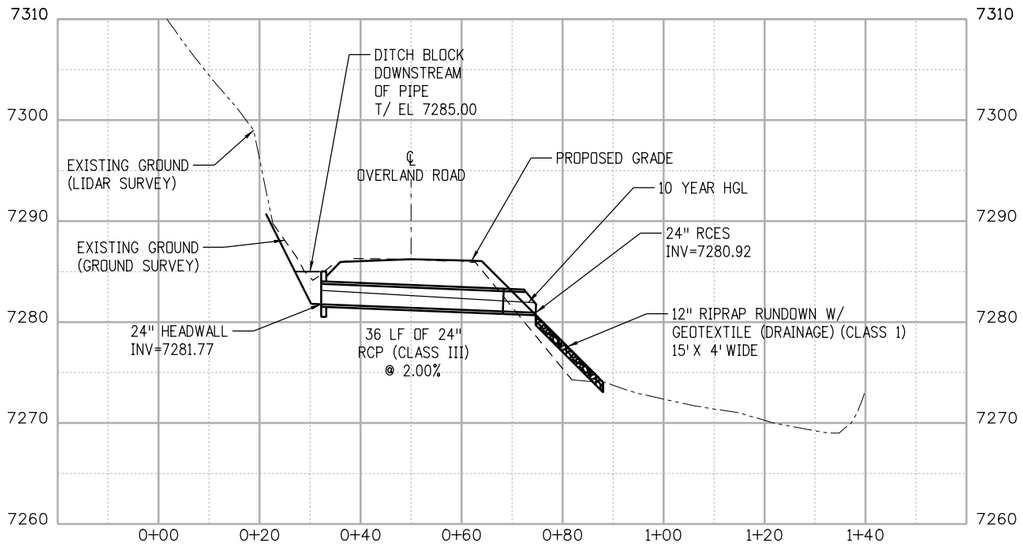

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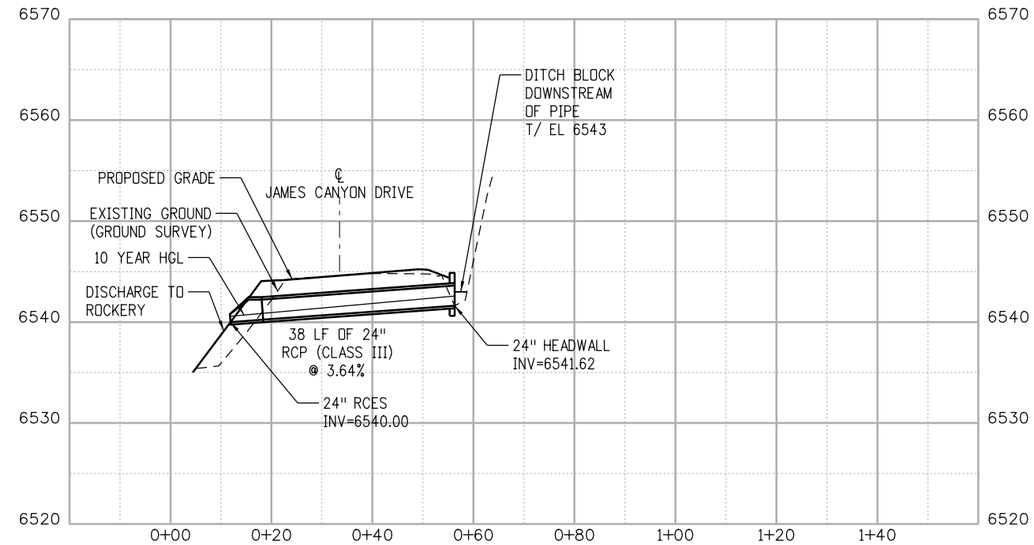

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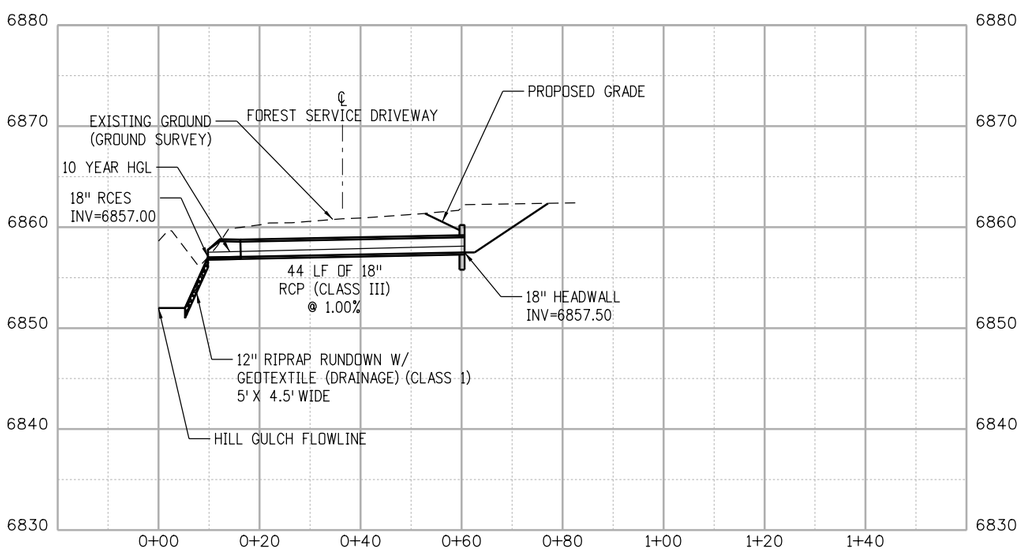

CULVERT J-2.44

CROSSING STA 134+72.00

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REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

Boulder County

AECOM

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

DESIGNED:	CAD:	CHECKED:	DATE:
MTC	MTC	SKL	01/22/2016

JAMES CANYON
CROSS CULVERT PROFILES

PROJECT NO: SEPT12C24 SEPT12C91

SHEET NO: 35

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1. SITE DESCRIPTION

To fulfill the CDPS-SCP (Colorado Discharge Permit System - Stormwater Construction Permit). The ECS shall update to reflect current project site conditions.

A. PROJECT SITE DESCRIPTION: This project covers 4.7 miles of James Canyon Drive as part of Boulder County Flood recovery effort from the September 2013 floods. Construction activities include road repairs, wall construction, culvert replacements, roadway embankment improvements, and stream stabilization. Specifically, these activities will be carried out on James Canyon Drive in flood damaged sections from the mouth of James Canyon at Lefthand Creek (MP 0.0) to west of Jamestown (MP 4.7), covering work both inside and outside of Jamestown. Construction of smaller drainage pipes is also included. After completion of the project, the site will be revegetated to the required level.

B. PROPOSED SEQUENCING FOR MAJOR CONSTRUCTION ACTIVITIES: Project construction schedule is broken up into 25 major areas. Major construction activities will be carried out in a mostly linear sequence starting from the east end of the project, though some areas may be prioritized. Construction may occur concurrently in a few areas. Completion of the project is anticipated to take 244 days, with construction taking place from July 1, 2016 to March 1, 2017.

For each area, wall and/or embankment construction will be completed first with stormwater management BMPS already in place. Culverts and drainage structures will then be constructed. Finally, pavement repair and cleanup will finish out construction activities for that area. Grading in the stream and adjacent floodplain for proposed stream stabilization measures and construction of those features may or may not occur at the same time as repairs associated with the roadway. Temporary stabilization of either the road or stream repairs may be required if the entire section is not ready for final stabilization within a reasonable timeframe (14 days).

C. ACRES OF DISTURBANCE:
1. Total area of construction site: 34.3 acres
2. Total area of disturbance: 20.1 acres
3. Acreage of seeding: 3.0 acres

D. EXISTING SOIL DATA: The soil types for the project areas are clay and silt loam, predominantly of hydrologic soil Group D with some B and C.

E. EXISTING VEGETATION, INCLUDING PERCENT COVER:

Date of survey: 20May2015 %Density: 10% (Estimated)
Description of existing vegetation: Vegetation is a mix of native species, mainly grass, and non-native weed species.
Map or table showing transect locations in tab 19: Contractor to perform vegetative survey to verify estimates prior to any ground disturbance on project including transects and photo documentation of existing vegetation where all work will be occurring per Chapter 4.11.2 of CDOT's Erosion Control and Stormwater Quality Gide. This shall be included in the price of the work.

F. POTENTIAL POLLUTANTS SOURCES: See First Construction Activities under Potential Pollutant Sources. The ECS shall prepare a list of all potential pollutants and their locations in accordance with subsection 107.25.

G. RECEIVING WATER:
1. Outfall locations: As shown on plans. No MS4 systems are present in the project area.
2. Names of receiving water(s) on site and the ultimate receiving water: Little James Creek to James Creek to Left Hand Creek with the South Platte River as ultimate receiving water.
3. Distance ultimate receiving water is from project: approximately 30 miles

H. ALLOWABLE NON-STORMWATER DISCHARGES: The ECS shall identify the location and description of any anticipated allowable sources of non-storm water discharges.
1. Groundwater and stormwater dewatering: Discharges to the ground of water from construction dewatering activities may be authorized provided that:
   a. the source is groundwater and/or groundwater combined with stormwater that does not contain pollutants
   b. the source and BMPs are identified in the SWMP
   c. discharges do not leave the site as surface runoff or to surface waters
   d. The contractor shall protect all work areas and facilities from water at all times. Areas and facilities subject to flooding, regardless of the source of water, shall be promptly dewatered and restored at no cost to the owner. This shall include removal of any debris caused by flooding. Any dewatering shall be done in accordance with Subsection 107.25
2. If discharges do not meet the above criteria a separate CDPS permit shall be obtained by the Contractor from the CDPHE. See standard special provision 250 Hazardous Waste and Contaminated Water.

I. ENVIRONMENTAL IMPACTS:
1. Wetland Impacts: NO
2. Stream Impacts: YES
3. Threatened and Endangered Species: No species are anticipated to be impacted by the project.

JANUARY 2015

2. SITE MAP COMPONENTS:

Pre-construction

A. PROJECT CONSTRUCTION POTENTIAL SITE BOUNDARIES See Roadway and SWMP

B. ALL AREAS OF GROUND SURFACE DISTURBANCE See Limits of Disturbance (LDA) on SWMP

C. AREAS OF CUT AND FILL See cut/fill limits on Roadway and SWMP

D. LOCATION OF ALL STRUCTURAL BMPs IDENTIFIED IN THE SWMP See SWMP

E. LOCATION OF NON-STRUCTURAL BMPs AS APPLICABLE IN THE SWMP See SWMP

F. SPRINGS, STREAMS, WETLANDS AND OTHER SURFACE WATER See SWMP

G. PROTECTION OF TREES, SHRUBS, CULTURAL RESOURCES AND MATURE VEGETATION See Roadway and SWMP

H. AREAS USED FOR STORING AND STOCKPILING OF MATERIALS, STAGING AREAS (field trailer, fueling, etc.) and BATCH PLANTS
Stabilized staging areas have been identified in the SEMP. The ECS shall review these locations and identify and additional locations prior to construction activities.

3. SWMP ADMINISTRATORS:

A. SWMP ADMINISTRATOR FOR DESIGN:
Name/Title: Steven KandeLind, PE, AECOM Contact information: Steven.KandeLind@aecom.com, phone: 303-376-2958

4. STORMWATER MANAGEMENT CONTROLS FIRST CONSTRUCTION ACTIVITIES

THE CONTRACTOR SHALL PERFORM THE FOLLOWING:

A. DESIGNATE A SWMP ADMINISTRATOR/EROSION CONTROL SUPERVISOR (To be filled out at time of construction; designate the individual(s) responsible for implementing, maintaining and revising the SWMP, including the title and contact information. The activities and responsibilities of the administrator shall address all aspects of the projects SWMP.)

Name/Title: Contact information:

B. POTENTIAL POLLUTANT SOURCES
Evaluate, identify and describe all potential sources of pollutants at the site in accordance with subsection 107.25 and place in the SWMP notebook. All BMPs related to potential pollutants shall be shown on the SWMP site map by the contractor's ECS.

NARRATIVES

BMP details and narratives not covered by the SWMP or Standard Plan M-208-1 shall be added to the SWMP notebook by the ECS.

C. OFFSITE DRAINAGE (RUN ON WATER)
1. Describe and record BMPs on the SWMP site map that has been implemented to address off site run-on water in accordance with subsection 208.03.

D. VEHICLE TRACKING PAD/VEHICLE TRACKING CONTROL
1. BMPs shall be implemented in accordance with subsection 208.04.

E. PERIMETER CONTROL
1. Perimeter control shall be established as the first item on the SWMP to prevent the potential for pollutants leaving the construction site boundaries, entering the stormwater drainage system, or discharging to state waters.
2. Perimeter control may consist of vegetation buffers, berms, silt fence, erosion logs, aggregate bags, existing landforms, or other BMPs as approved.
3. Perimeter control shall be in accordance with subsection 208.04.

F. BEST MANAGEMENT PRACTICES (BMPs) FOR STORMWATER POLLUTION PREVENTION
PHASED BMP IMPLEMENTATION

During Design: "BMP as Designed" boxes are marked when used in the SWMP. During construction: the ECS shall update the "In use on site" boxes to match which BMPs are currently in use on site. Clearly describe the relationship between the phases of construction and the implementation of BMP controls.

