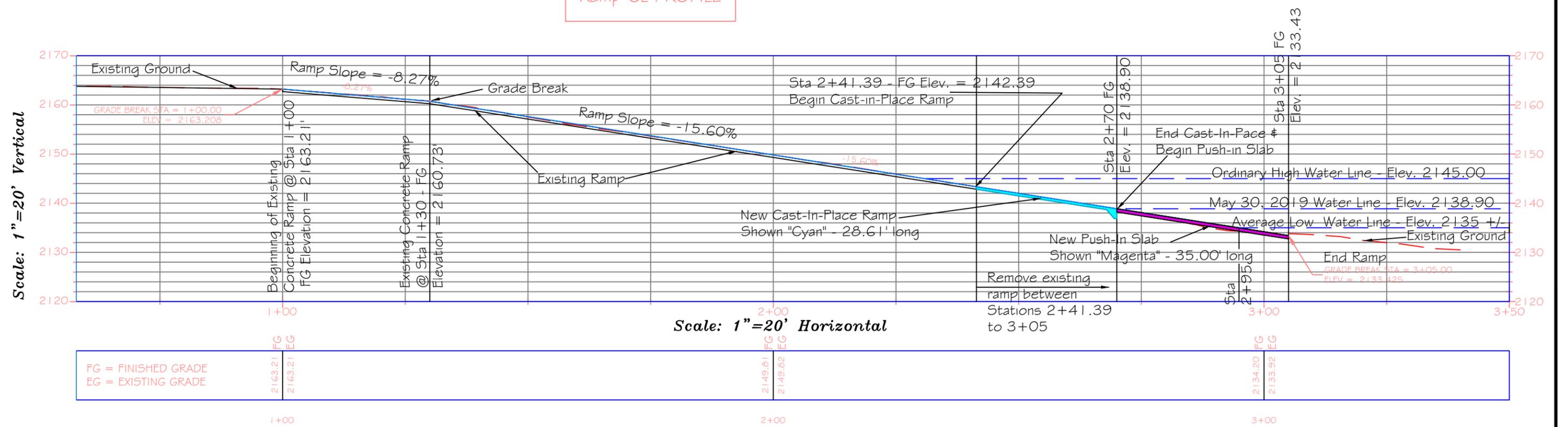
Tom Mannatt	7/15/2019	REVISIED BY:	DATE:	APPROVED BY:	DATE:
DRAWN BY:	DATE:				
Phillip Jagoda	7/15/2019	APPROVED BY:	DATE:	APPROVED BY:	DATE:
CHECKED BY:	DATE:				



Site Plan
Fallon Bridge FAS Ramp Improvements - Rebid



Ramp CL PROFILE



FG = FINISHED GRADE	2163.21	2149.81	2134.20
EG = EXISTING GRADE	2163.21	2149.82	2133.92

Tom Mannatt
 DRAWN BY: DATE: 7/15/2019
 Phillip Jagoda
 CHECKED BY: DATE: 7/15/2019

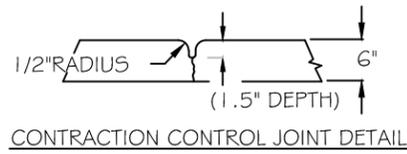
REVISED BY: DATE:
 APPROVED BY: DATE:

APPROVED BY: DATE:
 APPROVED BY: DATE:

