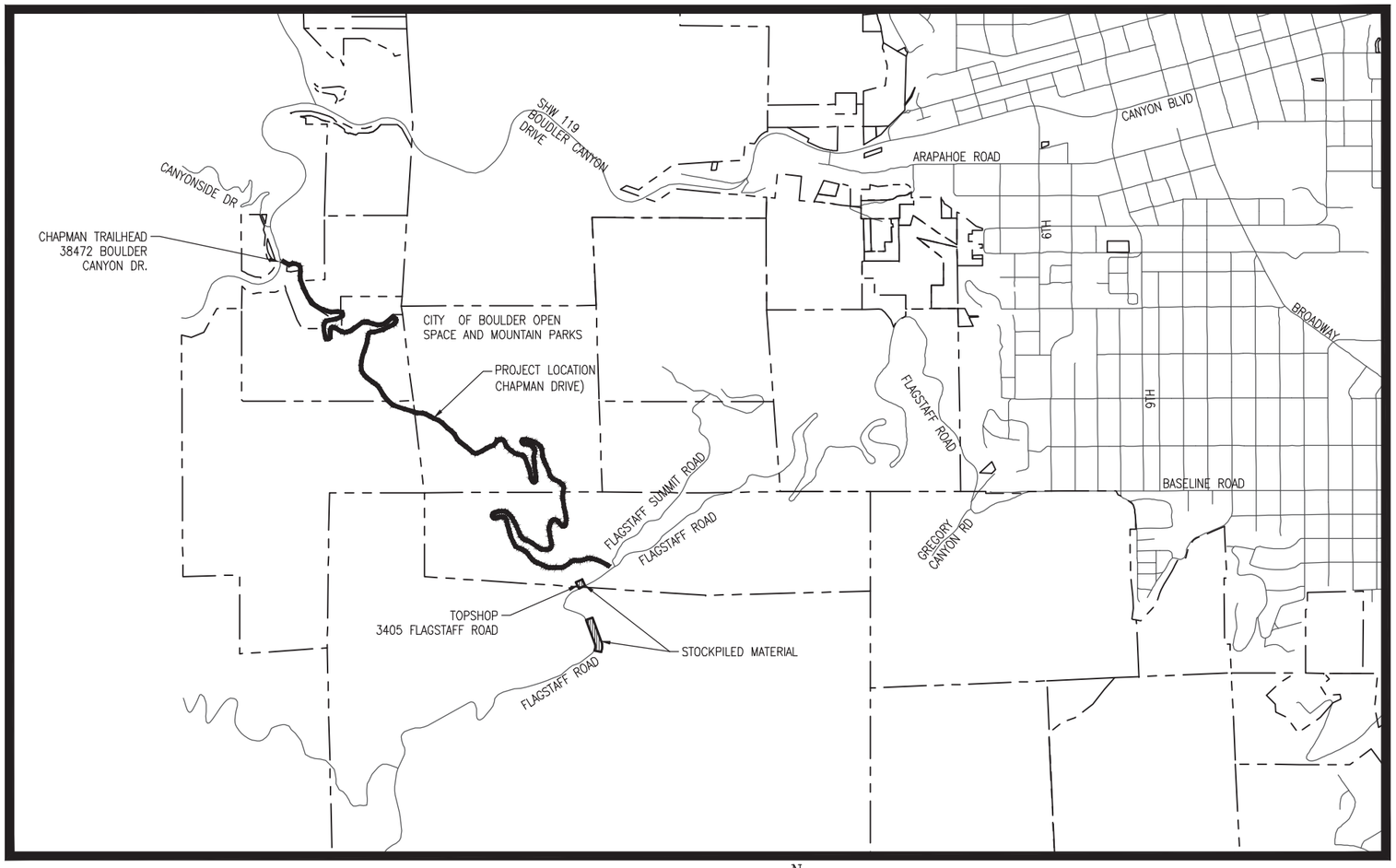
BID SET
FEBRUARY, 2016

CITY OF BOULDER OPEN SPACE AND MOUNTAIN PARKS
CHAPMAN DRIVE - FLOOD DAMAGE REPAIR MITIGATION
BOULDER COLORADO

Know what's below. Call before you dig.



VICINITY MAP
0 250 500 1000
ORIGINAL SCALE: 1" = 1000'
SECTION 2, 35 & 34
T1N., R70W. & T1S., R70W.
N

OWNER
CITY OF BOULDER OPEN SPACE
& MOUNTAIN PARKS
BRAD SKOWRONSKI, PM
7315 RED DEER DRIVE
BOULDER, CO 80306
P. (303) 413-7660

CIVIL ENGINEER
LORIS & ASSOCIATES
SCOTT J. BELONGER, P.E.
818 W. SOUTH BOULDER ROAD
SUITE 200
LOUISVILLE, CO 80027
P. (303) 444-2073
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PROJECT INSPECTOR
TBD

INDEX OF SHEETS

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CITY OF BOULDER Open Space & Mountain Parks

As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE TITLE SHEET		Project No./Code
No Revisions:			CHAPMAN DRIVE
Revised:	Designer: SJB	Structure Numbers	279 - 13134
Void:	Detailer: CWM		Sheet Number 1
	Sheet Subset:	Subset Sheets:	

G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (1) Title Sheet.dwg Feb 24, 2016 - 8:47am

BID SET
FEBRUARY, 2016

Know what's **below.**
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G:\Y2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (2) Overall.dwg Feb 24, 2016 - 8:47am

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As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE		Project No./Code
No Revisions:	OVERALL SITE PLAN		CHAPMAN DRIVE
Revised:	Designer: SJB	Structure Numbers	279 – 13134
Void:	Detailer: CWM		
	Sheet Subset:	Subset Sheets:	Sheet Number 2

GENERAL NOTES:

G1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE COLORADO DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, DATED 2011; AND AS SUBSEQUENTLY REVISED; THE STANDARD PLANS DATED JULY, 2012 AND AS SUBSEQUENTLY REVISED, AND IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS INCLUDED HEREIN.

G2. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE PROJECT MANAGER OR ITS AUTHORIZED REPRESENTATIVES. THE OWNER RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIAL AND/OR WORKMANSHIP THAT DOES NOT CONFORM TO THE PROJECT STANDARDS AND SPECIFICATIONS.

G3. THE CONTRACTOR SHALL NOTIFY THE OWNER 48 HOURS PRIOR TO THE START OF CONSTRUCTION. A PRECONSTRUCTION MEETING SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION.

G4. THE CONTRACTOR SHALL HAVE: ONE (1) COPY OF THE PLANS, ONE (1) COPY OF THE CONSTRUCTION SPECIFICATIONS AND ONE (1) COPY OF THE STORMWATER MANAGEMENT PLAN FOR THE PROJECT AT THE JOB SITE AT ALL TIMES.

G5. SITE ACCESS POINTS AND STAGING AREAS SHALL BE APPROVED BY THE PROJECT MANAGER PRIOR TO MOBILIZATION.

G6. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED BEFORE CONSTRUCTION AND GRADING OPERATIONS BEGIN. ALL EROSION CONTROL MEASURES SHALL BE PLACED CONTINUALLY AS DRAINAGE FEATURES ARE BEING CONSTRUCTED. MEASURES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION IS COMPLETE AND SUBSTANTIALLY STABILIZED.

G7. CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO THOSE AREAS WITHIN THE LIMITS OF DISTURBANCE AND APPROVED STAGING AREAS AS SHOWN ON THE PLANS AND CROSS SECTIONS. ANY DISTURBANCES BEYOND THESE LIMITS SHALL BE RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. CONSTRUCTION ACTIVITIES IN ADDITION TO NORMAL CONSTRUCTION PROCEDURE SHALL INCLUDE THE PARKING OF VEHICLES OR EQUIPMENT, DISPOSAL OF LITTER, AND ANY OTHER ACTION WHICH WOULD ALTER EXISTING CONDITIONS. ANY OFF ROAD STAGING AREAS MUST BE PRE-APPROVED BY THE PROJECT ENGINEER.

G8. THE CONTRACTOR SHALL RESTORE ANY EXISTING IMPROVEMENTS, OR VEGETATION DISTURBED BY CONSTRUCTION TO A CONDITION EQUAL TO OR BETTER THAN THAT WHICH EXISTED PRIOR TO CONSTRUCTION. ALL ASSOCIATED COSTS FOR IMPROVEMENTS REPAIR SHALL BE PAID FOR BY THE CONTRACTOR, AT NO EXPENSE TO THE OWNER, UNLESS SPECIFICALLY DESIGNATED IN THE PLANS AS PAY ITEMS. ALL REPAIRS SHALL MEET CURRENT DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS.

G9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE STABILITY OF ALL STRUCTURES DURING CONSTRUCTION.

G10. SALVAGEABLE MATERIAL DESIGNATED TO REMAIN THE PROPERTY OF THE DEPARTMENT-SIGNS, POSTS, TRASH RECEPTACLES, BENCHES, FENCING, AND GATES SHALL BE REMOVED AS NECESSARY TO ACCOMMODATE THE CONSTRUCTION OF THE ROADWAY. SALVAGED MATERIAL SHALL BE STOCKPILED AND STORED AT POINTS NEAR THE ORIGINAL LOCATIONS AND BE MADE ACCESSIBLE AND VISIBLE FOR INSPECTION IN ACCORDANCE WITH 202.03.