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ENGINEERING DIVISION
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DESIGNED:	CAD:	CHECKED:	DATE:
DIN	DIN		01/22/2016

JAMES CANYON SWMP NOTES

PROJECT NO: SEPT12C24 SEPT12C91 SHEET NO: 36

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STRUCTURAL BMPs that may be potentially used on the project for erosion and sediment control; practices may include, but are not limited to:

APPLICATION,BMP	NARRATIVE	BMP AS DESIGNED	IN USE ON SITE	BMP PHASING		
				FIRST/INITIAL CONSTRUCTION ACTIVITIES	INTERIM CONSTRUCTION ACTIVITIES	FINAL STABILIZATION
PROTECTION OF EXISTING WETLANDS Fence (plastic) and erosion logs	Fence (plastic) shall be placed in combination with erosion logs to prevent encroachment of construction traffic and sediment into state waters prior to start of construction disturbances. Fence (plastic) shall be placed adjacent to the wetlands; erosion logs shall be placed between the plastic fence and disturbance area. Logs shall be placed to direct flows away from or filter water running into wetlands from disturbance areas.			X	X	
PROTECTION OF EXISTING TREES/LANDSCAPING Fence (plastic)	Fence (plastic) shall be used in areas indicated in the plans to protect mature trees and/or existing landscaping prior to start of construction disturbances.	X		X	X	
CHECK DAM/DITCH CHECK Erosion log, silt berm, silt dike, rock check dam	Placed in ditches immediately upon completion of ditch grading to reduce velocity of runoff in ditch. For existing ditches, place prior to start of construction disturbances.	X		X	X	
TYPE R AND TYPE 16 INLET PROTECTION Storm drain inlet protection (type 1,2 and 3)	Placed prior to construction disturbances to protect existing inlets or immediately upon completion of new inlets to prevent sediment from entering the inlet throughout construction.				X	
CULVERT INLET/OUTLET PROTECTION Erosion logs, aggregate bags	Placed at mouth of culvert inlets and over top of culvert at inlet and outlet where disturbance may be occurring adjacent to pipe to prevent sediment laden water from entering pipe or drainage. Place prior to start of construction disturbances.	X		X	X	
TYPE C, TYPE D AND TYPE 13 PROTECTION Erosion logs, aggregate bags, erosion bales	Placed around inlet grate or slope and ditch paving to prevent sediment from entering inlet. Place prior to start of construction disturbances.	X			X	
STOCKPILE PROTECTION Temporary berm, erosion logs, aggregate bags*	Placed within specified distance from toe to contain sediment around stockpile. *Aggregate bags are easily moved and replaced for access during the work day. Place prior to start of stock pile, increase control as stock pile increases size.				X	
TOE OF FILL PROTECTION Erosion logs, temporary berm, silt fence, aggregate bags, topsoil windrow*	Place prior to slope/embankment work to capture sediment and protect and delineate undisturbed areas. *Can be used to stockpile topsoil for salvage.	X		X	X	
PERIMETER CONTROL Erosion logs, silt fence, temporary berm, topsoil windrow*	Placed prior to construction commencing to address potential run-on water from off site, and to divert around disturbed area			X	X	
SEDIMENT CONTROL/ SLOPE CONTROL Silt fence, erosion logs	Placed on the contour on a slope to contain and slow down construction runoff. Place prior to start of construction disturbances.			X	X	
TEMPORARY SEDIMENT TRAP (ECS shall add locations to SWMP site maps)	Used to capture sediment laden runoff from disturbed areas < 5 acres during construction. Place prior to start of construction disturbances.			X	X	
PERMANENT SEDIMENT BASIN Extended detention basin	Constructed early in project, prior to storm sewer/ditches to capture storm flow as a temporary sediment trap. Outlet structure shall be modified for construction runoff.			X	X	X
EMBANKMENT PROTECTION OR TEMPORARY SLOPE DRAIN (See TRM)	Placed as a conduit or chute to drain runoff down slope and to prevent erosion of slope.	X			X	X
OUTLET PROTECTION Riprap, or approved other	Material placed as energy dissipater to prevent erosion at outlet structure.	X			X	X
CONCRETE WASHOUT In-ground or fabricated	Construction control, used for waste management of concrete and concrete equipment cleaning. Place prior to start of concrete activities.	X		X	X	
VEHICLE TRACKING PAD	Source control, placed to prevent tracking of sediment from disturbed area to offsite surface. Place prior to start of construction disturbances.	X		X	X	
SWEEPING	Source control, used to remove sediment tracked onto paved surfaces and to prevent from entering drainage system. Sweep daily and at the end of the construction shift as needed. Kick brooms shall not be allowed.	X		X	X	
DEWATERING (Contractor is responsible for obtaining a permit from Colorado Department of Health and Environment.)	Shall be done in such a manner to prevent potential pollutants from entering state waters.			X	X	
TEMPORARY STREAM CROSSING	Constructed over stream or drainage to prevent discharge of pollutants from construction equipment into water			X	X	
CLEAN WATER DIVERSION	Placed to divert clean surface or ground water around disturbance area to prevent it from mixing with construction runoff			X	X	
OTHER						

JANUARY 2015

NON-STRUCTURAL BMPs that may be potentially used on the project for erosion and sediment control; practices may include, but are not limited to:

APPLICATION,BMP	NARRATIVE	BMP AS DESIGNED	IN USE ON SITE	BMP PHASING		
				FIRST/INITIAL CONSTRUCTION ACTIVITIES	INTERIM CONSTRUCTION ACTIVITIES	FINAL STABILIZATION
VEGETATIVE BUFFER STRIP Fence (plastic)	Filter sediment laden runoff from disturbance area. Area to be identified for preservation prior to construction starting.			X	X	X
LANDFORM (ECS shall add locations to SWMP site maps)	Existing landforms may be used as a BMP if they prevent sediment from entering or leaving the disturbance area. If a landform directs flow of water to a concentrated outfall point, the outfall point shall be protected to prevent erosion.			X	X	
TOPSOIL MANAGEMENT STOCKPILE/SALVAGE Windrow or stockpile	Prior to embankment work commencing, existing topsoil shall be scraped to a depth of 4 inches, and placed in stockpiles or windrows. Upon completion of slope work/final grading (less 4 inches), topsoil shall be evenly distributed over embankment to a depth of 4 inches.	X		X	X	
SURFACE ROUGHENING / GRADING TECHNIQUES Blading, Backhoe, Dozing, Combination Loader	Temporary stabilization of disturbance and to minimize wind and erosion.	X			X	
SEEDING TEMPORARY	Temporary stabilization used for over wintering of disturbance or used to control erosion for areas scheduled for future construction.				X	
BONDED FIBER MATRIX/HYDRAULIC MULCH (Not to be used in areas of concentrated flows, i.e. ditch lines.)	To be used in combination with surface roughening for temporary stabilization of disturbed soils, when work is temporarily halted and as approved by the Engineer. May be used as surface cover for temporary topsoil stockpiles				X	
MULCH/MULCH TACKIFIER	Temporary or Final Stabilization placed as a surface cover for erosion control and or seeding establishment. To be installed as temporary surface cover when work is temporarily halted and as approved by the Engineer	X			X	X
SPRAY-ON MULCH BLANKET (Not to be used in areas of concentrated flows, i.e. ditch lines.)	Temporary or Final Stabilization placed as a surface cover for erosion control and or seeding establishment. To be installed as temporary surface cover when work is temporarily halted and as approved by the Engineer				X	X
SEEDING PERMANENT	Final Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas.	X				X
SOIL RETENTION BLANKET (SRB)	Final Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas.	X			X	X
TURF REINFORCEMENT MAT (TRM)	Final Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas. Placed in channels or on slopes for erosion control, channel liner and seeding establishment.	X			X	X
OTHER						

Erosion control devices are used to limit the amount of soil loss on site
Sediment control devices are designed to capture sediment on the project site.
Construction controls are BMPs related to construction access and staging.
BMP locations are indicated on the SWMP site map.

5. DURING CONSTRUCTION

RESPONSIBILITIES OF THE SWMP ADMINISTRATOR/TRANSPORTATION EROSION CONTROL SUPERVISOR DURING CONSTRUCTION

The SWMP should be considered a "living document" that is continuously reviewed and modified.
During construction, the following items shall be added, updated, or amended as needed by the SWMP Administrator/Erosion Control Supervisor (ECS) in accordance with Section 208.
During construction, indicate how items that have not been addressed during design are being handled in construction. If items are covered in the template or other sections of the SWMP notebook indicate below what section the discussion takes place.

A. STOCKPILE MANAGEMENT - shall be done in accordance with subsection 107.25 and 208.07

B. CONCRETE WASHOUT - Concrete wash out water or waste from field laboratories and paving equipment shall be contained in accordance with subsection 208.05.

C. SAW CUTTING - shall be done in accordance with subsection 107.25, 208.04, 208.05

D. STREET CLEANING - shall be done in accordance with subsection 208.04

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JAMES CANYON SWMP NOTES

PROJECT NO: SEPT12C24 SEPT12C91 | SHEET NO: 37

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6. INSPECTIONS

A. Inspections shall be in accordance with subsection 208.03 (c).

7. BMP MAINTENANCE

A. Maintenance shall be in accordance with subsection 208.04 (f).

8. RECORD KEEPING

A. Records shall be kept in accordance with subsection 208.03 (c).

9. INTERIM AND FINAL STABILIZATON

A. SEEDING PLAN

Soil preparation, soil conditioning or topsoil, seeding (native), mulching (weed free) and mulch tackifier will be required for an estimated 3.0 acres of disturbed area within the right-of-way limits which are not surfaced. The following types and rates shall be used:

COMMON NAME	BOTANICAL NAME	LBS. PLS PER ACRE
Side Oats Grama	Bouteloua curtipendula	1.82
Blue Grama	Bouteloua gracilis	0.63
Slender Wheatgrass	Elymus trachycaulus	4.38
Junegrass	Koeleria macrantha	0.15
Western Wheatgrass	Pascopyrum smithii (Arriba)	3.17
Western Wheatgrass	Pascopyrum smithii (Native)	3.17
Switchgrass	Panicum virgatum	0.63
Little Bluestem	Schizachyrium scoparium	1.07
Green Needlegrass	Stipa viridula	1.93
TOTAL		16.95

B. SEEDING APPLICATION: Drill seed 0.25 inch to 0.5 inch into the soil. In small areas not accessible to a drill, hand broadcast at double the rate and rake 0.25 inch to 0.5 inch into the soil.

C. MULCHING APPLICATION: Apply a minimum of 2 tons of certified weed free straw per acre and in accordance with Section 213, and mechanically crimp it into the soil in combination with an organic mulch tackifier.

a. Prior to winter shutdown or the summer seeding window: Uncompleted slopes shall be mulched with 2 tons of mulching (weed free) per acre, mechanically crimped into the topsoil in combination with an organic mulch tackifier per section 213.

D. SPECIAL REQUIREMENTS:

E. SOIL CONDITIONING AND FERTILIZER REQUIREMENTS: [Minimum requirements for all disturbances to receive seeding (native). Compost is optional within areas above 8000 ft in elevation]

Soil conditioner paid for as Item 212- Soil Conditioning (Acre)		
Biological nutrient organic based fertilizer (lbs/acre)*	Humate (lbs/acre)	Compost (cy/acre) (1/2 inch depth)
600	200	65

*Biological nutrient shall not exceed 8-8-8 (N-P-K). Humate based material and compost shall be in accordance to Section 212.

F. SOIL RETENTION COVERING: On slopes and ditches requiring a blanket or turf reinforcement mat (trm), the blanket/trm shall be placed in lieu of mulch and mulch tackifier. See SWMP for blanket locations. Per project special provisions, soil retention blanket will be biodegradable straw/coconut blend with biodegradable netting.

G. RESEEDING OPERATIONS/CORRECTIVE STABILIZATION

Prior to final acceptance.

1. Seeded areas shall be reviewed during the 14 day inspections by the Erosion Control Supervisor for bare soils caused by surface or wind erosion. Bare areas caused by surface or gully erosion, blown away mulch, etc. shall be re-graded, seeded, and have the designated mulching applied as necessary, at no additional cost to the project.

10. PRIOR TO FINAL ACCEPTANCE

A. Final Acceptance shall be in accordance with subsection 208.10 At the Partial Acceptance of the project, it shall be determined by the ECS and the Engineer which temporary BMP's shall remain until 70% reestablishment and which BMP's shall be removed.

B. At the end of the project, all ditch checks shall either consist of temporary aggregate bags or permanent rip-rap.

C. All storm drains shall be cleaned prior to the end of the project. Work shall be included in 202 Clean Culvert.

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11. TABULATION OF STORMWATER QUANTITIES

Pay Item	Description	Pay Unit	*Quantity
202-	Clean Culvert		
203-01500	Blading	Hour	50
203-02330	Laborer	Hour	100
208-00002	Erosion Log (12 Inch)	LF	15663
208-00035	Aggregate Bag	LF	4187
208-00041	Rock Check Dam	Each	14
208-00045	Concrete Washout Structure	Each	2
208-00070	Vehicle Tracking Pad	Each	2
208-00103	Removal and Disposal of Sediment (Labor)	Hour	50
208-00105	Removal and Disposal of Sediment (Equipment)	Hour	20
208-00106	Sweeping (Sediment Removal)	Hour	32
208-00206	Erosion Control Supervisor	Day	50
212-00006	Seeding (Native)	Acre	3.0
212-00009	Seeding (Temporary)	Acre	
212-00032	Soil Conditioning	Acre	3.0
213-00004	Mulching (Weed Free Straw)	Acre	3.0
213-00012	Spray-on Mulch Blanket	Acre	
213-00061	Mulch Tackifier	LB	300
214-00000	Landscape Maintenance	LS	1
216-00222	Soil Retention Blanket (Coconut) (Biodegradable Class 2)	SY	
607-11525	Fence (Plastic)	LF	6726
700-70380	Erosion Control	FA	1
607-11525	Fence (Plastic)	LF	6726
700-70380	Erosion Control	FA	1

*It is anticipated that additional BMPs and BMP quantities not shown on the SWMP Site Maps shall be required on the project for unforeseen conditions and replacement of items that are beyond their useful service life, see subsection 208.03 and 208.04 (e). Quantities for all BMPs shown above are estimated, and have not been increased for unforeseen Project conditions. Quantities shall be adjusted according to the conditions encountered in the field as directed and approved by the Engineer. Payment shall be for the actual work completed and material used.

A. BMP sediment removal and disposal shall be paid for as: 208 Removal and Disposal of Sediment (Equipment) and 208 Removal and Disposal of Sediment (Labor). All other BMP maintenance shall be included in the cost of the BMP Device.

B. It is estimated that 150 hours of labor and blading (100-125 horsepower) may be required for miscellaneous erosion control work as directed by the Engineer. Work shall be paid for as: 203 Labor

Maintenance of seeded areas shall be paid for as: Included in the price of the work.