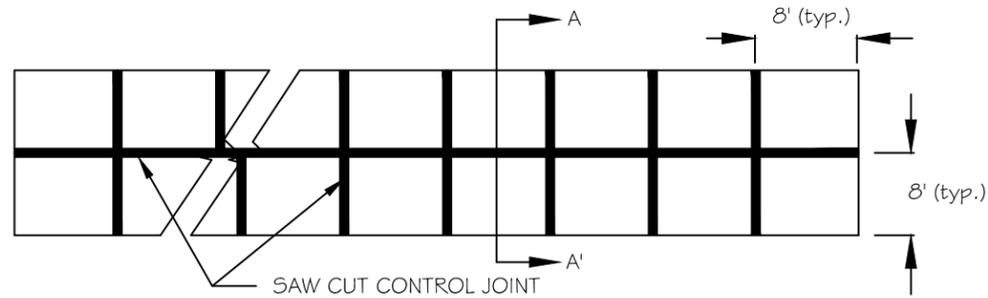


Ramp Plan & Profile

Fallon Bridge FAS Ramp Improvements - Rebid

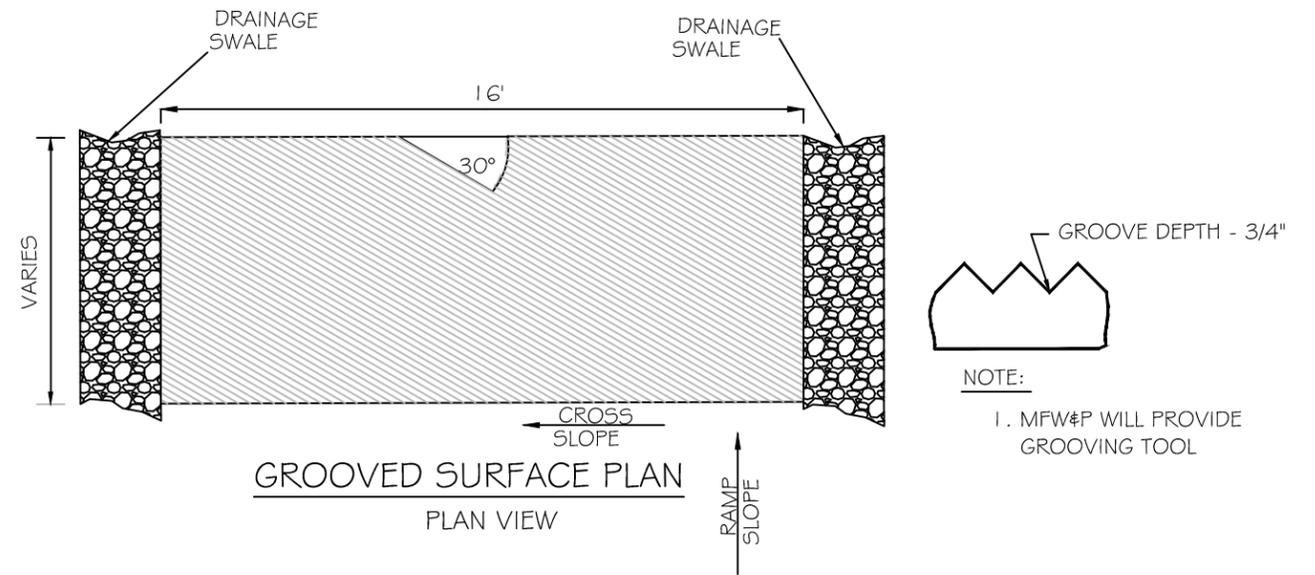


CONTRACTION CONTROL JOINT DETAIL



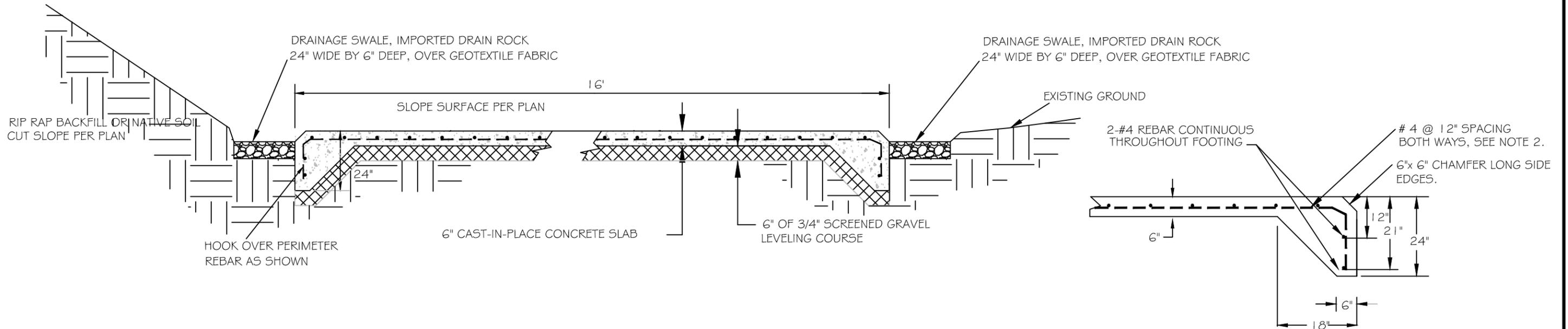
SLAB CONTROL JOINT DETAIL
PLAN VIEW

- NOTE:
1. CONCRETE FOR NEW RAMP IS A 3/4" MINUS; 6-1/2 SACK MIX WITH A MIN 28 DAY STRENGTH OF 4000 PSI, REINFORCED WITH # 4 BARS @ 12" SPACING BOTH DIRECTIONS.
 2. SCREED CONCRETE FOLLOWED BY GROOVING THE SURFACE.
 3. SAW CUT CONTRACTION JOINTS AFTER RAMP IS GROOVED.



GROOVED SURFACE PLAN
PLAN VIEW

- NOTE:
1. MFW#P WILL PROVIDE GROOVING TOOL



CAST-IN-PLACE CONCRETE
SECTION A-A'

THICKENED EDGE DETAIL