G11. EXISTING TRAILS AND STRUCTURES- WHERE SUCH PORTIONS OF EXISTING STRUCTURES LIE WHOLLY OR IN PART WITHIN THE LIMITS OF THE "WORK". THE CONTRACTOR SHALL CONFORM THE WORK TO ACCEPTABLE LINE AND GRADE, AS DETERMINED BY THE PM AND IN ACCORDANCE WITH SECTION 808 OF THE CITY OF BOULDER GENERAL CONDITIONS.

G12. REMOVAL OF ASPHALT MAT SHALL BE SAW CUT TO A VERTICAL EDGE TO A NEAT LINE WITH A SAW OR CUTTING WHEEL.

G13. THE CONTRACTOR SHALL PROTECT ALL WORK AREAS AND FACILITIES FROM WATER AT ALL TIMES. AREAS AND FACILITIES SUBJECTED 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.

G14. IF NEEDED, THE CONTRACTOR SHALL OBTAIN A CONSTRUCTION DEWATERING PERMIT FROM THE CDPHE FOR ANY DEWATERING OF GROUNDWATER DURING CONSTRUCTION IN ACCORDANCE WITH WATER QUALITY CONTROL DIVISION (WQCD) REQUIREMENTS. THE CONTRACTOR SHALL APPLY FOR THIS PERMIT AT LEAST 30 DAYS PRIOR TO THE START OF DISCHARGE. ALL COSTS FOR OBTAINING THE PERMIT, CONSTRUCTIONS, MAINTAINING AND REMOVING TEMPORARY DIVERSIONS AND DEWATERING DEVICES SHALL BE INCLUDED IN THE COST OF THE WORK.

G15. THE CONTRACTOR IS REQUIRED TO KEEP ALL DRAINAGE AND FACILITIES FUNCTIONAL AND MAINTAIN DRAINAGE TO THOSE FACILITIES AT ALL TIMES DURING CONSTRUCTION.

G16. THE CONTRACTOR SHALL PREVENT ANY CONSTRUCTION DEBRIS, INCLUDING LITTER, FROM FALLING INTO THE DRAINAGEWAYS, AND SHALL PROMPTLY REMOVE ANY DEBRIS THAT INCIDENTALLY FALLS INTO THE DRAINAGEWAYS. ALL DEBRIS SHALL BE REMOVED AT THE CONTRACTOR'S OWN EXPENSE. EROSION CONTROL FEATURES MUST BE IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITIES.

G17 HOT WEATHER AND COLD WEATHER CONCRETING OPERATIONS SHALL BE PERFORMED IN ACCORDANCE WITH CDOT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" SECTION 601. THIS COST SHALL BE INCLUDED IN WORK.

UTILITIES:

U1. FOR UTILITY LOCATES, THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) AT 811 AT LEAST THREE (3) WORKING DAYS (NOT INCLUDING THE INITIAL DAY OF CONTACT) PRIOR TO DIGGING, GRADING OR EXCAVATING.

U2. THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE DRAWINGS HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES PRIOR TO COMMENCING CONSTRUCTION AND TO NOTIFY THE OWNER OF ANY DISCREPANCY. ALL CONFLICTING UTILITIES SHALL BE EXPOSED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND INSPECTED BY THE OWNER TO VERIFY CONFORMANCE WITH THE PLANS. THIS PARTICULARLY APPLIES TO UNDERGROUND WORK TO BE COMPLETED ON THIS PROJECT BY THE CONTRACTOR. RELOCATION OF EXISTING UTILITIES IS NOT A PART OF THIS CONTRACT EXCEPT AS SHOWN ON THESE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF UTILITY RELOCATIONS BY UTILITY COMPANIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITIES DURING CONSTRUCTION AND SHALL HOLD THE CITY OF THE OWNER HARMLESS FOR DAMAGES ARISING FROM CONTRACTOR'S FAILURE TO ADEQUATELY PROTECT EXISTING UTILITIES.

U3. THE CONTRACTOR SHALL REFERENCE THE PROJECT TECHNICAL SPECIFICATIONS FOR ADDITIONAL ITEMS THE CONTRACTOR SHALL ADHERE TO IN COOPERATION WITH UTILITIES.

EARTHWORK:

E1. EXCAVATION REQUIRED FOR COMPACTION OF BASES OF CUTS AND FILLS WILL BE CONSIDERED AS SUBSIDIARY TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY.

E2. THE TYPE OF COMPACTION FOR EARTHWORK ON THIS PROJECT SHALL BE 95% (STANDARD PROCTOR). PROOF ROLLING OF ALL SUBGRADE WILL BE REQUIRED PRIOR TO PLACEMENT OF SURFACING AND SHALL BE INCLUDED IN COST OF THE WORK.

E3. FINAL GRADES SHOWN REFLECT FINISHED GRADE OF THE PROPOSED EARTHWORK.

E4. ALL ON AND OFF-SITE MATERIAL USED ON THIS PROJECT IS SUBJECT TO REVIEW AND APPROVAL BY THE GEOTECHNICAL ENGINEER AND THE ENGINEER PRIOR TO ITS INCORPORATION INTO THE PROJECT.

E5. ALL EXCAVATION & EMBANKMENT FOR THIS PROJECT IS CONSIDERED UNCLASSIFIED AND COMPLETE-IN-PLACE. STRUCTURE EXCAVATION & BACKFILL WILL NOT BE MEASURED OR PAID FOR SEPARATELY.

TRAFFIC CONTROL:

T1. ANY TRAFFIC CONTROL DEVICES UTILIZED ON SH119 (BOULDER CANYON ROAD) WILL REQUIRE A CDOT SPECIAL USE PERMIT. CONTACT GLORIA HICE-IDLER AT (970) 350-2148. (GLORIA.HICE-IDLER@STATE.CO.US).

T2. THE BRIDGE AT THE BOTTOM OF CHAPMAN DRIVE WAS CONSTRUCTED TO ACCOMMODATE HL-93 LOADING, NO LOADS EXCEEDING HL-93 SHALL BE PERMITTED.

E3. NO OVERSIZED LOADS WILL BE PERMITTED ON FLAGSTAFF ROAD.

EROSION CONTROL, SEEDING AND MULCHING NOTES:

SEE EROSION CONTROL NOTES AND DETAILS

ENVIRONMENTAL NOTES:

EN1. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN EXISTING BMPs AND ENSURE THEIR COMPLETE REMOVAL ONCE 70% VEGETATION HAS BEEN RE-ESTABLISHED IN DISTURBED AREAS.

VEGETATION NOTES:

V1. THE CONTRACTOR SHALL REVIEW THE SITE WITH THE OWNER PRIOR TO CONSTRUCTION. NO TREES SHALL BE REMOVED WITHOUT PRIOR APPROVAL FROM THE OWNER. THE CONTRACTOR SHALL PROJECT EXISTING TREES TO THE GREATEST EXTENT POSSIBLE.

V2. THE COST OF REMOVAL OF TREES REQUIRED TO ACCOMPLISH THE WORK SHALL BE INCLUDED IN THE COST OF CLEARING & GRUBBING (LS).

V3. THE PAY LIMITS FOR SEEDING ARE DEFINED BY THE DISTURBANCE LIMITS INCLUDING THE APPROVED STAGING/STOCKPILE AREAS SHOWN IN THE PLANS. THESE ITEMS WILL BE PAID FOR BASED UPON PLAN QUANTITIES. ANY ADDITIONAL DISTURBED AREAS SHALL BE SEEDED AT NO ADDITIONAL COST TO THE PROJECT.

PERMITS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AS OUTLINED BY THE PROJECT DOCUMENTS AND/OR THE CITY OF BOULDER MUNICIPAL CODE (SEE GENERAL AND SPECIAL CONDITIONS).