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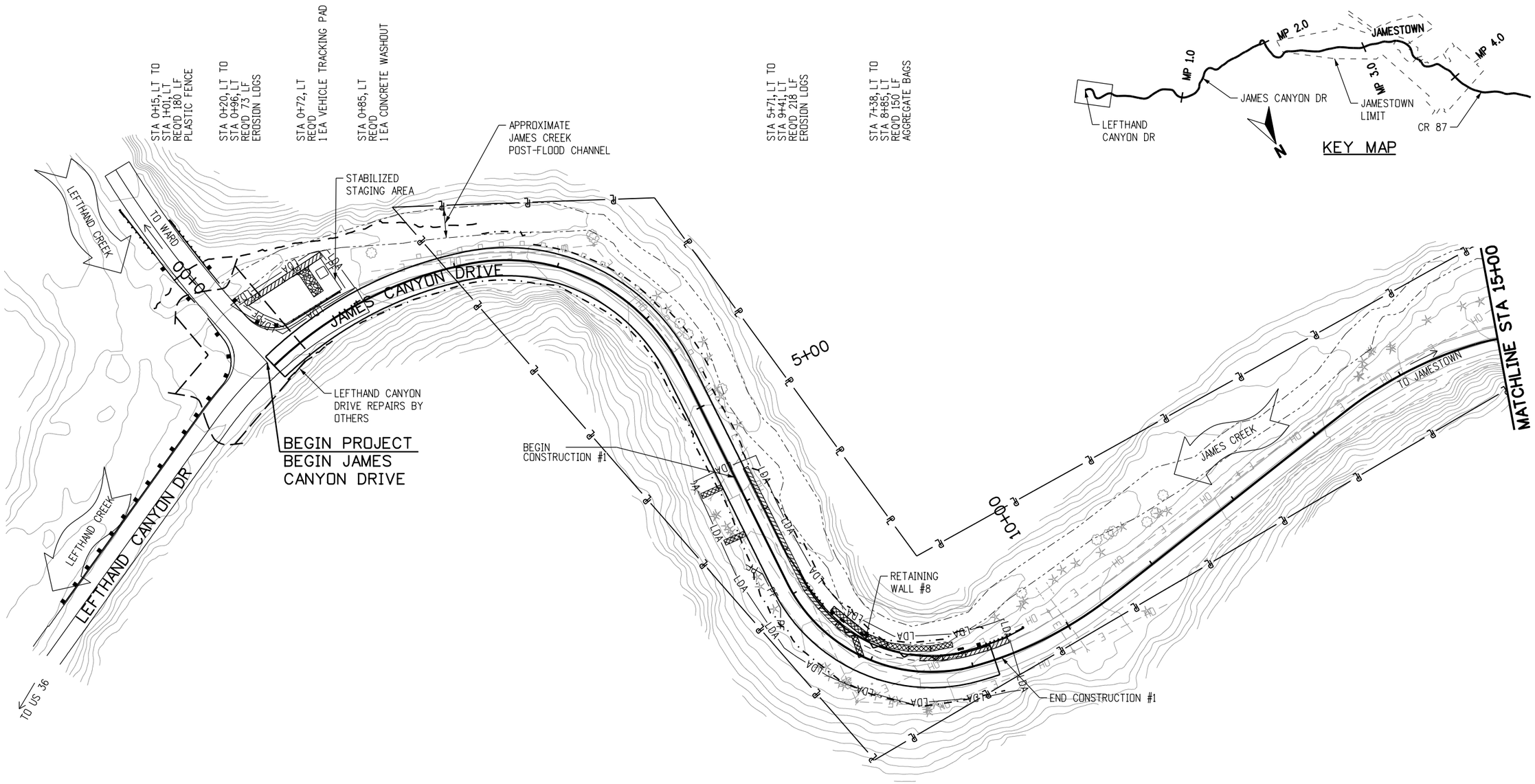

STA 5+77, RT TO
STA 6+27, RT
REQ'D 43 LF
AGGREGATE BAGS AT
50' SPACING

STA 6+55, RT TO
STA 7+17, RT
REQ'D 78 LF
PLASTIC FENCE

NOTES:
1. VEHICLE TRACKING PAD LOCATION FOR INFORMATION ONLY. ACTUAL LOCATION SHALL BE DETERMINED BY CONTRACTOR.
2. CONCRETE WASHOUT LOCATION FOR INFORMATION ONLY. ACTUAL LOCATION SHALL BE DETERMINED BY CONTRACTOR.

EROSION CONTROL LEGEND

☐	CONCRETE WASHOUT STRUCTURE		CULVERT INLET/OUTLET PROTECTION
	VEHICLE TRACKING PAD		FLOW DIRECTION
—LDA—	LIMIT OF DISTURBED AREA	—PF—	PLASTIC FENCE (CONSTRUCTION FENCE)
	ROCK CHECK		EROSION LOG
	AGGREGATE BAG		

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0' 50' 100' 200'

60%

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JAMES CANYON
SWMP INTERIM PLAN
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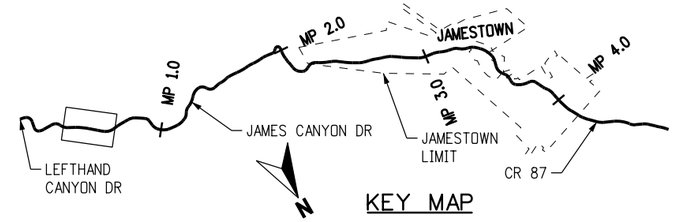


STA 19+73, LT TO STA 27+48, LT REQ'D 838 LF EROSION LOGS

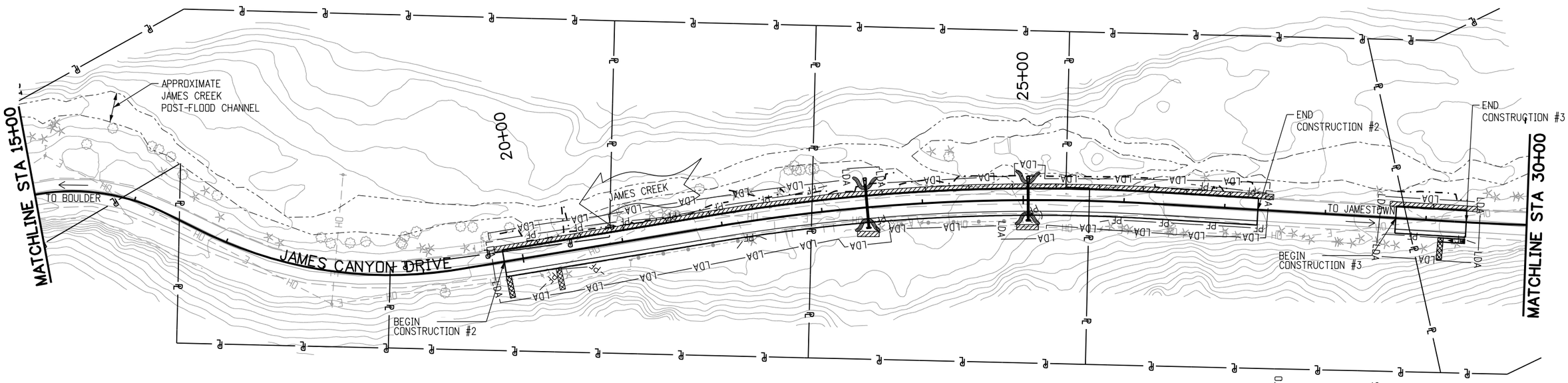
STA 19+77, LT TO STA 23+08, LT REQ'D 408 LF PLASTIC FENCE

STA 23+33, LT REQ'D 30 LF EROSION LOGS CULVERT OUTLET PROTECTION

STA 24+93, LT REQ'D 30 LF EROSION LOGS CULVERT OUTLET PROTECTION

STA 26+65, LT TO STA 27+41, LT REQ'D 76 LF PLASTIC FENCE

STA 28+64, LT TO STA 29+50, LT REQ'D 87 LF EROSION LOGS



STA 19+83, RT TO STA 20+33, RT REQ'D 43 LF AGGREGATE BAGS AT 50' SPACING

STA 20+11, RT TO STA 20+77, RT REQ'D 75 LF PLASTIC FENCE

STA 22+11, RT TO STA 22+42, RT REQ'D 35 LF PLASTIC FENCE

STA 23+31, RT REQ'D 50 LF EROSION LOGS CULVERT INLET PROTECTION

STA 23+52, RT TO STA 23+66, RT REQ'D 33 LF PLASTIC FENCE

STA 24+92, RT REQ'D 50 LF EROSION LOGS CULVERT INLET PROTECTION

STA 25+05, RT TO STA 25+19, RT REQ'D 33 LF PLASTIC FENCE

STA 25+77, RT TO STA 27+41, RT REQ'D 164 LF PLASTIC FENCE

STA 28+57, RT TO STA 29+50, RT REQ'D 94 LF PLASTIC FENCE

STA 29+13, RT REQ'D 21 LF AGGREGATE BAGS

EROSION CONTROL LEGEND

	CONCRETE WASHOUT STRUCTURE		CULVERT INLET/OUTLET PROTECTION
	VEHICLE TRACKING PAD		FLOW DIRECTION
—LDA—	LIMIT OF DISTURBED AREA	—PF—	PLASTIC FENCE (CONSTRUCTION FENCE)
	ROCK CHECK		EROSION LOG
	AGGREGATE BAG		

60% REVIEW SET

0' 50' 100' 200'

N

60%

CALL UTILITY NOTIFICATION CENTER OF COLORADO

811

CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

Boulder County

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

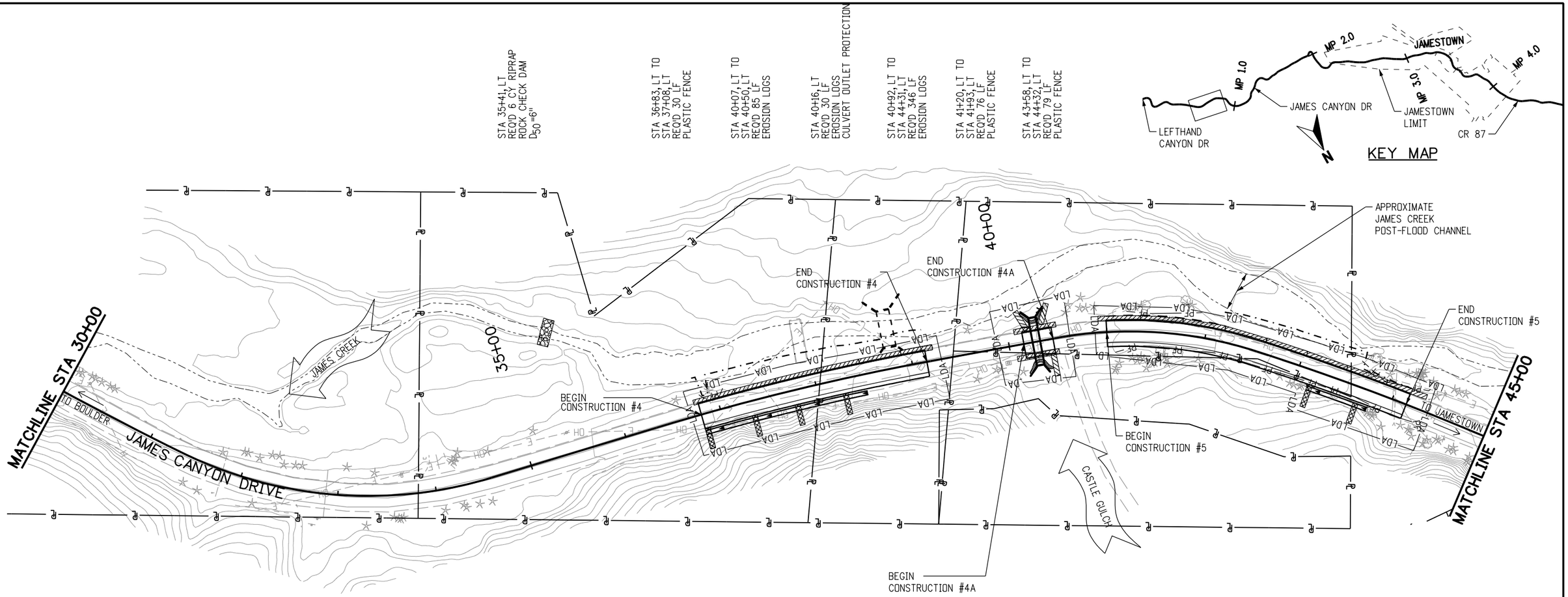
AECOM

DESIGNED:	CAD:	CHECKED:	DATE:
DIN	DIN		01/22/2016

JAMES CANYON
SWMP INTERIM PLAN
STA 15+00 TO 30+00

PROJECT NO: SEPT12C24 SEPT12C91 | SHEET NO: 40

kandelinds 1/22/2016 11:14:57 AM L:\0048\900-CAD\02-SHEETS\H\BOCD-James-Final\BOCD-James-Final_SWMP-Interim02.dgn



STA 36+80, RT TO
STA 38+50, RT
REQ'D 88 LF
AGGREGATE BAGS AT
50' SPACING

STA 20+11, RT TO
STA 20+77, RT
REQ'D 75 LF
PLASTIC FENCE

STA 40+16, RT
REQ'D 30 LF
EROSION LOGS
CULVERT INLET PROTECTION

STA 40+06, RT TO
STA 40+49, RT
REQ'D 65 LF
EROSION LOGS

STA 41+08, RT TO
STA 44+36, RT
REQ'D 322 LF
PLASTIC FENCE

STA 43+14, RT TO
STA 43+79, RT
REQ'D 42 LF
AGGREGATE BAGS AT
50' SPACING

EROSION CONTROL LEGEND

	CONCRETE WASHOUT STRUCTURE		CULVERT INLET/OUTLET PROTECTION
	VEHICLE TRACKING PAD		FLOW DIRECTION
—LDA—	LIMIT OF DISTURBED AREA	—PF—	PLASTIC FENCE (CONSTRUCTION FENCE)
	ROCK CHECK		EROSION LOG
	AGGREGATE BAG		

60% REVIEW SET

0' 50' 100' 200'

N

60%

CALL UTILITY NOTIFICATION CENTER OF COLORADO

811

CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

Boulder County

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

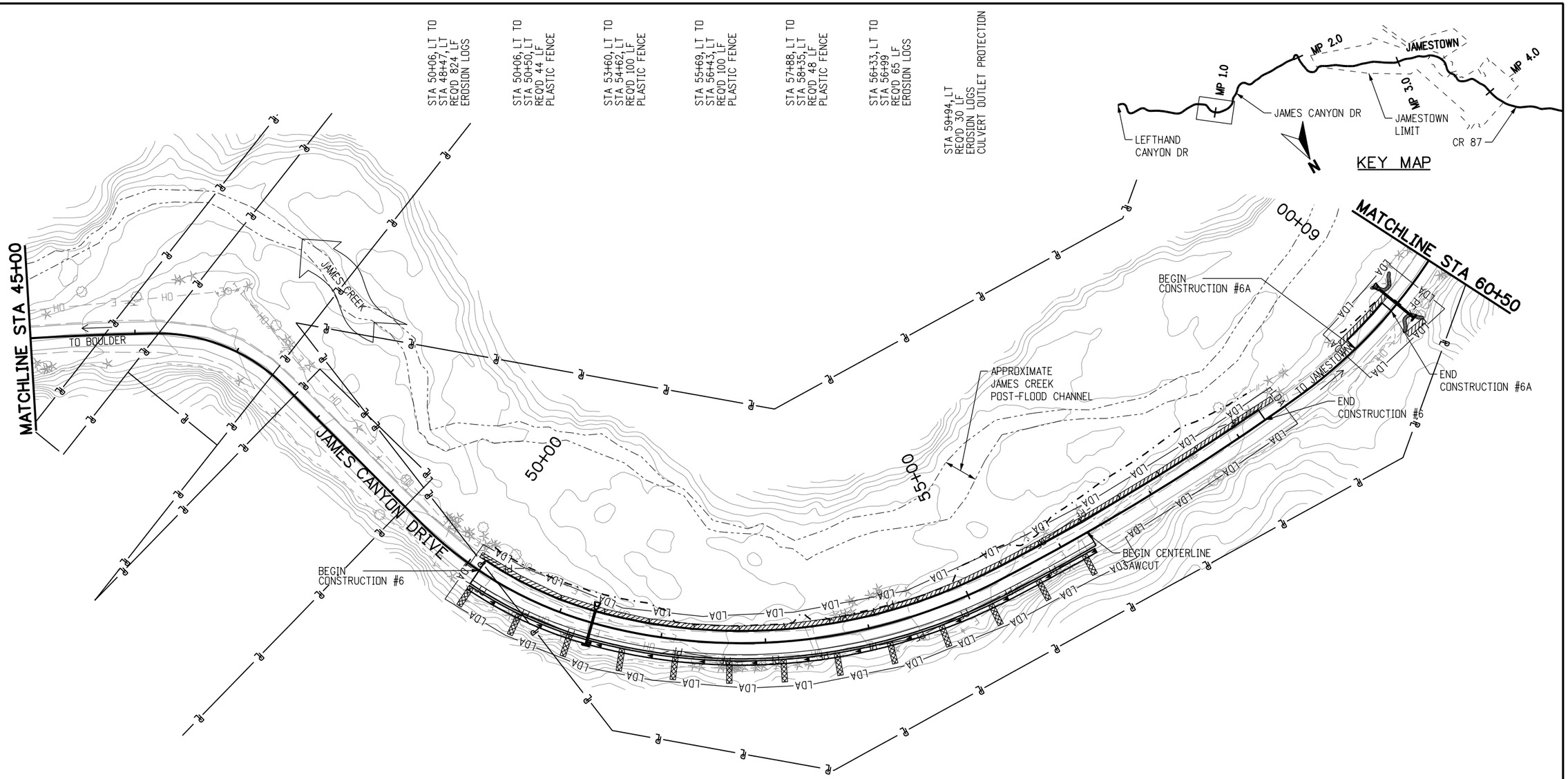
AECOM

DESIGNED:	CAD:	CHECKED:	DATE:
OIN	OIN		01/22/2016

JAMES CANYON
SWMP INTERIM PLAN
STA 30+00 TO 45+00

PROJECT NO: SEPT12C24 SEPT12C91 | SHEET NO: 41

kandelinds 1/22/2016 11:14:58 AM L:\0048\900-CAD\02-SHEETS\H\BOCO-James-Final\BOCO-James-Final_SWMP-Interim03.dgn