FOR CAST IN PLACE RAMP

NOTES.

1. CONTINUE THICKENED EDGE FOOTING AROUND ENTIRE PERIMETER OF CAST-IN-PLACE CONCRETE.
2. EXTEND AND EXPOXY #4 BARS MIN 20" (12" O.C.) IN EXISTING CONCRETE CONNECTIONS. PROVIDE EXPANSION JOINT MATERIAL ALONG COLD JOINT CONNECTIONS.
3. NO CHAMFER ALONG SIDEWALK/BULKHEAD/EXISTING CONCRETE CONNECTIONS.
4. PROVIDE 2 1/2" CLEAR COVER FOR ALL REBAR REINFORCEMENT.

?Tom Mannatt July 15, 2019
DRAWN BY: DATE:
Phillip Jagoda July 15, 2019
CHECKED BY: DATE:

REVISED BY: DATE:
APPROVED BY: DATE:

APPROVED BY: DATE:
APPROVED BY: DATE:



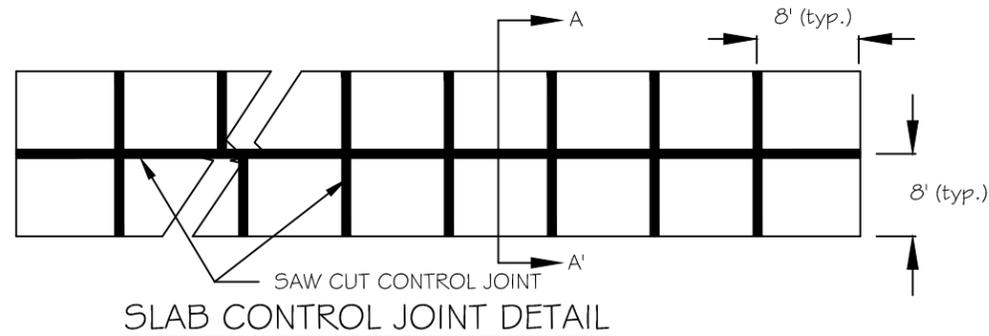
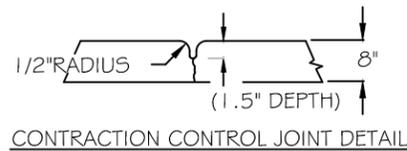
Montana Fish
Wildlife & Parks