SURVEY NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION SURVEYING. LAYOUT AND STAKING OF ALL IMPROVEMENTS SHALL BE APPROVED BY THE PROJECT MANAGER PRIOR TO INSTALLATION OF IMPROVEMENTS. DISCREPANCIES TO THE BASE INFORMATION SHALL BE BROUGHT TO THE PROJECT MANAGER ATTENTION FOR A DECISION PRIOR TO COMMENCING WITH THE WORK. NOTIFICATION OF REQUEST FOR FIELD REVIEW SHALL BE MADE A MINIMUM OF 48 HOURS IN ADVANCE AND SHOWN IN THE CONSTRUCTION PROGRESS SCHEDULE.
2. ALL UNDERGROUND UTILITIES MUST BE FIELD LOCATED BY THE APPROPRIATE AGENCY OR UTILITY COMPANY PRIOR TO ANY EXCAVATION, PURSUANT TO C.R.S. SEC. 9-1.5-103.
3. COLORADO STATE PLANE COORDINATE SYSTEM, COLORADO NORTH ZONE, NORTH AMERICAN DATUM 1983 (NAD83). ALL BEARINGS SHOWN HEREON ARE RELATIVE THERETO.
4. AUTOCAD FILES OF THE PROJECT WILL BE PROVIDED TO THE CONTRACTOR FOR THEIR USE DURING CONSTRUCTION.
5. THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN CENTERLINE STATIONING AT 50' MAXIMUM SPACING. EACH STAKE SHALL BE CLEARLY LABELED WITH STATION NUMBERING CORRESPONDING TO THE PLANS. AN APPROVED OFFSET SHALL BE USED WHEN NEEDED TO MAINTAIN THE STAKING THROUGHOUT CONSTRUCTION.
6. IN ADDITION TO CENTERLINE STATIONING, THE FOLLOWING FEATURES MUST ALSO BE STAKED AND LABELED WITH THE FEATURE NAME AND STATION:
   - ROLLING DIPS (DOWNHILL SIDE DRAIN LINE)
   - CULVERT INVERTS
   - BEGIN AND END OF RETAINING WALLS AND DITCH FLOW LINES
   - CORNER POINTS OF STAGING / STOCK PILE LOCATIONS AND RIPRAP
7. EXISTING EDGE OF TRAVEL WAY SHALL BE MARKED WITH STAKE CHASERS AT 20' MAX SPACING.
8. UPON COMPLETION OF THE STAKING, THE CONTRACTOR SHALL WALK THE ENTIRE PROJECT WITH THE PROJECT MANAGER AND ADJUST THE STAKING AS DIRECTED.
9. STATIONS, ELEVATIONS, AND DIMENSIONS CONTAINED ON THESE PLANS ARE CALCULATED FROM A LIDAR SURVEY. THE CONTRACTOR SHALL VERIFY ALL DEPENDENT DIMENSIONS IN THE FIELD BEFORE ORDERING OR FABRICATING ANY MATERIAL AND SHALL BE RESPONSIBLE FOR THE FIT OF ALL NEW CONSTRUCTION.
10. ALL STAKING MATERIALS SHALL BE REMOVED FROM THE SITE UPON RECEIVING A FAVORABLE FINAL INSPECTION REPORT.

CONSTRUCTION NOTES:

1. ALIGNMENT: IT IS EXPECTED THAT THE CONTRACTOR MAKE MINOR ADJUSTMENTS TO THE ALIGNMENT DURING CONSTRUCTION TO IMPROVE DRAINAGE, AVOID IMPACTS TO VEGETATION THAT ARE NOT SPECIFICALLY IDENTIFIED FOR REMOVAL, MINIMIZE SITE IMPACTS, AND BALANCE EARTHWORK. ALIGNMENT SHIFTS OF GREATER THAN 2' SHALL BE APPROVED BY THE OWNER PRIOR TO STARTING CONSTRUCTION. MINOR MODIFICATIONS TO THE DESIGN DURING CONSTRUCTION ARE AN EXPECTED PART OF THE WORK AND NOT JUSTIFICATION FOR CHANGES TO THE CONTRACT.
2. GRADING: THE CONTRACTOR SHALL FOLLOW THE PLANS WHEN SPECIFIC GRADING AND/OR ROAD PROFILE INFORMATION IS PROVIDED. IN AREAS WHERE GRADING AND/OR PROFILE INFORMATION IS NOT PROVIDED, THE CONTRACTOR SHALL CONSTRUCT THE TRAIL TO APPROXIMATELY THE EXISTING GRADES OF THE SITE. MINOR DEVIATIONS FROM EXISTING GRADES SHOULD BE MADE TO ASSURE POSITIVE DRAINAGE FROM THE TRAIL TREAD, TO CONSTRUCT DRAINAGE FEATURES IDENTIFIED IN THE PLANS OR OTHERWISE DETERMINED TO BE NEEDED AND TO BALANCE EARTHWORK. MINOR MODIFICATIONS TO THE DESIGN DURING CONSTRUCTION ARE AN EXPECTED PART OF THE WORK AND NOT JUSTIFICATION FOR CHANGES TO THE CONTRACT.
3. CROSS SLOPE: THE TREAD CROSS SLOPE SHALL BE GREATER THAN 2% AND LESS THAN 5% UNLESS OTHERWISE SHOWN IN THE PLANS. A CROSS SLOPE OF UP TO 10% SHALL BE PROVIDED AT THE BOTTOM OF ROLLING DIPS. THE CONTRACTOR SHALL VERIFY CROSS SLOPE WITH A DIGITAL SMART LEVEL OR OTHER APPROPRIATE MEASURING TOOLS DURING CONSTRUCTION TO PROPERLY CONSTRUCT TREAD CROSS SLOPE.
4. VEGETATION: THE CONTRACTOR SHALL PROTECT EXISTING VEGETATION NOT SPECIFICALLY IDENTIFIED FOR REMOVAL TO THE GREATEST EXTENT POSSIBLE. REMOVAL OF TREES, UNLESS SPECIFICALLY IDENTIFIED IN THE PLANS SHALL BE APPROVED BY THE OWNER PRIOR TO REMOVAL. CLEARING SHALL BE LIMITED TO THE ALL REMOVED VEGETATION, LIVE OR DEAD, SHALL REMAIN ON THE SITE AND BE PLACED IN RESTORATION AREAS, AS SHOWN IN THE PLANS OR OTHERWISE DIRECTED BY THE OWNER.
5. USE AND DISPOSAL OF EXCAVATED MATERIAL: EXCESS SITE MATERIALS (SOILS AND ORGANIC MATERIALS) SHALL BE CONSERVED AND USED ON THE SITE. EXCESS SOILS SHALL BE DEPOSITED IN RESTORATION AREAS. ROCKS UNEARTHED IN EXCAVATIONS SHALL BE USED TO STABILIZE DRAINAGE AREAS.
7. SITE ACCESS: THE CONTRACTOR SHALL USE THE EXISTING ROAD FOR THE TRANSPORT OF MATERIALS AND EQUIPMENT DURING CONSTRUCTION. THE CREATION OF ADDITIONAL PARALLEL ACCESS ROUTES WILL NOT BE ALLOWED. DISTURBANCE OF CURRENTLY UNDISTURBED AREAS MUST BE AVOIDED. ANY AREA DISTURBED OUTSIDE OF THE FINISHED TREAD MUST BE RESTORED TO PRECONSTRUCTION CONDITIONS AT NO ADDITIONAL COST TO THE PROJECT.

Know what's **below.** Call before you dig.

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PROJECT LEGEND

- D1 — = DITCH TYPE 1
- D2 — = DITCH TYPE 2
- LD — = LEADOFF DITCH
- BR — = REMOVAL OF BERM
- = PROPERTY LINE
- = EX. FENCE
- = EXISTING TRAIL
- RD — = ROLLING DIP
- = PROPOSED CULVERT
- = EXISTING CULVERT
- = DENOTES LOOSE ROCK TO BE USED AS RIPRAP
- = EXISTING DRAINAGE DIRECTION
- = PROPOSED DRAINAGE DIRECTION/CROSS SLOPE
- = DIRECTION OF MAJOR DRAINAGE
- HP — = HIGH POINT
- LP — = LOW POINT
- = TREE PROTECTION
- PF — =PLASTIC FENCE
- = SEEDING/RESTORATION AREA
- = SOIL RETENTION BLANKET AREA
- = APPROVED STAGING AREA
- = VEHICLE TRACKING MATERIAL (VTM)
- = RIPRAP (9 INCH)