STA 50+13, RT TO
STA 56+28, RT
REQ'D 281 LF
AGGREGATE BAGS AT
50' SPACING

STA 50+08, RT TO
STA 51+21, RT
REQ'D 117 LF
PLASTIC FENCE

STA 52+01, RT TO
STA 56+12, RT
REQ'D 422 LF
PLASTIC FENCE

STA 59+83, RT
REQ'D 50 LF
EROSION LOGS
CULVERT INLET PROTECTION

STA 59+98, RT TO
STA 60+22, RT
REQ'D 29 LF
PLASTIC FENCE

EROSION CONTROL LEGEND

	CONCRETE WASHOUT STRUCTURE		CULVERT INLET/OUTLET PROTECTION
	VEHICLE TRACKING PAD		FLOW DIRECTION
—LDA—	LIMIT OF DISTURBED AREA	—PF—	PLASTIC FENCE (CONSTRUCTION FENCE)
	ROCK CHECK		EROSION LOG
	AGGREGATE BAG		

60% REVIEW SET

0' 50' 100' 200'

N

60%

CALL UTILITY NOTIFICATION CENTER OF COLORADO

811

CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

Boulder County

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

AECOM

DESIGNED:	CAD:	CHECKED:	DATE:
DIN	DIN		01/22/2016

JAMES CANYON
SWMP INTERIM PLAN
STA 45+00 TO 60+50

PROJECT NO: SEPT12C24 SEPT12C91 | SHEET NO: 42

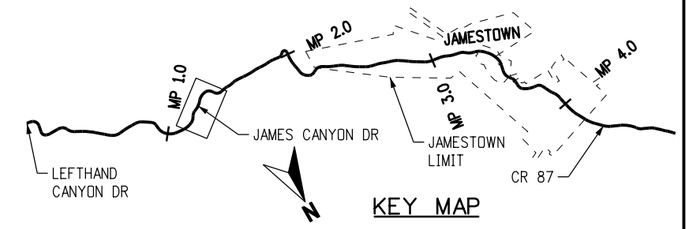
kandelinds 1/22/2016 11:15:00 AM L:\0048\900-CAD\02-SHEETS\H\BOCO-James-Final\BOCO-James-Final_SWMP-Interim04.dgn

STA 63+84, LT
REQ'D 6 CY, RIPRAP
ROCK CHECK DAM
D_{50} =6"

STA 64+99, LT TO
STA 69+02, LT
REQ'D 402' LF
EROSION LOGS

STA 68+89, LT TO
STA 69+09, LT
REQ'D 23 LF
PLASTIC FENCE

STA 69+84, LT TO
STA 77+51, LT
REQ'D 777' LF
EROSION LOGS



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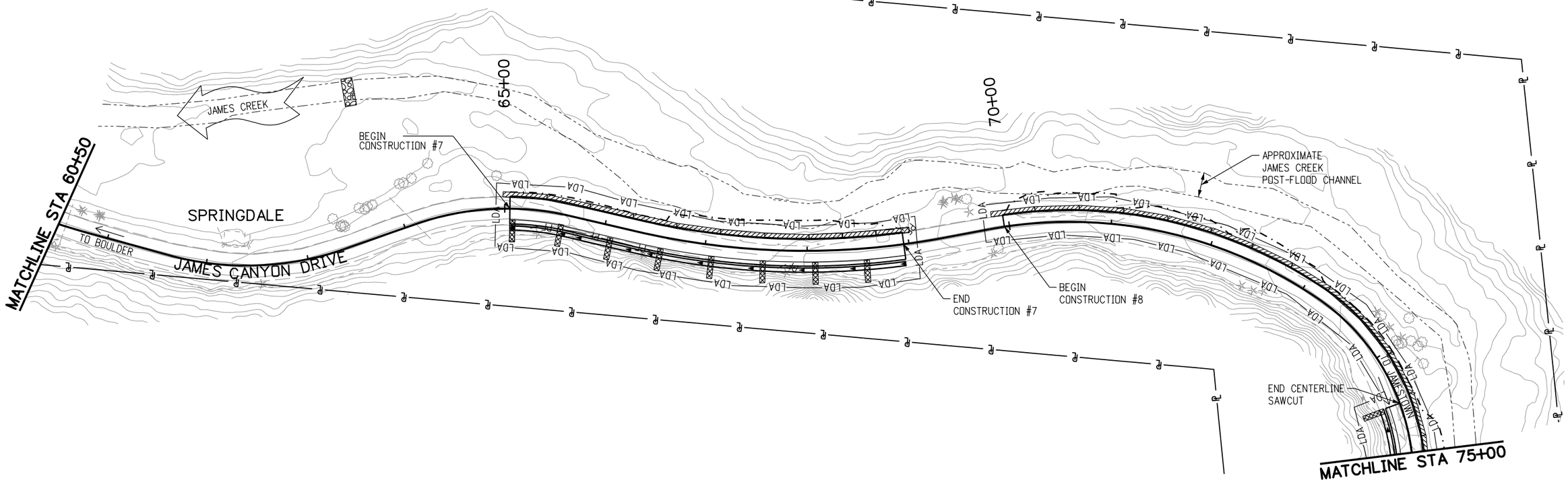

STA 65+05, RT TO
STA 68+95, RT
REQ'D 173' LF
AGGREGATE BAGS AT
50' SPACING

STA 65+27, RT TO
STA 66+54, RT
REQ'D 127' LF
PLASTIC FENCE

STA 67+72, RT TO
STA 67+92, RT
REQ'D 24' LF
PLASTIC FENCE

STA 74+49, RT TO
STA 75+30, RT
REQ'D 42' LF
AGGREGATE BAGS AT
50' SPACING

EROSION CONTROL LEGEND

	CONCRETE WASHOUT STRUCTURE		CULVERT INLET/OUTLET PROTECTION
	VEHICLE TRACKING PAD		FLOW DIRECTION
—LDA—	LIMIT OF DISTURBED AREA	—PF—	PLASTIC FENCE (CONSTRUCTION FENCE)
	ROCK CHECK		EROSION LOG
	AGGREGATE BAG		

60% REVIEW SET

0' 50' 100' 200'

N

60%

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

Boulder County

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

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DESIGNED:	CAD:	CHECKED:	DATE:
DIN	DIN		01/22/2016

JAMES CANYON
SWMP INTERIM PLAN
STA 60+50 TO 75+00

PROJECT NO: SEPT12C24 SEPT12C91 | SHEET NO: 43

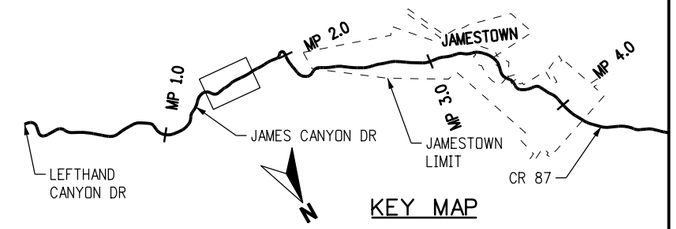
kandelinds 1/22/2016 11:15:02 AM L:\0048\900-CAD\02-SHEETS\H\BOCD-James-Final\BOCD-James-Final_SWMP-Interim05.dgn

STA 76+53, LT TO
STA 86+64, LT
REQ'D 1081 LF
AGGREGATE BAGS

STA 80+18, LT TO
STA 80+51, LT
REQ'D 35 LF
PLASTIC FENCE

STA 86+18, LT TO
STA 86+51, LT
REQ'D 34 LF
PLASTIC FENCE

STA 85+75, LT TO
STA 89+42, LT
REQ'D 367 LF
EROSION LOGS



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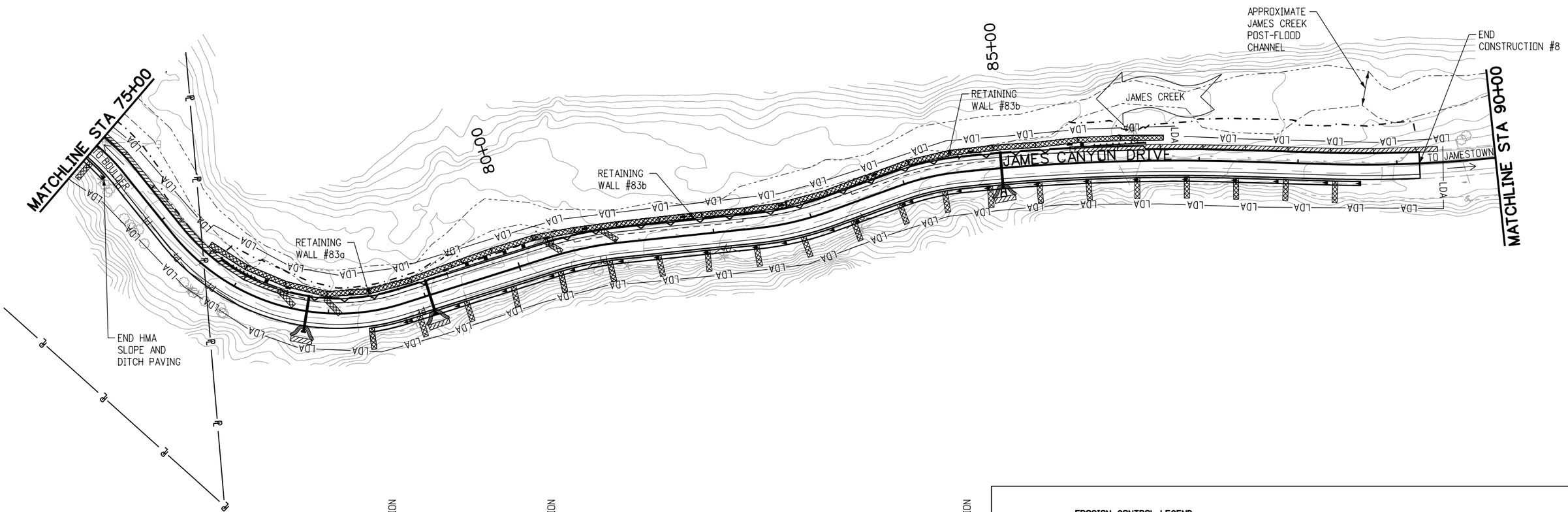

STA 77+66, RT
REQ'D 50 LF
EROSION LOGS
CULVERT INLET PROTECTION

STA 78+39, RT TO
STA 88+64, RT
REQ'D 452 LF
AGGREGATE BAGS AT
50' SPACING

STA 78+93, RT
REQ'D 50 LF
EROSION LOGS
CULVERT INLET PROTECTION

STA 78+75, RT TO
STA 78+98, RT
REQ'D 24 LF
PLASTIC FENCE

STA 80+68, RT TO
STA 81+25, RT
REQ'D 56 LF
PLASTIC FENCE

STA 81+97, RT TO
STA 82+25, RT
REQ'D 31 LF
PLASTIC FENCE

STA 83+29, RT TO
STA 83+57, RT
REQ'D 30 LF
PLASTIC FENCE

STA 84+88, RT
REQ'D 50 LF
EROSION LOGS
CULVERT INLET PROTECTION

EROSION CONTROL LEGEND

	CONCRETE WASHOUT STRUCTURE		CULVERT INLET/OUTLET PROTECTION
	VEHICLE TRACKING PAD		FLOW DIRECTION
—LDA—	LIMIT OF DISTURBED AREA	—PF—	PLASTIC FENCE (CONSTRUCTION FENCE)
	ROCK CHECK		EROSION LOG
	AGGREGATE BAG		

60% REVIEW SET

0' 50' 100' 200'

N

60%

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

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Boulder County

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

AECOM

DESIGNED:	CAD:	CHECKED:	DATE:
DIN	DIN		01/22/2016

JAMES CANYON
SWMP INTERIM PLAN
STA 75+00 TO 90+00

PROJECT NO: SEPT12C24 SEPT12C91 | SHEET NO: 44

kandelinds 1/22/2016 11:15:03 AM L:\0048\900-CAD\02-SHEETS\H\BOCD-James-Final\BOCD-James-Final_SWMP-Interim06.dgn

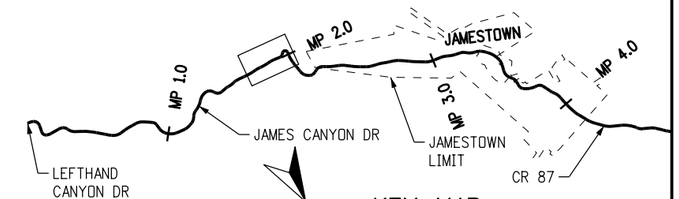
STA 97+09, LT
REQ'D 6 CY RIPRAP
ROCK CHECK DAM
D_{50}=6"