126

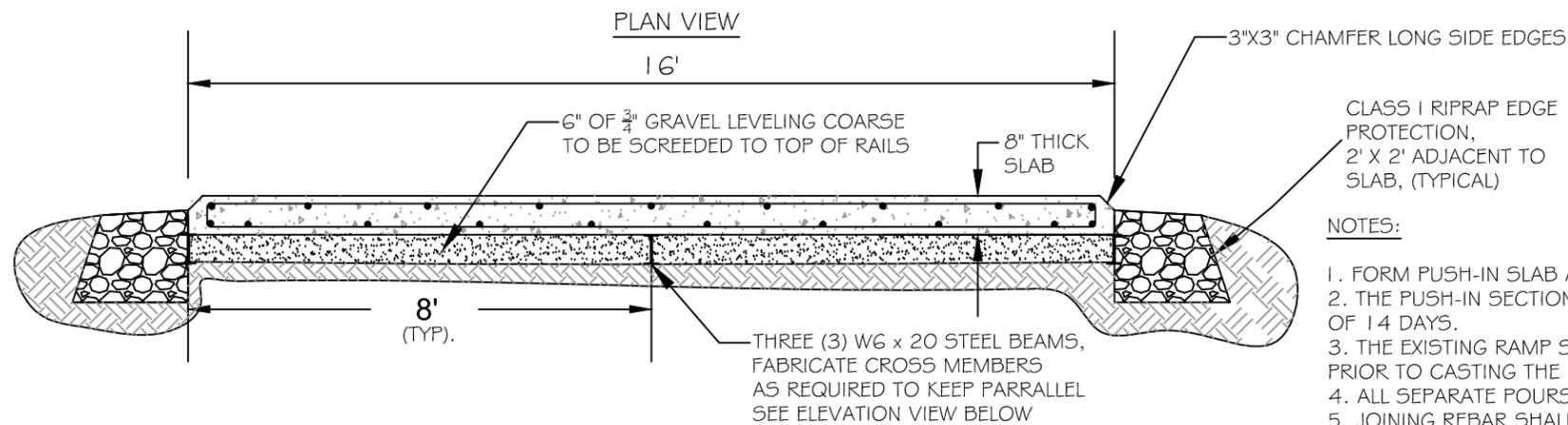
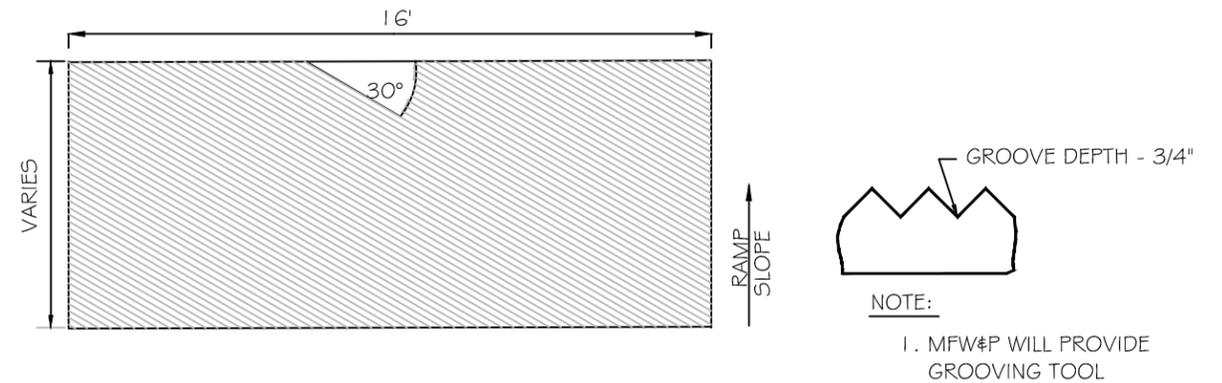
Cast In Place Concrete Boat Ramp Details
Fallon Bridge FAS Ramp Improvements