ABBREVIATIONS TABLE

AASHTO	ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	CL / ℄	CENTER LINE	FES	FLARED END SECTION	LP	LIGHT POLE	PROP	PROPOSED	T	TELEPHONE
		CLR	CLEAR	FF	FINISH FLOOR / FRONT FACE	LT	LEFT / LIGHT	PRV	PRESSURE REDUCING VALVE / PRESSURE RELIEF VALVE	TAN	TANGENT
ABAN	ABANDON	CO	CLEAN OUT	FG	FINISH GRADE	MAINT	MAINTENANCE			TBC	TOP BACK OF CURB
ABC	AGGREGATE BASE COURSE	COM	COMMUNICATION	FH	FIRE HYDRANT	MAS	MASONRY	PSF	POUNDS PER SQUARE FOOT	TEMP	TEMPORARY
ABUT	ABUTMENT	CONC	CONCRETE	FL	FLOW LINE	MATL	MATERIAL	PSI	POUNDS PER SQUARE INCH	TOC	TOP OF CONCRETE / TOP OF CURB
ALT	ALTERNATE	CONST	CONSTRUCTION	FN	FENCE	MAX	MAXIMUM	PT	POINT OF TANGENCY	TOW	TOP OF WALL
AMT	AMOUNT	CONT	CONTINUOUS(ATION)	FPS	FEET PER SECOND	MB	MAIL BOX	PVC	POINT OF VERTICAL CURVE / POLYVINYL CHLORIDE	TYP	TYPICAL
APPROX	APPROXIMATE	COR	CORNER	FT	FEET	MECH	MECHANICAL			UBC	UNIFORM BUILDING CODE
ASPH	ASPHALT	CP	CONTROL POINT	FTG	FOOTING / FITTING	MFR	MANUFACTURER	PVMT	PAVEMENT	UE	UNDERGROUND ELECTRICAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	CY	CUBIC YARDS	G	GAS	MH	MANHOLE	QTY	QUANTITY	UNO	UNLESS NOTED OTHERWISE
		DEMO	DEMOLITION	GA	GAUGE	MIN	MINIMUM	R/RAD	RADIUS	VERT	VERTICAL
AVG	AVERAGE	DET	DETAIL	GAL	GALLON	MISC	MISCELLANEOUS	RCP	REINFORCED CONCRETE PIPE	VTM	VEHICLE TRACKING MATERIAL
AWWA	AMERICAN WATER WORKS ASSOCIATION	DIA	DIAMETER	GALV	GALVANIZED	MJ	MECHANICAL JOINT	RE/REF	REFERENCE	W	WIDE / WIDTH / WATER
BF	BACK FACE	DIP	DUCTILE IRON PIPE	GND	GROUND	NA	NOT APPLICABLE	REINF	REINFORCED (D) (ING) (MENT)	w/	WITH
BFV	BUTTERFLY VALVE	DWG	DRAWING	GPD	GALLONS PER DAY	NPT	NATIONAL PIPE THREAD	REQD	REQUIRED	w/o	WITH OUT
BLDG	BUILDING	EA	EACH	GPM	GALLONS PER MINUTE	NTS	NOT TO SCALE	ROW	RIGHT OF WAY	WWF	WELDED WIRE FABRIC
BM	BENCH MARK	EF	EACH FACE	GRTG	GRATING	NWL	NORMAL WATER LINE	RT	RIGHT	X	SECTION
BMP	BEST MANAGEMENT PRACTICE	EJ	EXPANSION JOINT	GV	GATE VALVE	OC	ON CENTER	SAN	SANITARY		
BOC	BACK OF CURB	EL/ELEV	ELEVATION	HCL	HORIZONTAL CONTROL LINE	OD	OUTSIDE DIAMETER	SD	STORM DRAIN	@	AT
BOF	BOTTOM OF FOOTING	ELEC	ELECTRICAL	HMA	HOT MIX ASPHALT	OH	OVERHEAD	SF	SQUARE FOOT	(CIP)	COMPLETE (CAST) IN PLACE
BOW	BACK OF WALK / BOTTOM OF WALL	ENGR	ENGINEER	HORIZ	HORIZONTAL	OHE	OVERHEAD ELECTRIC	SHT	SHEET	(SRB)	SOIL RETENTION BLANKET
BRG	BEARING	EOP	EDGE OF PAVEMENT	HP	HIGH POINT	PC	POINT OF CURVATURE	SPA	SPACING/SPACES		
BS	BACKSIGHT	EOTW	EDGE OF TRAVELED WAY	HVAC	HEATING, VENTILATION, AIR CONDITIONING	PEJF	PREFORMED EXPANSION JOINT FILLER	SPEC	SPECIFICATION		
C&G	CURB AND GUTTER	EQ	EQUAL	HWL	HIGH WATER LINE	PGL	PROFILE GRADE LINE	STA	STATION		
C/C	CENTER TO CENTER	EQUIP	EQUIPMENT	HWY	HIGHWAY	PI	POINT OF INTERSECTION	STD	STANDARD		
CB	CATCH BASIN	EQUIV	EQUIVALENT	ID	INSIDE DIAMETER	PL	PROPERTY LINE	STL	STEEL		
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION	ESMT	EASEMENT	INV	INVERT	PP	POWER POLE	STM	STEAM	N	NORTH
		EST	ESTIMATE	INV EL	INVERT ELEVATION	PREFAB	PREFABRICATED	SWMP	STORM WATER MANAGEMENT PLAN	S	SOUTH
CFS	CUBIT FEET PER SECOND	EX	EXISTING	IRR	IRRIGATION	PRELIM	PRELIMINARY	SY	SQUARE YARD	E	EAST
CJ	CONSTRUCTION JOINT / CONTROL JOINT	FD	FOUNDATION DRAIN	LF	LINEAR FOOT	PREP	PREPARATION	SYM	SYMMETRICAL	W	WEST

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CITY OF BOULDER
Open Space & Mountain Parks

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COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE
CONSTRUCTION NOTES

Designer: SJB
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Project No./Code
CHAPMAN DRIVE
279 – 13134
Sheet Number 4

G:\7-2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (3-4) General-Const Notes.dwg Feb 24, 2016 - 8:48am

SUMMARY OF APPROXIMATE QUANTITIES

ITEM NO.	CONTRACT ITEM	UNIT	QUANTITY																									
			0		1500		3000		4500		6000		7500		9000		10500		12000		13500		TRAILHEAD		TOP SHOP		TOTAL	
			PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.
201	CLEARING AND GRUBBING	LS	0		0		0		0		0		0		0		0		0		0		0		0		1	
202	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	0		0		0		0		0		0		0		0		0		0		0		0		1	
202	REMOVAL OF PIPE	LF	0		0		0		0		0		0		0		0		0		0		0		0		40	
202	CLEAN CULVERT	EA	0		1		2		0		3		2		3		1		1		0		0		0		13	
203	DITCH EXCAVATION (TYPE 1)	LF	1000		1245		1200		1360		1310		1190		910		1170		1440		30		0		206		11061	
203	DITCH EXCAVATION (TYPE 2)	LF	0		0		0		60		0		330		260		210		0		0		0		0		860	
203	DITCH EXCAVATION (ROCK)	LF	100		125		120		142		131		152		117		138		144		3		0		0		1172	
203	BORROW	TON	0		0		0		0		0		0		0		0		0		0		0		0		500	
204	ROLLING DIP	EA	1		5		3		2		5		3		5		4		0		0		0		0		28	
204	LEADOFF DITCH	LF	0		0		30		0		0		60		0		0		0		0		0		0		90	
204	PLACEMENT OF STOCKPILED MATERIAL	LS	0		0		0		0		0		0		0		0		0		0		0		0		1	
206	SHORING (AREA 1)	LS	0		0		0		0		0		0		0		0		1		0		0		0		1	
207	TOPSOIL (COMPLETE IN PLACE)	CY	103		153		150		145		160		172		132		154		155		133		0		0		1456	
208	GRAVEL BAG	LF	306		264		402		450		450		222		36		108		66		0		0		0		2304	
208	EROSION LOG	LF	85		80		110		60		110		60		80		85		55		15		155		0		895	
208	SILT FENCE	LF	0		0		0		0		0		0		0		0		0		0		503		0		503	
208	EROSION CONTROL	LS	0		0		0		0		0		0		0		0		0		0		0		0		1	
212	SEEDING	AC	0.20		0.31		0.31		0.27		0.32		0.33		0.25		0.29		0.31		0.25		0.14		0.16		3.14	
213	SPRAY-ON MULCH BLANKET	AC	0.00		0.02		0.02		0.00		0.02		0.02		0.02		0.02		0.00		0.24		0.14		0.11		0.60	
216	SOIL RETENTION BLANKET (EXCELSIOR) (BIODEGRADABLE CLASS 1)	SY	928		1298		1273		1301		1358		1424		1110		1269		1392		39		500		266		12156	
304	AGGREGATE BASE COURSE (CLASS 6)	CY	440		0		0		0		0		0		0		0		0		0		68		105		612	
304	VEHICLE TRACK PAD MATERIAL	CY	0		4		0		0		0		0		0		0		0		0		0		80		84	
306	RECONDITIONING	LS	0		0		0		0		0		0		0		0		0		0		0		0		1	
504	STONE MASONRY INLET BOX	EA	3		0		2		1		0		0		0		0		1		0		0		0		7	
504	STONE MASONRY HEADWALL	EA	3		0		2		1		0		0		0		0		1		0		0		0		7	
506	RIPRAP (6 INCH)	CY	0		0		0		0		0		0		0		10		0		0		0		0		10	
506	RIPRAP SOIL (9 INCH)	CY	10		51		8		8		12		6		6		6		8		6		0		0		122	
506	RIPRAP SOIL (12 INCH)	CY	0		0		77		0		54		27		18		4		64		0		0		0		244	
603	18 INCH CORRUGATED STEEL PIPE	LF	84		0		46		35		0		0		0		0		28		0		0		32		225	
603	18 INCH CORRUGATED STEEL PIPE (ANNULAR)	LF	0		0		0		0		0		0		0		0		0		0		0		0		40	
603	18 INCH STEEL END SECTION	LF	0		0		0		0		0		0		0		0		0		0		0		2		2	
607	VEHICULAR GATE (COMPLETE IN PLACE)	EA	1		0		0		0		0		0		0		0		0		1		0		2		4	
607	FENCE (PLASTIC)	LF	80		0		432		310		95		240		340		240		522		0		0		0		2259	
625	CONSTRUCTION SURVEYING	LS	0		0		0		0		0		0		0		0		0		0		0		0		1	
626	MOBILIZATION	LS	0		0		0		0		0		0		0		0		0		0		0		0		1	
630	TRAFFIC CONTROL	LS	0		0		0		0		0		0		0		0		0		0		0		0		1	
630	TIMBER SIGN POST 4 X 4 INCH	LF	0		0		0		0		0		0		0		0		0		0		0		0		10	
630	BARRICADE TYPE 1	EA	0		0		0		0		0		0		0		0		0		0		0		0		3	
630	BARRICADE TYPE 2	EA	0		0		0		0		0		0		0		0		0		0		0		0		1	
630	SIGN PANEL SIZE A	EA	0		0		0		0		0		0		0		0		0		0		0		0		10	
630	SIGN PANEL SIZE B	EA	0		0		0		0		0		0		0		0		0		0		0		0		4	

Know what's **below.** **Call** before you dig.