STA 99+41, LT TO
STA 103+45, LT
REQ'D 445 LF
AGGREGATE BAGS

STA 99+59, LT TO
STA 100+45, LT
REQ'D 86 LF
EROSION LOGS

STA 102+49, LT TO
STA 105+02, LT
REQ'D 265 LF
EROSION LOGS

STA 104+59, LT TO
STA 105+10, LT
REQ'D 61 LF
PLASTIC FENCE



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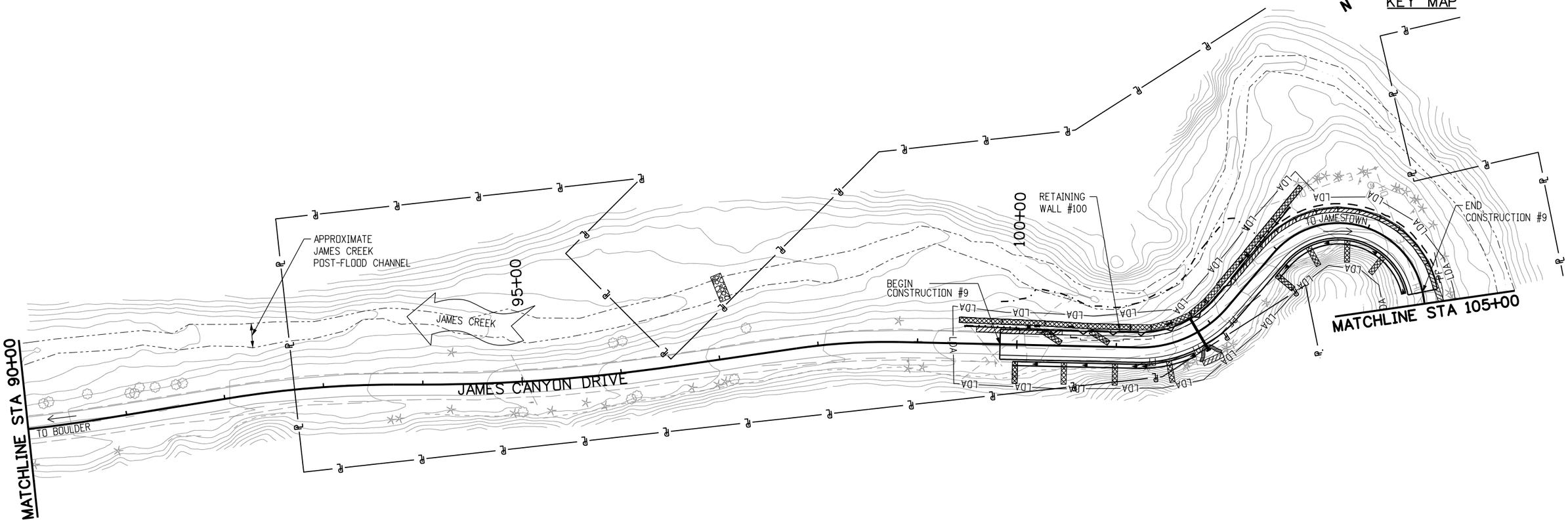

STA 99+96, RT TO
STA 101+73, RT
REQ'D 86 LF
AGGREGATE BAGS AT
50' SPACING

STA 101+75, RT
REQ'D 50 LF
EROSION LOGS
CULVERT INLET PROTECTION

STA 102+78, RT TO
STA 104+86, RT
REQ'D 86 LF
AGGREGATE BAGS AT
50' SPACING

STA 101+20, RT TO
STA 102+58, RT
REQ'D 153 LF
PLASTIC FENCE

STA 104+59, RT TO
STA 105+09, RT
REQ'D 61 LF
PLASTIC FENCE

EROSION CONTROL LEGEND

	CONCRETE WASHOUT STRUCTURE		CULVERT INLET/OUTLET PROTECTION
	VEHICLE TRACKING PAD		FLOW DIRECTION
—LDA—	LIMIT OF DISTURBED AREA	—PF—	PLASTIC FENCE (CONSTRUCTION FENCE)
	ROCK CHECK		EROSION LOG
	AGGREGATE BAG		

60% REVIEW SET

0' 50' 100' 200'

N

60%

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

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Boulder County

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

AECOM

DESIGNED:	CAD:	CHECKED:	DATE:
DIN	DIN		01/22/2016

JAMES CANYON
SWMP INTERIM PLAN
STA 90+00 TO 105+00

PROJECT NO: SEPT12C24 SEPT12C91 | SHEET NO: 45

kandelinds 1/22/2016 11:15:05 AM L:\0048\900-CAD\02-SHEETS\H\BDCO-James-Final\BDCO-James-Final_SWMP-Interim07.dgn

STA 106+40, LT
REQ'D 30 LF
EROSION LOGS
CULVERT OUTLET PROTECTION

STA 106+53, LT TO
STA 111+28, LT
REQ'D 469 LF
EROSION LOGS

STA 106+73, LT TO
STA 106+94, LT
REQ'D 26 LF
PLASTIC FENCE

STA 110+72, LT TO
STA 111+27, LT
REQ'D 62 LF
PLASTIC FENCE

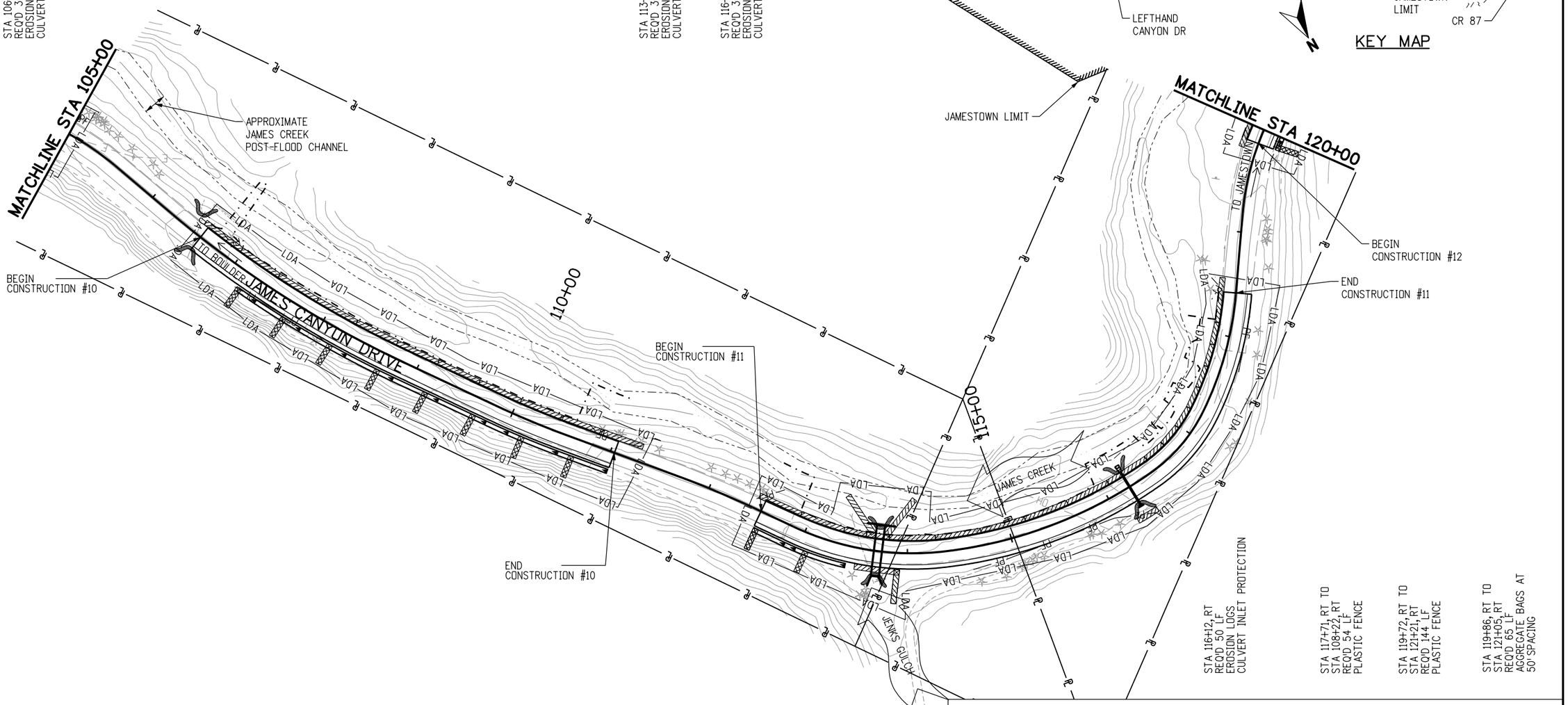
STA 112+45, LT TO
STA 112+66, LT
REQ'D 28 LF
PLASTIC FENCE

STA 112+47, LT TO
STA 118+56, LT
REQ'D 668 LF
EROSION LOGS

STA 113+57, LT
REQ'D 30 LF
EROSION LOGS
CULVERT OUTLET PROTECTION

STA 116+09, LT
REQ'D 30 LF
EROSION LOGS
CULVERT OUTLET PROTECTION

STA 118+33, LT TO
STA 118+55, LT
REQ'D 26 LF
PLASTIC FENCE



STA 106+50, RT
REQ'D 30 LF
EROSION LOGS
CULVERT INLET PROTECTION

STA 107+14, RT TO
STA 111+04, RT
REQ'D 173 LF
AGGREGATE BAGS AT
50' SPACING

STA 107+13, RT TO
STA 108+14, RT
REQ'D 103 LF
PLASTIC FENCE

STA 112+54, RT TO
STA 113+45, RT
REQ'D 43 LF
AGGREGATE BAGS AT
50' SPACING

STA 113+53, RT TO
STA 113+93, RT
REQ'D 70 LF
EROSION LOGS

STA 113+61, RT
REQ'D 30 LF
EROSION LOGS
CULVERT INLET PROTECTION

STA 114+59, RT TO
STA 116+31, RT
REQ'D 183 LF
PLASTIC FENCE

STA 116+12, RT
REQ'D 50 LF
EROSION LOGS
CULVERT INLET PROTECTION

STA 117+71, RT TO
STA 108+22, RT
REQ'D 54 LF
PLASTIC FENCE

STA 119+72, RT TO
STA 121+21, RT
REQ'D 144 LF
PLASTIC FENCE

STA 119+86, RT TO
STA 121+05, RT
REQ'D 63 LF
AGGREGATE BAGS AT
50' SPACING

EROSION CONTROL LEGEND

	CONCRETE WASHOUT STRUCTURE		CULVERT INLET/OUTLET PROTECTION
	VEHICLE TRACKING PAD		FLOW DIRECTION
—LDA—	LIMIT OF DISTURBED AREA	—PF—	PLASTIC FENCE (CONSTRUCTION FENCE)
	ROCK CHECK		EROSION LOG
	AGGREGATE BAG		

60% REVIEW SET

0' 50' 100' 200'

60%

CALL UTILITY NOTIFICATION CENTER OF COLORADO

811

CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

Boulder County

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

AECOM

DESIGNED:	CAD:	CHECKED:	DATE:
DIN	DIN		01/22/2016

JAMES CANYON
SWMP INTERIM PLAN
STA 105+00 TO 120+00

PROJECT NO: SEPT12C24 SEPT12C91 | SHEET NO: 46

kandelinds 1/22/2016 11:15:07 AM L:\0048\900-CAD\02-SHEETS\H\BDCO-James-Final\BDCO-James-Final_SWMP-Interim08.dgn

STA 119+78, LT TO
STA 122+48, LT
REQ'D 281 LF
EROSION LOGS

STA 121+15, LT
REQ'D 30 LF
EROSION LOGS
CULVERT OUTLET PROTECTION

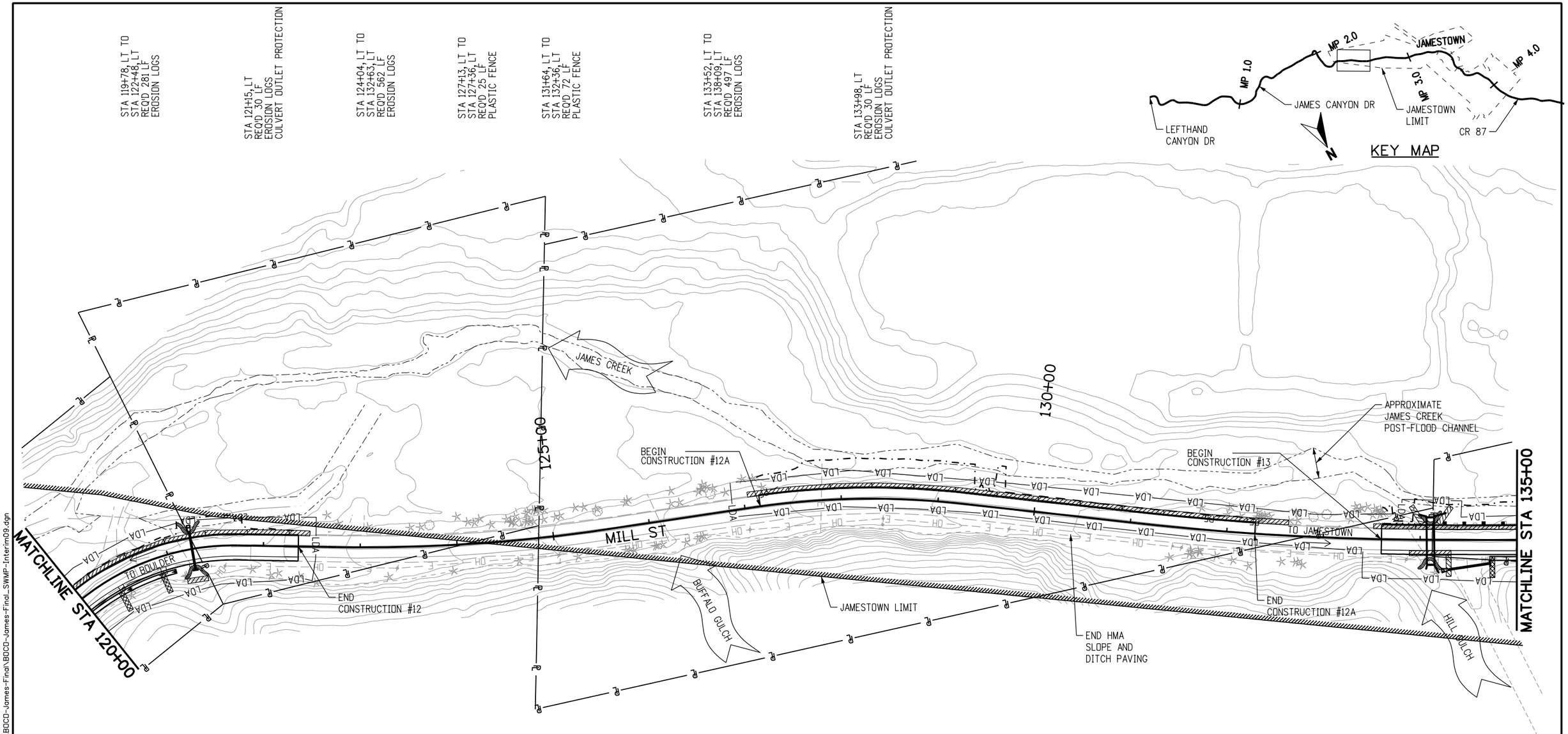
STA 124+04, LT TO
STA 132+63, LT
REQ'D 562 LF
EROSION LOGS