SHEET: 4 of 5

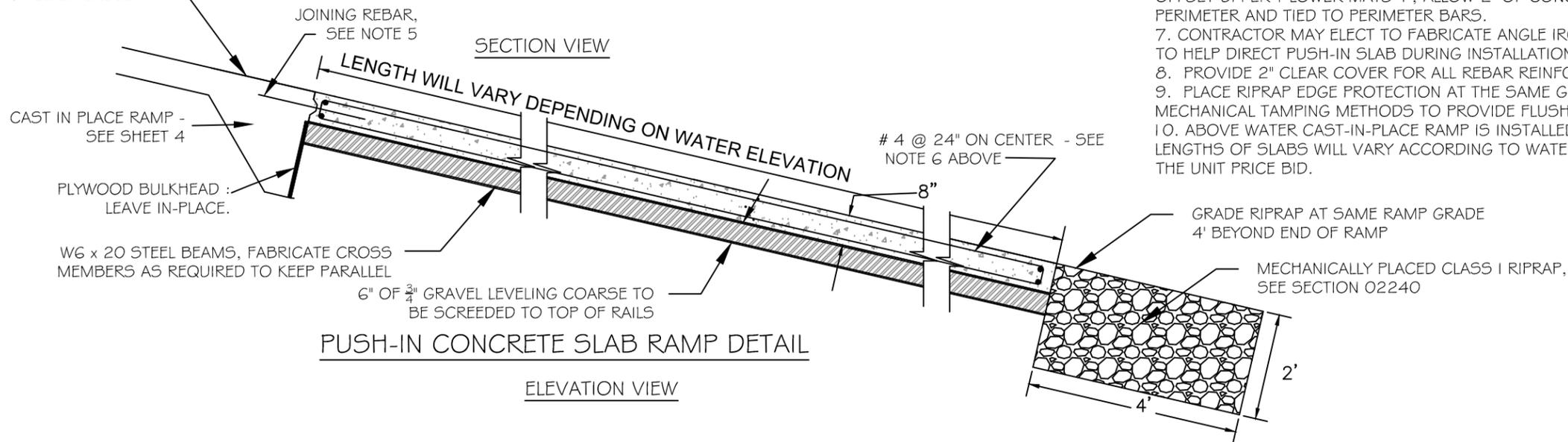


- NOTE:
1. CONCRETE FOR NEW RAMP IS A 3/4" MINUS; 6-1/2 BAG MIX WITH A MIN 28 DAY STRENGTH OF 4000 PSI.
 2. SCREED CONCRETE FOLLOWED BY GROOVING THE SURFACE.
 3. SAW CUT CONTRACTION JOINTS AFTER RAMP IS GROOVED.



- NOTES:
1. FORM PUSH-IN SLAB AT EXISTING BOAT GRADE.
 2. THE PUSH-IN SECTION SHALL BE CAST ON THE EXISTING RAMP AND ALLOWED TO CURE FOR MINIMUM OF 14 DAYS.
 3. THE EXISTING RAMP SHALL BE COVERED WITH A 1" LAYER OF SAND AND A POLYETHYLENE BARRIER PRIOR TO CASTING THE PUSH-IN SECTION.
 4. ALL SEPARATE POURS WILL REQUIRE REBAR PLACEMENT AS DESCRIBED IN NOTE 5.
 5. JOINING REBAR SHALL BE EPOXIED INTO FIRST SLAB AND EXTENDED A MINIMUM OF 20" INTO SUBSEQUENT SLAB(S).
 6. REINFORCEMENT: TWO(2) MATS CONSISTING OF #4 GRADE 40 REBAR 2' ON CENTER EACH WAY, OFFSET UPPER & LOWER MATS 1', ALLOW 2" OF CONCRETE COVER, EACH BAR SHALL HAVE A 4" HOOK AT PERIMETER AND TIED TO PERIMETER BARS.
 7. CONTRACTOR MAY ELECT TO FABRICATE ANGLE IRON ALONG EDGE OF OUTER STEEL SUPPORT BEAMS TO HELP DIRECT PUSH-IN SLAB DURING INSTALLATION.
 8. PROVIDE 2" CLEAR COVER FOR ALL REBAR REINFORCEMENT.
 9. PLACE RIPRAP EDGE PROTECTION AT THE SAME GRADE OF PUSH-IN SLAB. KEY IN RIPRAP BY MECHANICAL TAMPING METHODS TO PROVIDE FLUSH SURFACE.
 10. ABOVE WATER CAST-IN-PLACE RAMP IS INSTALLED AFTER BELOW WATER PUSH-IN SECTION IS PLACED. LENGTHS OF SLABS WILL VARY ACCORDING TO WATER LEVELS AND COMPENSATION WILL BE BASED ON THE UNIT PRICE BID.

EXISTING BOAT RAMP SURFACE EXTENDED



PUSH-IN CONCRETE SLAB RAMP DETAIL
ELEVATION VIEW

?Tom Mannatt July 15, 2019
DRAWN BY: DATE:
Phillip Jagoda July 15, 2019
CHECKED BY: DATE:

REVISED BY: DATE:
APPROVED BY: DATE:

APPROVED BY: DATE:
APPROVED BY: DATE:



Montana Fish,
Wildlife & Parks

127

Push In Slab Concrete Boat Ramp Details
Fallon Bridge FAS Ramp Improvements - Rebid



SHEET: 5 of 5