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FEBRUARY, 2016

Print Date: Feb 24, 2016
File Name:
Horiz. Scale: Vert. Scale:
Unit Information Unit Leader Initials

Sheet Revisions

Date:	Comments	Init.

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CITY OF BOULDER Open Space & Mountain Parks

As Constructed
No Revisions:
Revised:
Void:

COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE
SUMMARY OF APPROXIMATE QUANTITIES

Designer: SJB
Detailer: CWM
Sheet Subset:
Structure Numbers
Subset Sheets:

Project No./Code
CHAPMAN DRIVE
279 – 13134
Sheet Number 5

G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (5-10) Tabulations.dwg Feb 24, 2016 - 8:48am

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FEBRUARY, 2016

Know what's **below.** Call **before you dig.**

PROJECT: City of Boulder OSMP Flood Damage Mitigation
SEGMENT: CHAPMAN DRIVE
BEGIN STA. 0 — **SURFACE WIDTH:** 12 ft — **ASSUMED DISTURBED W:** 20 ft
END STA. 1500 — **SURFACING THICKNESS:** 6 in — **TOPSOIL THICKNESS** 4 in
LENGTH 1500 — **SURFACING TYPE:** ABC (CLASS 6)

		STATION	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14		TOTAL		PAY ITEM
DA	GULLY	G6				80	100	100	100	100	100	100	65						745	LF	
		G12														90	100		190	LF	
		G18																	0	LF	
		G24																	0	LF	
		G36																	0	LF	
		G48																	0	LF	
	SHEET	S6 (1/2)															30		30	LF	
		S6		20	100	100	100	100	100	100	100	100	100	100	100	60			1180	LF	
		S12																	0	LF	
		S18								5									5	LF	
		S24																	0	LF	
	NO DAMAGE		100	80	0	0	0	0	0	0	0	0	0	0	0	0	0		180	LF	
202		CLEAN CULVERT																	0	EA	X
	*DITCH EX.	(TYPE 1)			90	100	50	100	100	80	40	100	100	100	40		100		1000	LF	X
		(TYPE 2)																	0	LF	X
		(ROCK)	0	0	9	10	5	10	10	8	4	10	10	10	4	0	10		100		X
	EA	UNCLASSIFIED EX	0	0	13	15	7	15	15	12	6	15	15	15	6	9	15		157	CY	
		EMBANKMENT	0	0	0	1	2	2	2	4	2	2	1	0	0	7	9		31	CY	
		NET	0	0	13	13	6	13	13	8	4	13	14	15	6	2	6		126	CY	
		BORROW	0	0	-13	-13	-5	-13	-13	-8	-4	-13	-13	-15	-6	-1	-4		-121	CY	X
#		ROLLING DIP														1			1	EA	X
		LEADOFF DITCH																	0	LF	X
		PULLOUT									1								1	EA	
	DI	DIST. - DITCHES	0	0	720	800	400	800	800	640	320	800	800	800	320	0	800		8000	SF	
		DIST. SHOULDER WORK																	0	LF	
		DIST. - OTHER (MLCH)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	SF	
		DIST. (SRB)	0	0	0	0	108	0	0	0	40	0	0	0	0	200	0		348	SF	
		TOTAL DISTURBED AREA	0	0	720	800	508	800	800	640	360	800	800	800	320	200	800		8348	SF	
208	BMP	EROSION LOG	0	0	0	0	25	0	0	0	25	0	0	0	0	35	0		85	LF	X
		GRAVEL BAG			24	30		24	30	30	30	30	30	30	18		30		306	LF	X
207	RE	TOP SOIL	0	0	9	10	6	10	10	8	4	10	10	10	4	2	10		103	CY	X
212		SEEDING	0	0	720	800	616	800	800	640	400	800	800	800	320	240	800	8536	0.20	AC	X
213		MULCH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	AC	X
216		SR BLANK	0	0	80	89	56	89	89	71	40	89	89	89	36	22	89		928	SY	X
##	ABC Class 6	12' WIDTH	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	22.2	27.0	7.0	323.0	439.9	CY	X
		+PULLOUT	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	108.1	0.0	116.9			
	VT MAT	ROAD																	0.0	CY	X
	VT MAT	R DIPS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0		2.7	CY	
##		STONE MASONRY INLET BOX					1				1					1			3	EA	X
		STONE MASONRY HEADWALL					1				1					1			3	EA	X
##	RIP RAP	6 INCH																	0	CY	X
		RIPRAP SOIL (9 INCH)					6				2					2			10	CY	X
		RIPRAP SOIL (12 INCH)																	0	CY	X
603	COR. STEEL	18-IN					34				20					30			84	LF	X
607		FENCE (PLASTIC)													80				80	LF	X

*10% of ditch type 1 & 2 is anticipated to be part of rock excavation

PROJECT: City of Boulder OSMP Flood Damage Mitigation
SEGMENT: CHAPMAN DRIVE
BEGIN STA. 1500 — **SURFACE WIDTH:** 10 ft — **ASSUMED DISTURBED W:** 18 ft
END STA. 3000 — **SURFACING THICKNESS:** 0 in — **TOPSOIL THICKNESS** 4 in
LENGTH 1500 — **SURFACING TYPE:** ABC (CLASS 6)

		STATION	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29		TOTAL		PAY ITEM
DAMAGE TYPES	GULLY EROSION	G6	100	50	100	55	100		30	70	50	100	100	75	35	50			915	LF	
		G12		50							50								100	LF	
		G18				45													45	LF	
		G24																	0	LF	
		G36																	0	LF	
		G48																	0	LF	
	SHEET EROSION	S6 (1/2)	25						15	100						50	100		290	LF	
		S6		20	65										65				150	LF	
		S12																	0	LF	
		S18																	0	LF	
		S24																	0	LF	
		NO DAMAGE	0	0	0	0	0	100	55	0	0	0	0	25	0	0	0		180	LF	
202		CLEAN CULVERT									1								1	EA	X
	*DITCH EX.	(TYPE 1)	100	100	70	100	120	100	100	0	0	100	100	100	70	100	85		1245	LF	X
		(TYPE 2)																	0	LF	X
		(ROCK)	10	10	7	10	12	10	10	0	0	10	10	10	7	10	8.5		124.5	LF	X
	EARTHWORK	UNCLASSIFIED EX	15	15	10	15	18	15	15	0	0	15	15	15	10	15	13		184	CY	
		EMBANKMENT	3	7	9	9	2	0	1	7	5	2	2	1	8	4	6		65	CY	
		NET	12	8	1	6	16	15	13	-7	-5	13	13	13	3	11	7		120	CY	
		BORROW	-11	-7	0	-5	-16	-15	-13	8	5	-13	-13	-13	-1	-11	-6		-110	CY	X
204		ROLLING DIP			1					1	1				1		1		5	EA	X
		LEADOFF DITCH																	0	LF	X
		PULLOUT				1													1	EA	
	DISTURBACE	DIST. - DITCHES	800	800	560	800	960	800	800	0	0	800	800	800	560	800	680		9960	SF	
		DIST. SHOULDER WORK																	0	LF	
		DIST. - OTHER (MLCH)	0	0	0	720	0	0	0	0	0	0	0	0	0	0	0		720	SF	
		DIST. (SRB)	0	0	160	0	108	0	0	160	160	0	0	0	970	0	160		1718	SF	
		TOTAL DISTURBED AREA	800	800	720	1520	1068	800	800	160	160	800	800	800	1530	800	840		12398	SF	
208	BMP	EROSION LOG	0	0	10	0	15	0	0	10	10	0	0	0	25	0	10		80	LF	X
		GRAVEL BAG	30	30	30	24					6	30	30	30	30	24			264	LF	X
207	RESTO	TOP SOIL	10	10	9	19	13	10	10	2	2	10	10	10	19	10	10		153	CY	X
212		SEEDING	800	800	720	1520	1176	800	800	160	160	800	800	800	2340	800	840	13316	0.31	AC	X
213		MULCH	0	0	0	720	0	0	0	0	0	0	0	0	0	0	0	720	0.02	AC	X
216		SR BLANK	89	89	80	89	119	89	89	18	18	89	89	89	170	89	93		1298	SY	X
304	ABC Class 6	12' WIDTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	CY	X
		+PULLOUT																			
	VT MAT	ROAD					4												4	CY	X
	VT MAT	R DIPS	0.0	0.0	2.6	0.0	0.0	0.0	0.0	2.6	2.6	0.0	0.0	0.0	2.6	0.0	2.6		13.0	CY	
504		STONE MASONRY INLET BOX																	0	EA	X
		STONE MASONRY HEADWALL																	0	EA	X
506	RIPRAP	6 INCH																	0	CY	X
		RIPRAP SOIL (9 INCH)					6								45				51	CY	X
		RIPRAP SOIL (12 INCH)																	0	CY	X
603	COR. STEEL	18-IN																	0	LF	X
607		FENCE (PLASTIC)																		LF	X

*10% of ditch type 1 & 2 is anticipated to be part of rock excavation

Print Date: Feb 24, 2016	Sheet Revisions	As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE
File Name:	Date: / Comments / Init.	No Revisions:	TABULATIONS
Horiz. Scale: Vert. Scale:		Revised:	Designer: SJB — Structure Numbers
Unit Information Unit Leader Initials		Void:	Detailer: CWM
			Sheet Subset: — Subset Sheets:

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CITY OF BOULDER Open Space & Mountain Parks

Project No./Code: CHAPMAN DRIVE — 279 – 13134
Sheet Number 6

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FEBRUARY, 2016

Know what's **below.** **Call** before you dig.