STA 127+13, LT TO
STA 127+36, LT
REQ'D 25 LF
PLASTIC FENCE

STA 131+64, LT TO
STA 132+36, LT
REQ'D 72 LF
PLASTIC FENCE

STA 133+52, LT TO
STA 138+09, LT
REQ'D 497 LF
EROSION LOGS

STA 133+98, LT
REQ'D 30 LF
EROSION LOGS
CULVERT OUTLET PROTECTION



STA 121+13, RT
REQ'D 50 LF
EROSION LOGS
CULVERT INLET PROTECTION

STA 133+89, RT TO
STA 134+32, RT
REQ'D 65 LF
EROSION LOGS

STA 133+98, RT
REQ'D 30 LF
EROSION LOGS
CULVERT INLET PROTECTION

STA 134+72, RT TO
STA 136+66, RT
REQ'D 86 LF
AGGREGATE BAGS AT
50' SPACING

EROSION CONTROL LEGEND

	CONCRETE WASHOUT STRUCTURE		CULVERT INLET/OUTLET PROTECTION
	VEHICLE TRACKING PAD		FLOW DIRECTION
—LDA—	LIMIT OF DISTURBED AREA	—PF—	PLASTIC FENCE (CONSTRUCTION FENCE)
	ROCK CHECK		EROSION LOG
	AGGREGATE BAG		

60% REVIEW SET

0' 50' 100' 200'

N

60%

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

Boulder County

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

AECOM

DESIGNED:	CAD:	CHECKED:	DATE:
DIN	DIN		01/22/2016

JAMES CANYON
SWMP INTERIM PLAN
STA 120+00 TO 135+00

PROJECT NO: SEPT12C24 SEPT12C91 | SHEET NO: 47

kandelinds 1/22/2016 11:15:09 AM L:\0048\900-CAD\02-SHEETS\H\BOCO-James-Final\BOCO-James-Final_SWMP-Interim09.dgn

STA 137+79, LT TO
STA 138+09, LT
REQ'D 29 LF
PLASTIC FENCE

STA 140+00, LT TO
STA 142+72, LT
REQ'D 173 LF
EROSION LOGS

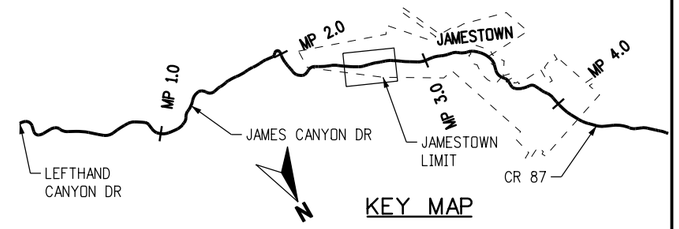
STA 140+56, LT
REQ'D 30 LF
EROSION LOGS
CULVERT OUTLET PROTECTION

STA 146+05, LT TO
STA 169+05, LT
REQ'D 2302 LF
EROSION LOGS

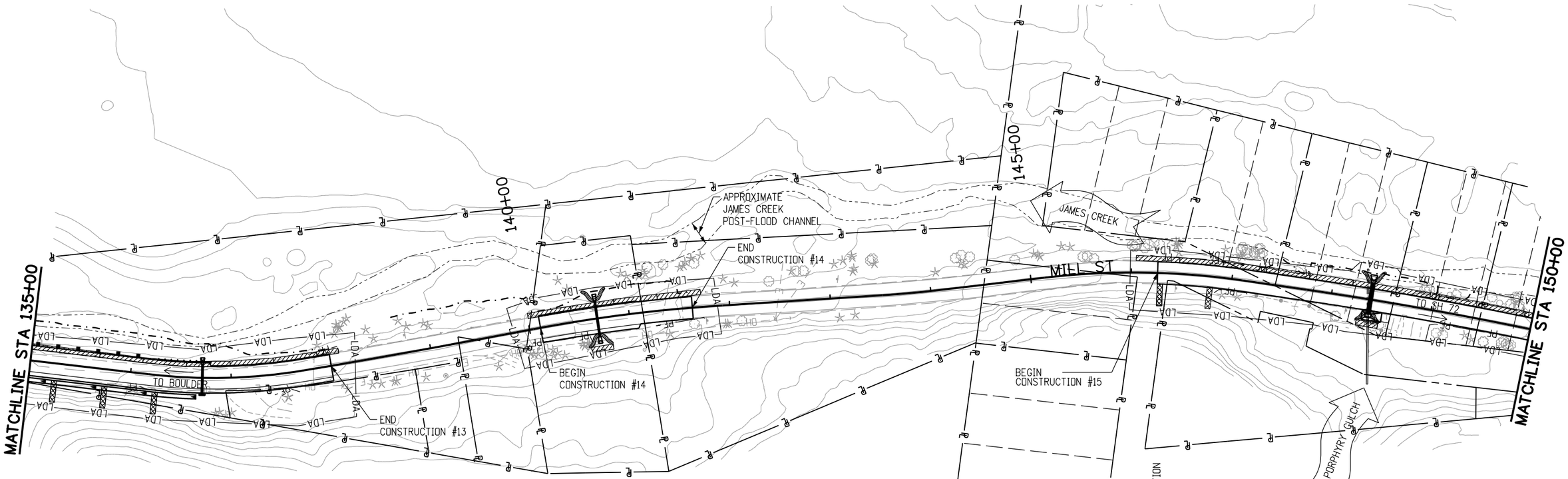
STA 146+18, LT TO
STA 147+78, LT
REQ'D 161 LF
PLASTIC FENCE

STA 148+27, LT
REQ'D 30 LF
EROSION LOGS
CULVERT OUTLET PROTECTION

STA 148+81, LT TO
STA 150+95, LT
REQ'D 215 LF
PLASTIC FENCE



KEY MAP



STA 135+96, RT TO
STA 136+19, RT
REQ'D 28 LF
PLASTIC FENCE

STA 137+41, RT TO
STA 137+66, RT
REQ'D 27 LF
PLASTIC FENCE

STA 139+92, RT TO
STA 140+60, RT
REQ'D 77 LF
PLASTIC FENCE

STA 140+56, RT
REQ'D 50 LF
EROSION LOGS
CULVERT INLET PROTECTION

STA 141+26, RT TO
STA 141+75, RT
REQ'D 49 LF
PLASTIC FENCE

STA 146+26, RT TO
STA 146+76, RT
REQ'D 43 LF
AGGREGATE BAGS AT
50' SPACING

STA 146+84, RT TO
STA 147+17, RT
REQ'D 35 LF
PLASTIC FENCE

STA 148+27, RT
REQ'D 50 LF
EROSION LOGS
CULVERT INLET PROTECTION

STA 148+26, RT TO
STA 148+60, RT
REQ'D 35 LF
PLASTIC FENCE

STA 149+00, RT TO
STA 151+41, RT
REQ'D 249 LF
PLASTIC FENCE

EROSION CONTROL LEGEND

	CONCRETE WASHOUT STRUCTURE		CULVERT INLET/OUTLET PROTECTION
	VEHICLE TRACKING PAD		FLOW DIRECTION
—LDA—	LIMIT OF DISTURBED AREA	—PF—	PLASTIC FENCE (CONSTRUCTION FENCE)
	ROCK CHECK		EROSION LOG
	AGGREGATE BAG		

60% REVIEW SET

0' 50' 100' 200'

N

60%

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

Boulder County

AECOM

BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION

DESIGNED:	CAD:	CHECKED:	DATE:
DIN	DIN		01/22/2016

JAMES CANYON
SWMP INTERIM PLAN
STA 135+00 TO 150+00

PROJECT NO: SEPT12C24 SEPT12C91 | SHEET NO: 48

kandelinds 1/22/2016 11:15:11 AM L:\0048\900-CAD\02-SHEETS\H\BOCD-James-Final\BOCD-James-Final_SWMP-Interim10.dgn

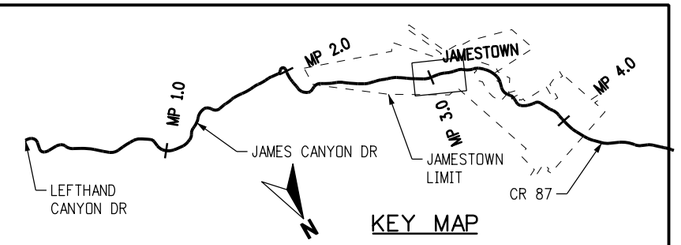
STA 151+00, LT
REQ'D 30 LF
EROSION LOGS
CULVERT OUTLET PROTECTION

STA 152+02, LT TO
STA 152+45, LT
REQ'D 43 LF
PLASTIC FENCE

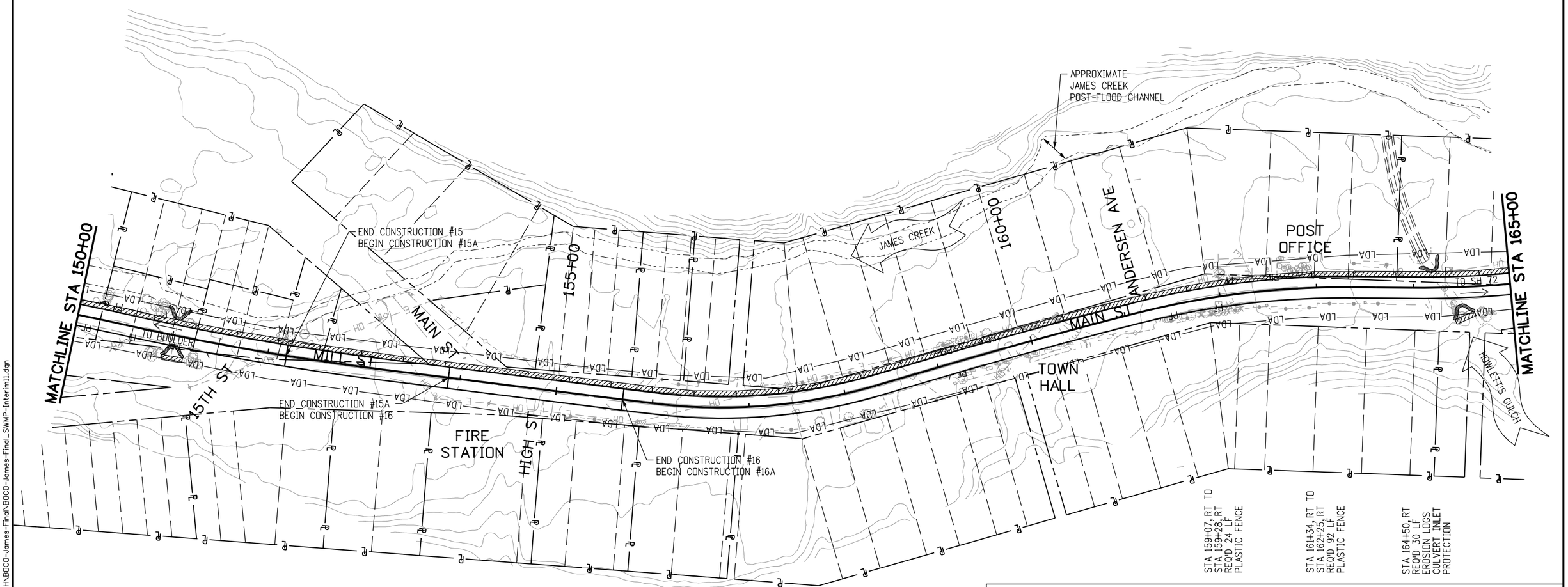
STA 158+97, LT TO
STA 159+69, LT
REQ'D 73 LF
PLASTIC FENCE

STA 161+95, LT TO
STA 162+96, LT
REQ'D 108 LF
PLASTIC FENCE

STA 164+25, LT
REQ'D 30 LF
EROSION LOGS
CULVERT OUTLET
PROTECTION



KEY MAP



STA 159+07, RT TO
STA 159+28, RT
REQ'D 24 LF
PLASTIC FENCE

STA 161+34, RT TO
STA 162+25, RT
REQ'D 92 LF
PLASTIC FENCE

STA 164+50, RT
REQ'D 30 LF
EROSION LOGS
CULVERT INLET
PROTECTION

STA 151+00, RT
REQ'D 30 LF
EROSION LOGS
CULVERT INLET PROTECTION

EROSION CONTROL LEGEND

	CONCRETE WASHOUT STRUCTURE		CULVERT INLET/OUTLET PROTECTION
	VEHICLE TRACKING PAD		FLOW DIRECTION
—LDA—	LIMIT OF DISTURBED AREA	—PF—	PLASTIC FENCE (CONSTRUCTION FENCE)
	ROCK CHECK		EROSION LOG
	AGGREGATE BAG		

60% REVIEW SET

0' 50' 100' 200'

N

60%

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

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ENGINEERING DIVISION

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DESIGNED:	CAD:	CHECKED:	DATE:
DIN	DIN		01/22/2016

JAMES CANYON
SWMP INTERIM PLAN
STA 150+00 TO 165+00

PROJECT NO: SEPT12C24 SEPT12C91 | SHEET NO: 49

kandelinds 1/22/2016 11:15:12 AM L:\0048\900-CAD\02-SHEETS\H\BOCD-James-Final\BOCD-James-Final_SWMP-Interim11.dgn

STA 167+56, LT TO
STA 167+97, LT
REQ'D 44 LF
PLASTIC FENCE

STA 177+54, LT TO
STA 179+23, LT
REQ'D 172 LF
EROSION LOGS

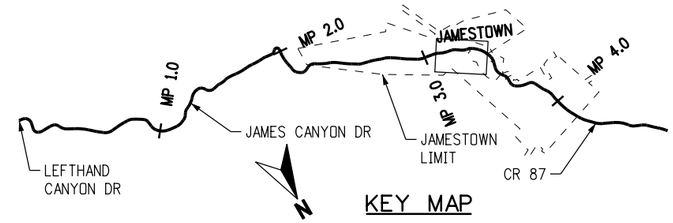
STA 177+65, LT TO
STA 177+84, LT
REQ'D 22 LF
PLASTIC FENCE

STA 178+49, LT
REQ'D 6 CY RIPRAP
ROCK CHECK DAM
D_{50}=6"

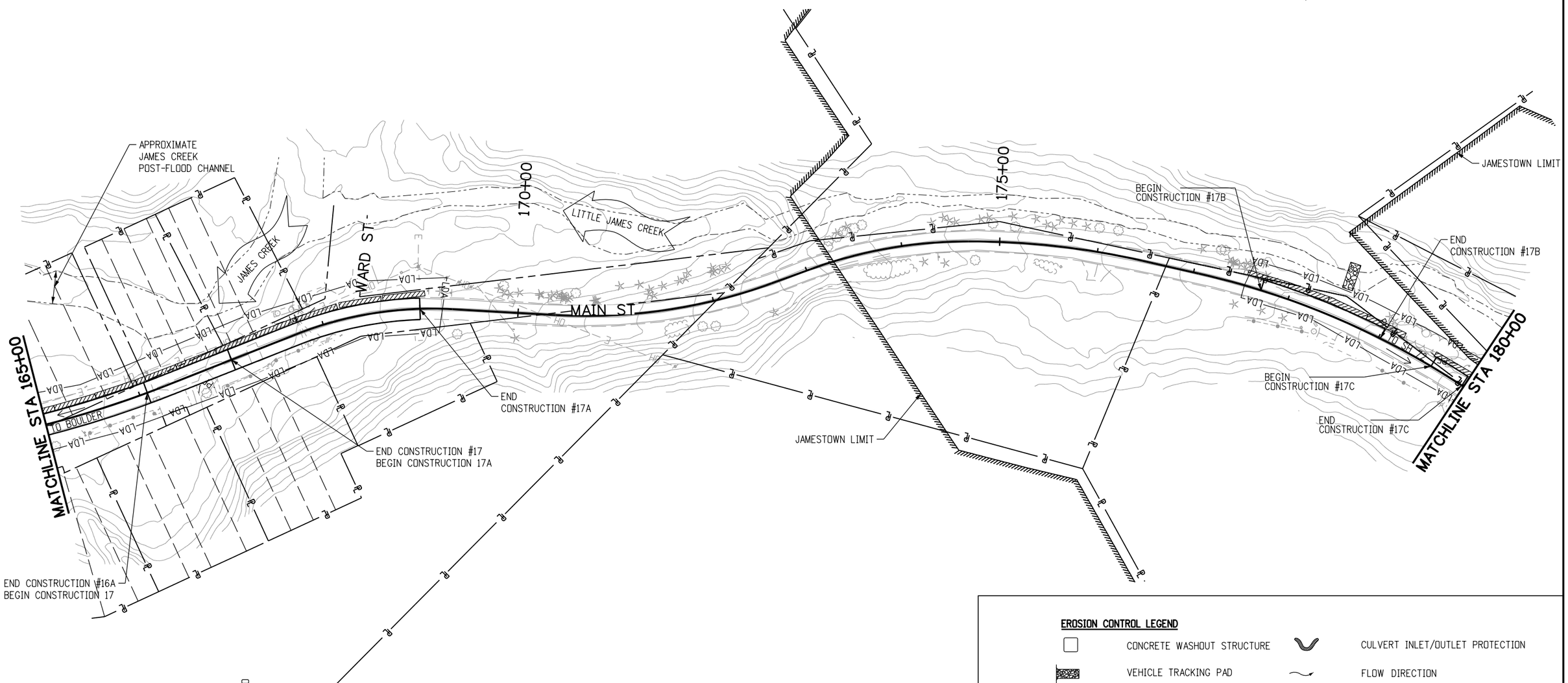
STA 178+93, LT TO
STA 179+15, LT
REQ'D 26 LF
PLASTIC FENCE

STA 179+53 LT TO
STA 179+83 LT
REQ'D 31 LF
PLASTIC FENCE

STA 179+58, LT TO
STA 180+01, LT
REQ'D 43 LF
EROSION LOGS



KEY MAP



STA 166+57, RT TO
STA 166+74, RT
REQ'D 25 LF
PLASTIC FENCE

EROSION CONTROL LEGEND

□	CONCRETE WASHOUT STRUCTURE		CULVERT INLET/OUTLET PROTECTION
	VEHICLE TRACKING PAD		FLOW DIRECTION
—LDA—	LIMIT OF DISTURBED AREA	—PF—	PLASTIC FENCE (CONSTRUCTION FENCE)
	ROCK CHECK		EROSION LOG
	AGGREGATE BAG		

60% REVIEW SET

0' 50' 100' 200'

N

60%

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
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ENGINEERING DIVISION

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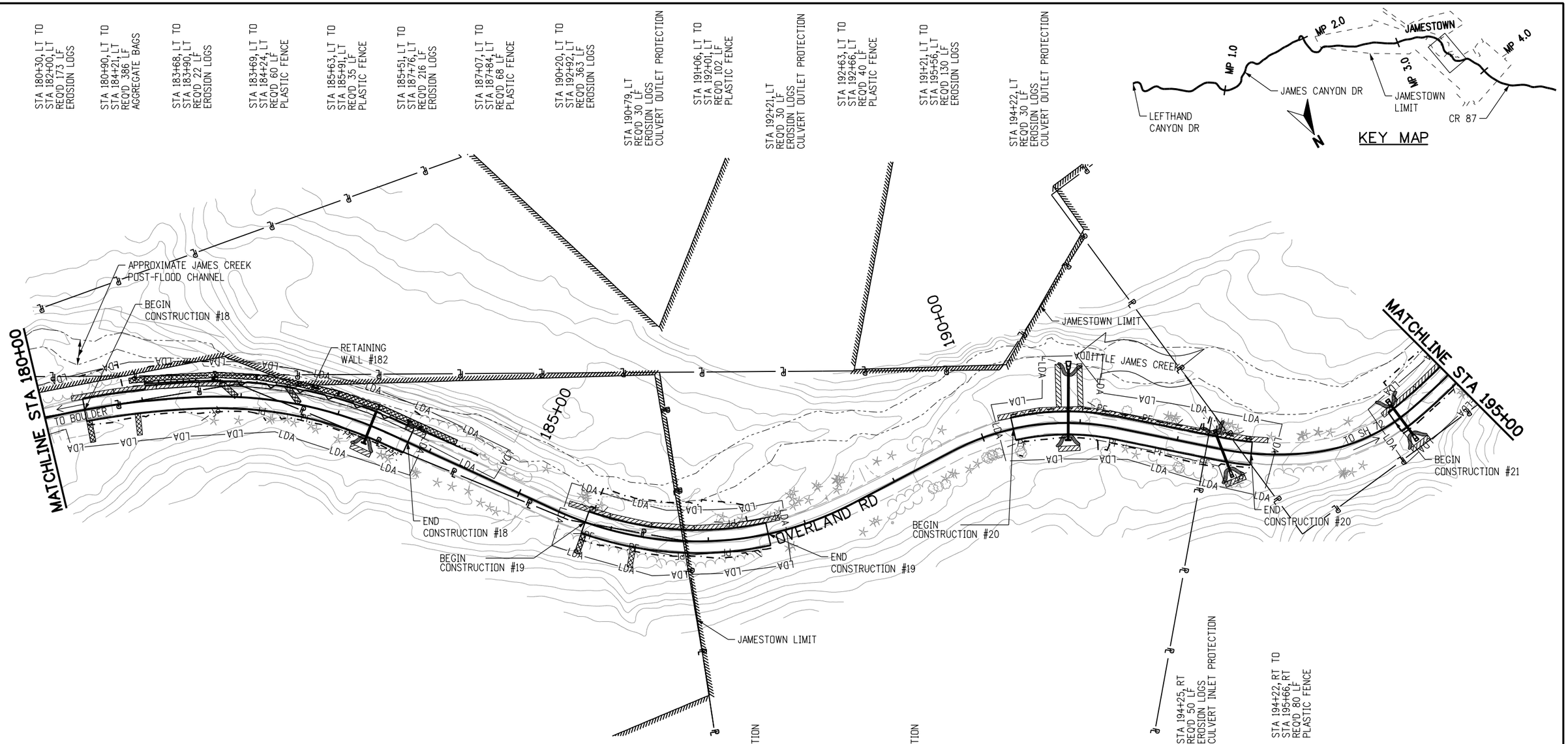
OIN	OIN		01/22/2016

JAMES CANYON
SWMP INTERIM PLAN
STA 165+00 TO 180+00

PROJECT NO: SEPT12C24 SEPT12C91 | SHEET NO: 50

kandelinds 1/22/2016 11:15:14 AM L:\0048\900-CAD\02-SHEETS\H\BOCO-James-Final\BOCO-James-Final_SWMP-Interim12.dgn



EROSION CONTROL LEGEND

	CONCRETE WASHOUT STRUCTURE		CULVERT INLET/OUTLET PROTECTION
	VEHICLE TRACKING PAD		FLOW DIRECTION
—LDA—	LIMIT OF DISTURBED AREA	—PF—	PLASTIC FENCE (CONSTRUCTION FENCE)
	ROCK CHECK		EROSION LOG
	AGGREGATE BAG		

60% REVIEW SET

0' 50' 100' 200'

60%

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

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ENGINEERING DIVISION

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JAMES CANYON
SWMP INTERIM PLAN
STA 180+00 TO 195+00

PROJECT NO: SEPT12C24 SEPT12C91 | SHEET NO: 51

kandelinds 1/22/2016 11:15:16 AM L:\0048\900-CAD\02-SHEETS\H\BOCO-James-Final\BOCO-James-Final_SWMP-Interim13.dgn

STA 195+98, LT
REQ'D 6 CY RIPRAP
ROCK CHECK DAM
D_{50}=6"

STA 197+04, LT
REQ'D 30 LF
EROSION LOGS
CULVERT OUTLET PROTECTION

STA 197+72, LT TO
STA 200+08, LT
REQ'D 323 LF
EROSION LOGS

STA 197+80, LT TO
STA 198+29, LT
REQ'D 58 LF
PLASTIC FENCE

STA 200+25, LT TO
STA 201+12, LT
REQ'D 247 LF
PLASTIC FENCE

STA 200+24, LT TO
STA 201+09, LT
REQ'D 116 LF
EROSION LOGS

STA 200+72, LT
REQ'D
1 EA VEHICLE TRACKING PAD

STA 200+90, LT
REQ'D
1 EA CONCRETE WASHOUT

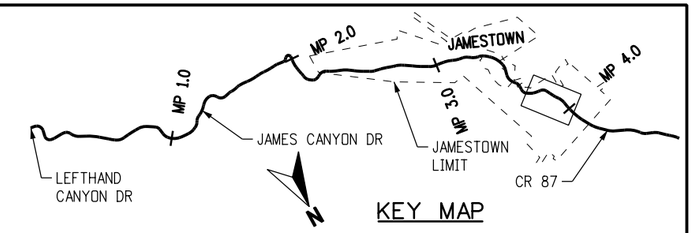
STA 201+36, LT TO
STA 201+86, LT
REQ'D 43 LF
AGGREGATE BAGS AT
50' SPACING

STA 202+73, LT
REQ'D 50 LF
EROSION LOGS
CULVERT INLET PROTECTION

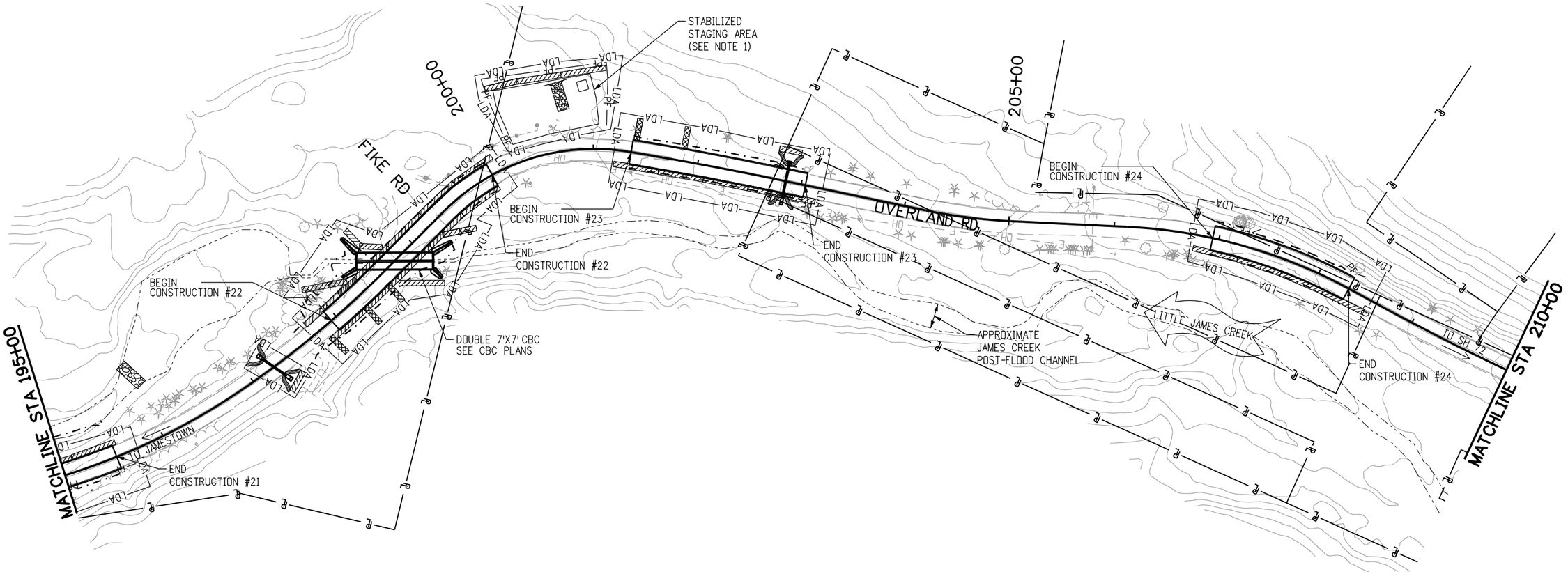
STA 206+94, LT TO
STA 207+44, LT
REQ'D 43 LF
AGGREGATE BAGS AT
50' SPACING

STA 207+08, LT TO
STA 207+36, LT
REQ'D 33 LF
PLASTIC FENCE

STA 208+21, LT TO
STA 208+52, LT
REQ'D 22 LF
PLASTIC FENCE



KEY MAP



STA 197+21, RT
REQ'D 50 LF
EROSION LOGS
CULVERT INLET PROTECTION

STA 197+81, RT TO
STA 200+00, RT
REQ'D 292 LF
EROSION LOGS

STA 201+22, RT TO
STA 203+16, RT
REQ'D 194 LF
EROSION LOGS

STA 202+73, RT
REQ'D 30 LF
EROSION LOGS
CULVERT OUTLET PROTECTION

STA 206+71, RT TO
STA 208+53, RT
REQ'D 173 LF
EROSION LOGS

NOTES:
1. VERIFY ACCESSIBILITY OF TEMPORARY STAGING AREA WITH PROPERTY OWNER PRIOR TO CONSTRUCTION.