PROJECT: City of Boulder OSMP Flood Damage Mitigation
SEGMENT: CHAPMAN DRIVE
BEGIN STA. 3000 **SURFACE WIDTH:** 10 ft **ASSUMED DISTURBED W:** 18 ft
END STA. 4500 **SURFACING THICKNESS:** 0 in **TOPSOIL THICKNESS** 4 in
LENGTH **1500** **SURFACING TYPE:** ABC (CLASS 6)

		STATION	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44		TOTAL		PAY ITEM
DAMAGE TYPES	GULLY EROSION	G6				50	40	50		100				50					290	LF	
		G12	60				5	5				45	20			80			215	LF	
		G18	10				40												50	LF	
		G24										10					5		15	LF	
		G36										15							15	LF	
		G48										15							15	LF	
	SHEET EROSION	S6 (1/2)	45	80	20	50	50	5	75		50		50						425	LF	
		S6					5		25		50		30	50	40	60			260	LF	
		S12													60		100		160	LF	
		S18																	0	LF	
		S24																	0	LF	
		NO DAMAGE	0	20	80	0	0	40	0	0	0	15	0	0	0	0	0		155	LF	
202		CLEAN CULVERT	1		1														2	EA	X
	EARTHWORK *DITCH EX.	(TYPE 1)	20	70	50	100	100	100	100	100	40	90	100	100	100	100	30		1200	LF	X
		(TYPE 2)																	0	LF	X
		(ROCK)	2	7	5	10	10	10	10	10	4	9	10	10	10	10	3		120		X
		UNCLASSIFIED EX	3	10	11	15	15	15	15	15	6	13	15	15	15	15	4		181	CY	
		EMBANKMENT	9	4	1	4	11	2	7	2	8	30	8	6	18	13	24		145	CY	
		NET	-6	6	10	11	4	13	8	13	-2	-16	7	8	-3	2	-19	0	36	CY	
		BORROW	7	-5	-9	-11	-2	-13	-7	-13	4	21	-6	-7	6	0	23		-14	CY	X
204		ROLLING DIP			1						1						1		3	EA	X
		LEADOFF DITCH			30														30	LF	X
		PULLOUT									1						1		2	EA	
	DISTURBACE	DIST. - DITCHES	160	560	580	800	800	800	800	800	320	720	800	800	800	800	240		9780	SF	
		DIST. SHOULDER WORK																	0	LF	
		DIST. - OTHER (MLCH)	0	0	0	0	0	0	0	0	360	0	0	0	0	0	360		720	SF	
		DIST. (SRB)	0	128	160	0	108	0	0	0	1078	0	0	0	0	0	200		1674	SF	
		TOTAL DISTURBED AREA	160	688	740	800	908	800	800	800	1758	720	800	800	800	800	800	0	12174	SF	
208	BMP	EROSION LOG	0	15	10	0	15	0	0	0	35	0	0	0	0	0	35		110	LF	X
		GRAVEL BAG	24	18		30	30	30	30	30	30	30	30	30	30	30	30		402	LF	X
207	RESTO	TOP SOIL	2	8	9	10	11	10	10	10	22	9	10	10	10	10	10	0	150	CY	X
212		SEEDING	160	816	740	800	1016	800	800	800	2676	720	800	800	800	800	840	0	13368	0.31	AC	X
213		MULCH	0	0	0	0	0	0	0	0	360	0	0	0	0	0	360	0	720	0.02	AC	X
216		SR BLANK	18	76	82	89	101	89	89	89	155	80	89	89	89	89	49	0		1273	SY	X
304	ABC Class 6 +PULLOUT	12' WIDTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	CY	X
	VT MAT	ROAD																		0.0	CY	X
	VT MAT	R DIPS	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	2.2			6.7	CY	
504		STONE MASONRY INLET BOX									1						1			2	EA	X
		STONE MASONRY HEADWALL									1						1			2	EA	X
506	RIPRAP	6 INCH																		0	CY	X
		RIPRAP SOIL (9 INCH)					6										2			8	CY	X
		RIPRAP SOIL (12 INCH)		9							68									77	CY	X
603	COR. STEEL	18-IN									20						26			46	LF	X
607		FENCE (PLASTIC)	170	40	122		50	50												432	LF	X

*10% of ditch type 1 & 2 is anticipated to be part of rock excavation

PROJECT: City of Boulder OSMP Flood Damage Mitigation
SEGMENT: CHAPMAN DRIVE
BEGIN STA. 4500 **SURFACE WIDTH:** 10 ft **ASSUMED DISTURBED W:** 18 ft
END STA. 6000 **SURFACING THICKNESS:** 0 in **TOPSOIL THICKNESS** 4 in
LENGTH **1500** **SURFACING TYPE:** ABC (CLASS 6)

		STATION	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59		TOTAL		PAY ITEM
DAMAGE TYPES	GULLY EROSION	G6													100	30			130	LF	
		G12			45								50	90		40	5		230	LF	
		G18	35	5				80	30		35	100	50			30	10		375	LF	
		G24		30					50					10		35	30		155	LF	
		G36																	0	LF	
		G48																	0	LF	
	SHEET EROSION	S6 (1/2)			90	100	100	60											350	LF	
		S6		65	10				50	100	100	100	100	100	100	40	50		815	LF	
		S12	100	15															115	LF	
		S18																	0	LF	
		S24																	0	LF	
		NO DAMAGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5		5	LF	
202		CLEAN CULVERT																	0	EA	X
	EARTHWORK *DITCH EX.	(TYPE 1)	100	100	100	100	100	80	100	100	70	100	100	100	10	100	100		1360	LF	X
		(TYPE 2)													60				60	LF	X
		(ROCK)	10	10	10	10	10	8	10	10	7	10	10	10	7	10	10		142	LF	X
		UNCLASSIFIED EX	15	15	15	15	15	12	15	15	10	15	15	15	5	15	15		205	CY	
		EMBANKMENT	28	20	9	6	6	17	25	11	17	28	23	21	13	23	16		263	CY	
		NET	-13	-5	5	9	9	-5	-11	4	-7	-13	-8	-6	-8	-9	-2		-59	CY	
		BORROW	17	9	-4	-8	-8	7	14	-2	9	17	12	9	10	12	4		98	CY	X
204		ROLLING DIP									1				1				2	EA	X
		LEADOFF DITCH																	0	LF	X
		PULLOUT																	0	EA	
	DISTURBACE	DIST. - DITCHES	800	800	800	800	800	640	800	800	560	800	800	800	440	800	800		11240	SF	
		DIST. SHOULDER WORK																	0	LF	
		DIST. - OTHER (MLCH)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	SF	
		DIST. (SRB)	0	0	0	0	108	40	0	0	160	0	0	0	160	0	0		468	SF	
		TOTAL DISTURBED AREA	800	800	800	800	908	680	800	800	720	800	800	800	600	800	800		11708	SF	
208	BMP	EROSION LOG	0	0	0	0	15	25	0	0	10	0	0	0	10	0	0		60	LF	X
		GRAVEL BAG	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30		450	LF	X
207	RESTO	TOP SOIL	10	10	10	10	11	8	10	10	9	10	10	10	7	10	10		145	CY	X
212		SEEDING	800	800	800	800	1016	720	800	800	720	800	800	800	600	800	800	11856	0.27	AC	X
213		MULCH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	AC	X
216		SR BLANK	89	89	89	89	101	76	89	89	80	89	89	89	67	89	89		1301	SY	X
304	ABC Class 6 +PULLOUT	12' WIDTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	CY	X
	VT MAT	ROAD																	0.0	CY	X
	VT MAT	R DIPS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	2.2	0.0	0.0		4.4	CY	
504		STONE MASONRY INLET BOX						1											1	EA	X
		STONE MASONRY HEADWALL						1											1	EA	X
506	RIPRAP	6 INCH																	0	CY	X
		RIPRAP SOIL (9 INCH)					6	2											8	CY	X
		RIPRAP SOIL (12 INCH)																	0	CY	X
603	COR. STEEL	18-IN						35											35	LF	X
607		FENCE (PLASTIC)									100	100	100	10					310	LF	X

*10% of ditch type 1 & 2 is anticipated to be part of rock excavation

Print Date: Feb 24, 2016
File Name:
Horiz. Scale: Vert. Scale:
Unit Information Unit Leader Initials

Sheet Revisions

Date:	Comments	Init.