EROSION CONTROL LEGEND

	CONCRETE WASHOUT STRUCTURE		CULVERT INLET/OUTLET PROTECTION
	VEHICLE TRACKING PAD		FLOW DIRECTION
—LDA—	LIMIT OF DISTURBED AREA	—PF—	PLASTIC FENCE (CONSTRUCTION FENCE)
	ROCK CHECK		EROSION LOG
	AGGREGATE BAG		

60% REVIEW SET

0' 50' 100' 200'

60%

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
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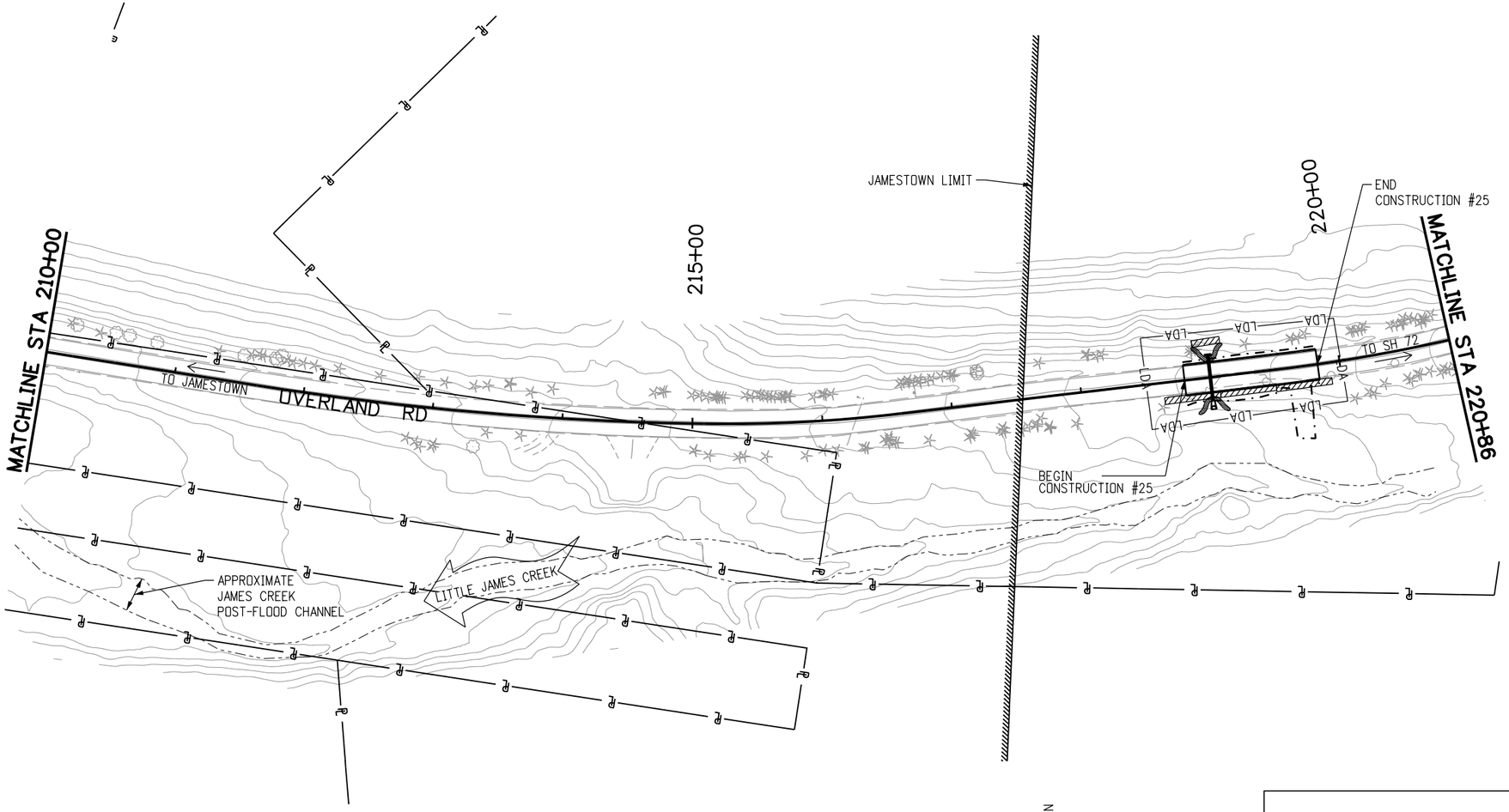
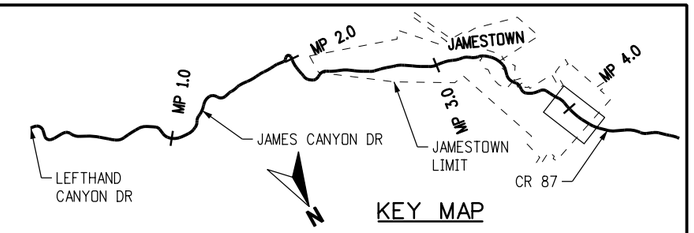
OIN	OIN		01/22/2016

JAMES CANYON
SWMP INTERIM PLAN
STA 195+00 TO 210+00

PROJECT NO: SEPT12C24 SEPT12C91 | SHEET NO: 52

kandelinds 1/22/2016 11:15:17 AM L:\0048\900-CAD\02-SHEETS\H\BOCO-James-Final\BOCO-James-Final_SWMP-Interim14.dgn





EROSION CONTROL LEGEND

	CONCRETE WASHOUT STRUCTURE		CULVERT INLET/OUTLET PROTECTION
	VEHICLE TRACKING PAD		FLOW DIRECTION
—LDA—	LIMIT OF DISTURBED AREA	—PF—	PLASTIC FENCE (CONSTRUCTION FENCE)
	ROCK CHECK		EROSION LOG
	AGGREGATE BAG		

60% REVIEW SET

0' 50' 100' 200'

60%

CALL UTILITY NOTIFICATION CENTER OF COLORADO

811

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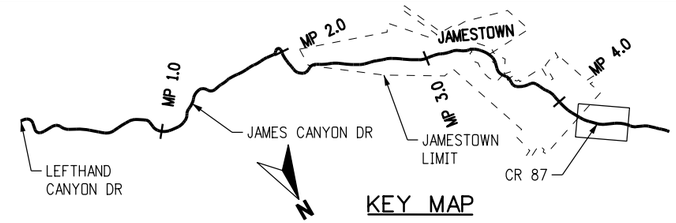
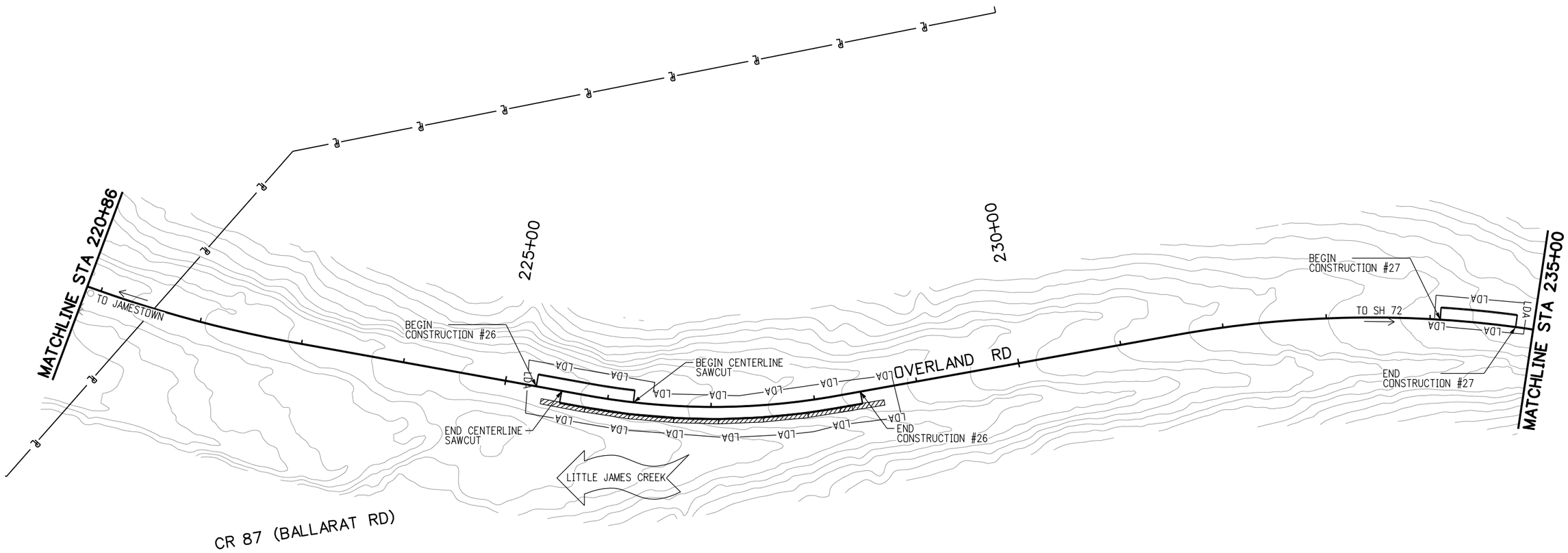
OIN	OIN		01/22/2016

JAMES CANYON
SWMP INTERIM PLAN
STA 210+00 TO 220+00

PROJECT NO: SEPT12C24 SEPT12C91 | SHEET NO: 53

kandelinds 1/22/2016 11:15:19 AM L:\0048\900-CAD\02-SHEETS\H\BOCO-James-Final\BOCO-James-Final_SWMP-Interim15.dgn





STA 225+37, RT TO
STA 228+66, RT
REQ'D 334 LF
EROSION LOGS

EROSION CONTROL LEGEND

	CONCRETE WASHOUT STRUCTURE		CULVERT INLET/OUTLET PROTECTION
	VEHICLE TRACKING PAD		FLOW DIRECTION
—LDA—	LIMIT OF DISTURBED AREA	—PF—	PLASTIC FENCE (CONSTRUCTION FENCE)
	ROCK CHECK		EROSION LOG
	AGGREGATE BAG		

60% REVIEW SET

0' 50' 100' 200'

N

60%

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811

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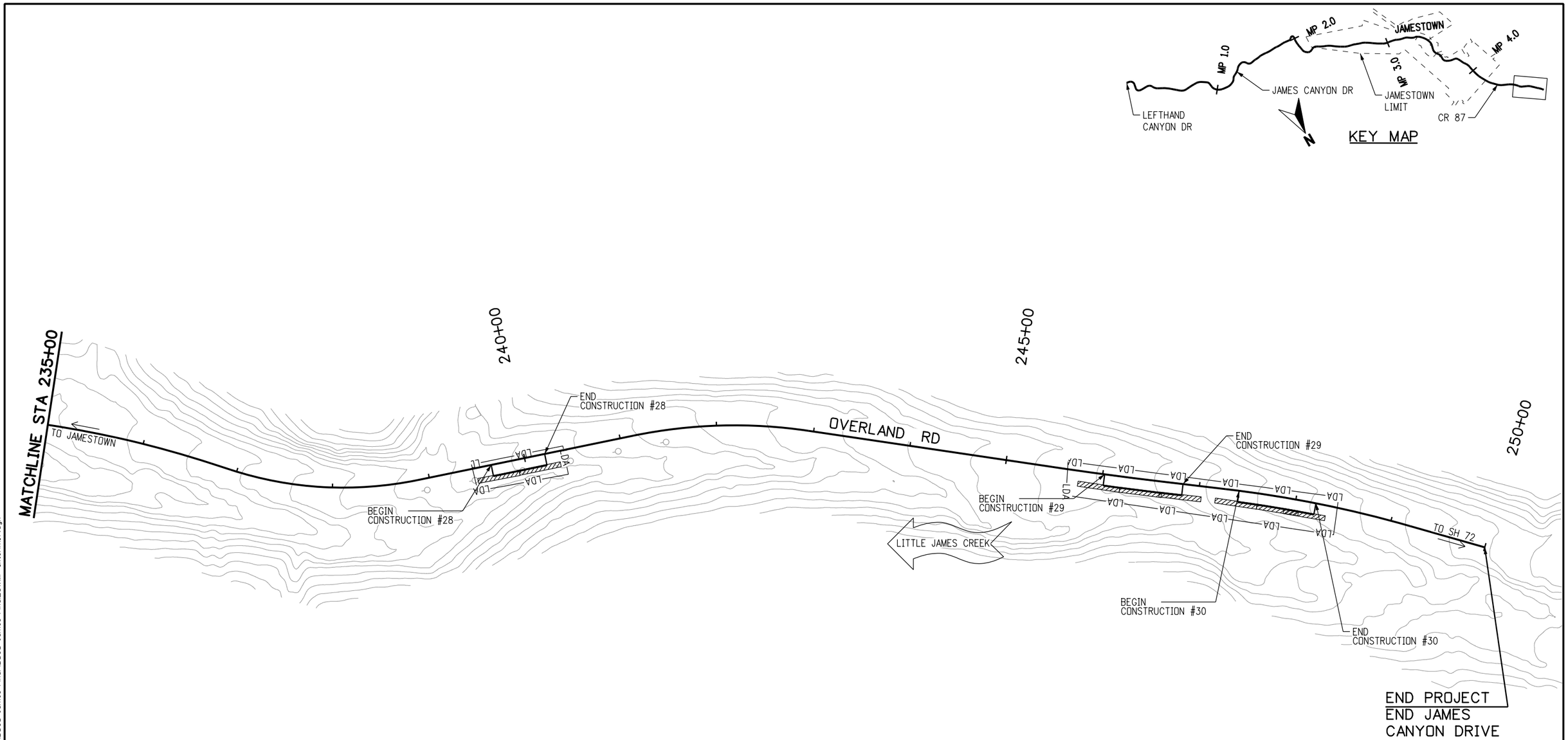
OIN	OIN		01/22/2016

JAMES CANYON
SWMP INTERIM PLAN
STA 220+00 TO 235+00

PROJECT NO: SEPT12C24 SEPT12C91 | SHEET NO: 54

kandelinds 1/22/2016 11:15:21 AM L:\0048\900-CAD\02-SHEETS\H\B0CO-James-Final\B0CO-James-Final_SWMP-Interim16.dgn



STA 239+49, RT TO STA 240+35, RT
REQ'D 86 LF EROSION LOGS

STA 245+76, RT TO STA 247+03, RT
REQ'D 127 LF EROSION LOGS

STA 247+18, RT TO STA 248+33, RT
REQ'D 114 LF EROSION LOGS

EROSION CONTROL LEGEND

	CONCRETE WASHOUT STRUCTURE		CULVERT INLET/OUTLET PROTECTION
	VEHICLE TRACKING PAD		FLOW DIRECTION
—LDA—	LIMIT OF DISTURBED AREA	—PF—	PLASTIC FENCE (CONSTRUCTION FENCE)
	ROCK CHECK		EROSION LOG
	AGGREGATE BAG		

60% REVIEW SET

0' 50' 100' 200'

N

60%

CALL UTILITY NOTIFICATION CENTER OF COLORADO

811

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JAMES CANYON
SWMP INTERIM PLAN
STA 235+00 TO 250+00

PROJECT NO: SEPT12C24 SEPT12C91 | SHEET NO: 55

kandelinds 1/22/2016 11:15:22 AM L:\0048\900-CAD\02-SHEETS\H\BOCO-James-Final\BOCO-James-Final_SWMP-Interim17.dgn