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CITY OF BOULDER Open Space & Mountain Parks

As Constructed
No Revisions:
Revised:
Void:

COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE
TABULATIONS

Designer: SJB
Detailer: CWM
Sheet Subset:
Structure Numbers
Subset Sheets:

Project No./Code
CHAPMAN DRIVE
279 – 13134
Sheet Number 7

G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (5-10) Tabulations.dwg Feb 24, 2016 - 8:48am

BID SET
FEBRUARY, 2016

Know what's **below.** Call before you dig.

PROJECT: City of Boulder OSMP Flood Damage Mitigation
SEGMENT: CHAPMAN DRIVE
BEGIN STA. 6000 **SURFACE WIDTH:** 10 ft **ASSUMED DISTURBED W:** 18 ft
END STA. 7500 **SURFACING THICKNESS:** 0 in **TOPSOIL THICKNESS** 4 in
LENGTH 1500 **SURFACING TYPE:** ABC (CLASS 6)

		STATION	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74		TOTAL		PAY ITEM
DAMAGE TYPES	GULLY EROSION	G6																	0	LF	
		G12	30	20	90	10			50	100		30							330	LF	
		G18		10	10	20	5	30	40		80	55	30						280	LF	
		G24		5			10	25					30	50					120	LF	
		G36						30						50	75	50	50		255	LF	
		G48													25	50	50		125	LF	
	SHEET EROSION	S6 (1/2)					70	10	10										90	LF	
		S6	50	60				35											145	LF	
		S12	50			100	30				20		40						240	LF	
		S18																	0	LF	
		S24																	0	LF	
		NO DAMAGE	0	5	0	0	0	0	0	0	0	15	0	0	0	0	0		20	LF	
202		CLEAN CULVERT							1	1				1					3	EA	X
	*DITCH EX.	(TYPE 1)	100	70	100	100	100	100	60	60	100	100	80	70	100	80	90		1310	LF	X
		(TYPE 2)																	0	LF	X
		(ROCK)	10	7	10	10	10	10	6	6	10	10	8	7	10	8	9		131	LF	X
	EARTHWORK	UNCLASSIFIED EX	15	10	15	15	15	15	9	9	15	15	12	10	15	12	13		194	CY	
		EMBANKMENT	19	11	8	26	14	37	11	7	18	11	23	48	72	78	78		462	CY	
		NET	-4	-1	6	-11	0	-22	-2	1	-3	3	-11	-38	-57	-66	-64		-268	CY	
		BORROW	7	3	-5	15	2	28	4	0	6	-2	14	45	68	78	76		337	CY	X
204		ROLLING DIP		1					1	1				1		1			5	EA	X
		LEADOFF DITCH																	0	LF	X
		PULLOUT												1					1	EA	
	DISTURBACE	DIST. - DITCHES	800	560	800	800	800	800	480	480	800	800	640	560	800	640	720		10480	SF	
		DIST. SHOULDER WORK																	0	LF	
		DIST. - OTHER (MLCH)	0	0	0	0	0	0	0	0	0	0	0	720	0	0	0		720	SF	
		DIST. (SRB)	0	579	0	0	108	0	160	267	0	311	0	160	0	160	0		1744	SF	
		TOTAL DISTURBED AREA	800	1139	800	800	908	800	640	747	800	1111	640	1440	800	800	720		12944	SF	
208	BMP	EROSION LOG	0	25	0	0	15	0	10	25	0	15	0	10	0	10	0		110	LF	X
		GRAVEL BAG	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30		450	LF	X
207	RESTO	TOP SOIL	10	14	10	10	11	10	8	9	10	14	8	18	10	10	9	0	160	CY	X
212		SEEDING	800	1557	800	800	1016	800	640	853	800	1421	640	1440	800	800	720	0	13887	0.32	AC	X
213		MULCH	0	0	0	0	0	0	0	0	0	0	0	720	0	0	0	0	720	0.02	AC	X
216		SR BLANK	89	127	89	89	101	89	71	83	89	123	71	80	89	89	80	0	1358	SY	X
304	ABC Class 6 +PULLOUT	12' WIDTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	CY	X
	VT MAT	ROAD																		0.0	CY	X
	VT MAT	R DIPS	0.0	2.2	0.0	0.0	0.0	0.0	2.2	2.2	0.0	0.0	0.0	2.2	0.0	2.2	0.0			11.1	CY	
504		STONE MASONRY INLET BOX																	0	EA	X
		STONE MASONRY HEADWALL																	0	EA	X
506	RIPRAP	6 INCH																	0	CY	X
		RIPRAP SOIL (9 INCH)					6			6									12	CY	X
		RIPRAP SOIL (12 INCH)		31								23							54	CY	X
603	COR. STEEL	18-IN																	0	LF	X
607		FENCE (PLASTIC)							25	25				45					95	LF	X

*10% of ditch type 1 & 2 is anticipated to be part of rock excavation

PROJECT: City of Boulder OSMP Flood Damage Mitigation
SEGMENT: CHAPMAN DRIVE
BEGIN STA. 7500 **SURFACE WIDTH:** 10 ft **ASSUMED DISTURBED W:** 18 ft
END STA. 9000 **SURFACING THICKNESS:** 0 in **TOPSOIL THICKNESS** 4 in
LENGTH 1500 **SURFACING TYPE:** ABC (CLASS 6)

		STATION	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89		TOTAL		PAY ITEM
DAMAGE TYPES	GULLY EROSION	G6														30			30	LF	
		G12			10	100	100	15	95				75						395	LF	
		G18															45		45	LF	
		G24			65			40						30	10				145	LF	
		G36	75											40					115	LF	
		G48	75											40					115	LF	
	SHEET EROSION	S6 (1/2)																	0	LF	
		S6			10	100	65	45	100	100	100	100	100	50	70	100	55		995	LF	
		S12																	0	LF	
		S18		100															100	LF	
		S24	20		25														45	LF	
		NO DAMAGE	0	0	0	0	0	0	0	0	0	0	0	0	20	0	0		20	LF	
202		CLEAN CULVERT						1							1				2	EA	X
	*DITCH EX.	(TYPE 1)	100	120	70	100	100	70	100	70	80	70		30	80	100	100		1190	LF	X
		(TYPE 2)								30		40	100	60			100		330	LF	X
		(ROCK)	10	12	7	10	10	7	10	10	8	11	10	9	8	10	20		152	LF	X
	EARTHWORK	UNCLASSIFIED EX	17	22	10	15	15	10	15	12	12	13	6	8	12	15	20		201	CY	
		EMBANKMENT	126	33	32	19	15	18	18	11	11	11	17	77	11	12	14		423	CY	
		NET	-109	-11	-22	-4	0	-8	-3	1	1	1	-11	-69	1	3	7		-222	CY	
		BORROW	127	16	27	6	2	10	6	1	1	0	14	80	1	-1	-5		285	CY	X
204		ROLLING DIP			1			1				1							3	EA	X
		LEADOFF DITCH	20	40															60	LF	X
		PULLOUT	1																1	EA	
	DISTURBACE	DIST. - DITCHES	920	1200	560	800	800	560	800	740	640	800	600	600	640	800	1400		11860	SF	
		DIST. SHOULDER WORK																	0	LF	
		DIST. - OTHER (MLCH)	1080	0	0	0	0	0	0	0	0	0	0	0	0	0	0		1080	SF	
		DIST. (SRB)	0	0	160	0	108	160	365	0	0	160	0	0	0	0	0		953	SF	
		TOTAL DISTURBED AREA	2000	1200	720	800	908	720	1165	740	640	960	600	600	640	800	1400		13893	SF	
208	BMP	EROSION LOG	0	0	10	0	15	10	15	0	0	10	0	0	0	0	0		60	LF	X
		GRAVEL BAG	30	30	12								30	30	30	30	30		222	LF	X
207	RESTO	TOP SOIL	25	15	9	10	11	9	14	9	8	12	7	7	8	10	17	0	172	CY	X
212		SEEDING	2000	1200	720	800	1016	720	1530	740	640	960	600	600	640	800	1400	0	14366	0.33	AC	X
213		MULCH	1080	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1080	0.02	AC	X
216		SR BLANK	102	133	80	89	101	80	129	82	71	107	67	67	71	89	156	0		1424	SY	X
304	ABC Class 6 +PULLOUT	12' WIDTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	CY	X
	VT MAT	ROAD																		0.0	CY	X
	VT MAT	R DIPS	0.0	0.0	2.2	0.0	0.0	2.2	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0			6.7	CY	
504		STONE MASONRY INLET BOX																	0	EA	X
		STONE MASONRY HEADWALL																	0	EA	X
506	RIPRAP	6 INCH																	0	CY	X
		RIPRAP SOIL (9 INCH)					6												6	CY	X
		RIPRAP SOIL (12 INCH)							27										27	CY	X
603	COR. STEEL	18-IN																	0	LF	X
607		FENCE (PLASTIC)						90	30							60	60		240	LF	X

*10% of ditch type 1 & 2 is anticipated to be part of rock excavation

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Print Date: Feb 24, 2016
File Name:
Horiz. Scale: Vert. Scale:
Unit Information Unit Leader Initials

Sheet Revisions

Date:	Comments	Init.

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CITY OF BOULDER Open Space & Mountain Parks

As Constructed
No Revisions:
Revised:
Void:

COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE
TABULATIONS

Designer: SJB
Detailer: CWM
Sheet Subset:
Structure Numbers
Subset Sheets:

Project No./Code
CHAPMAN DRIVE
279 – 13134
Sheet Number 8

BID SET
FEBRUARY, 2016

Know what's **below.**
Call before you dig.

PROJECT: City of Boulder OSMP Flood Damage Mitigation
SEGMENT: CHAPMAN DRIVE
BEGIN STA. 9000 — **SURFACE WIDTH:** 10 ft — **ASSUMED DISTURBED W:** 18 ft
END STA. 10500 — **SURFACING THICKNESS:** 0 in — **TOPSOIL THICKNESS** 4 in
LENGTH 1500 — **SURFACING TYPE:** ABC (CLASS 6)

		STATION	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104		TOTAL		PAY ITEM
DAMAGE TYPES	GULLY EROSION	G6		20	40	25						20	50				30		185	LF	
		G12	25		20	25	20	40		50	100	15	55			100			450	LF	
		G18	25		20		40	30				5							120	LF	
		G24																	0	LF	
		G36																	0	LF	
		G48																	0	LF	
	SHEET EROSION	S6 (1/2)	50	40									50	100	100	100	70		510	LF	
		S6		60	10	50	40	50	85	50									345	LF	
		S12							15										15	LF	
		S18										5							5	LF	
		S24																	0	LF	
		NO DAMAGE	0	0	10	0	0	0	0	0	0	55	0	0	0	0	0		65	LF	
202		CLEAN CULVERT				2						1							3	EA	X
	EARTHWORK *DITCH EX.	(TYPE 1)	100	20	50	70	70			70	100	40	70	20	100	100	100		910	LF	X
		(TYPE 2)						100	100					60					260	LF	X
		(ROCK)	10	2	5	7	7	10	10	7	10	4	7	8	10	10	10		117	LF	X
		UNCLASSIFIED EX	15	3	7	10	10	6	6	10	15	6	10	6	15	15	15		149	CY	
		EMBANKMENT	9	9	7	8	13	14	13	9	7	4	8	6	6	13	4		128	CY	
		NET	6	-6	1	3	-2	-8	-7	1	7	2	3	1	9	2	10		21	CY	
		BORROW	-5	8	0	-1	4	10	9	0	-6	-1	-1	0	-8	0	-10		-2	CY	X
204		ROLLING DIP			1		1			1		1	1						5	EA	X
		LEADOFF DITCH																	0	LF	X
		PULLOUT												1					1	EA	
	DISTURBACE	DIST. - DITCHES	800	160	400	560	560	600	600	560	800	320	560	520	800	800	800		8840	SF	
		DIST. SHOULDER WORK																	0	LF	
		DIST. - OTHER (MLCH)	0	0	0	0	0	0	0	0	0	0	0	720	0	0	0		720	SF	
		DIST. (SRB)	0	0	160	0	268	0	0	160	0	160	403	0	0	0	0		1151	SF	
		TOTAL DISTURBED AREA	800	160	560	560	828	600	600	720	800	480	963	1240	800	800	800		10711	SF	
208	BMP	EROSION LOG	0	0	10	0	25	0	0	10	0	10	25	0	0	0	0		80	LF	X
		GRAVEL BAG	30	6															36	LF	X
207	RESTO	TOP SOIL	10	2	7	7	10	7	7	9	10	6	12	15	10	10	10	0	132	CY	X
212		SEEDING	800	160	560	560	936	600	600	720	800	480	1206	1240	800	800	800	0	11062	0.25	AC	X
213		MULCH	0	0	0	0	0	0	0	0	0	0	0	720	0	0	0	0	720	0.02	AC	X
216		SR BLANK	89	18	62	62	92	67	67	80	89	53	107	58	89	89	89	0		1110	SY	X
304	ABC Class 6	12' WIDTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	CY	X
		+PULLOUT																				
	VT MAT	ROAD																		0.0	CY	X
	VT MAT	R DIPS	0.0	0.0	2.2	0.0	2.2	0.0	0.0	2.2	0.0	2.2	2.2	0.0	0.0	0.0	0.0			11.1	CY	
504		STONE MASONRY INLET BOX																		0	EA	X
		STONE MASONRY HEADWALL																		0	EA	X
506	RIPRAP	6 INCH																		0	CY	X
		RIPRAP SOIL (9 INCH)					6													6	CY	X
		RIPRAP SOIL (12 INCH)											18							18	CY	X
603	COR. STEEL	18-IN																		0	LF	X
607		FENCE (PLASTIC)				65	20	85	100	70										340	LF	X

*10% of ditch type 1 & 2 is anticipated to be part of rock excavation

PROJECT: City of Boulder OSMP Flood Damage Mitigation
SEGMENT: CHAPMAN DRIVE
BEGIN STA. 10500 — **SURFACE WIDTH:** 10 ft — **ASSUMED DISTURBED W:** 18 ft
END STA. 12000 — **SURFACING THICKNESS:** 0 in — **TOPSOIL THICKNESS** 4 in
LENGTH 1500 — **SURFACING TYPE:** ABC (CLASS 6)

		STATION	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119		TOTAL		PAY ITEM
DAMAGE TYPES	GULLY EROSION	G6	100	100		65	100	20	100	60	80	60	50	30	40	100	80		985	LF	
		G12				35													35	LF	
		G18																	0	LF	
		G24																	0	LF	
		G36																	0	LF	
		G48																	0	LF	
	SHEET EROSION	S6 (1/2)			100														100	LF	
		S6																	0	LF	
		S12																	0	LF	
		S18																	0	LF	
		S24																	0	LF	
		NO DAMAGE	0	0	0	0	0	80	0	40	20	40	50	70	60	0	20		380	LF	
202		CLEAN CULVERT		1															1	EA	X
	EARTHWORK *DITCH EX.	(TYPE 1)	60	90	100	100	100	70	100	100	50		60	20	100	120	100		1170	LF	X
		(TYPE 2)									20	100	40	50					210	LF	X
		(ROCK)	6	9	10	10	10	7	10	10	7	10	10	7	10	12	10		138	LF	X
		UNCLASSIFIED EX	9	13	15	15	15	10	15	15	9	6	11	6	15	18	15		185	CY	
		EMBANKMENT	2	2	6	4	2	0	2	1	1	1	1	1	1	2	1		26	CY	
		NET	7	11	9	11	13	10	13	14	7	4	10	5	14	16	13		159	CY	
		BORROW	-7	-11	-8	-10	-13	-10	-13	-14	-7	-4	-10	-5	-14	-16	-13		-155	CY	X
204		ROLLING DIP	1					1			1			1					4	EA	X
		LEADOFF DITCH																	0	LF	X
		PULLOUT													1				1	EA	
	DISTURBACE	DIST. - DITCHES	480	720	800	800	800	560	800	800	520	600	720	460	800	960	800		10620	SF	
		DIST. SHOULDER WORK																	0	LF	
		DIST. - OTHER (MLCH)	0	0	0	0	0	0	0	0	0	0	0	0	1080	0	0		1080	SF	
		DIST. (SRB)	160	0	0	0	108	210	0	0	160	0	0	160	0	0	0		798	SF	
		TOTAL DISTURBED AREA	640	720	800	800	908	770	800	800	680	600	720	620	1880	960	800		12498	SF	
208	BMP	EROSION LOG	10	0	0	0	15	25	0	0	10	0	0	10	15	0	0		85	LF	X
		GRAVEL BAG			18	30										30	30		108	LF	X
207	RESTO	TOP SOIL	8	9	10	10	11	10	10	10	8	7	9	8	23	12	10	0	154	CY	X
212		SEEDING	640	720	800	800	1016	820	800	800	680	600	720	620	1880	960	800	0	12656	0.29	AC	X
213		MULCH	0	0	0	0	0	0	0	0	0	0	0	0	1080	0	0	0	1080	0.02	AC	X
216		SR BLANK	71	80	89	89	101	86	89	89	76	67	80	69	89	107	89	0		1269	SY	X
304	ABC Class 6	12' WIDTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	CY	X
		+PULLOUT																				
	VT MAT	ROAD																		0.0	CY	X
	VT MAT	R DIPS	2.2	0.0	0.0	0.0	0.0	2.2	0.0	0.0	2.2	0.0	0.0	2.2	0.0	0.0	0.0			8.9	CY	
504		STONE MASONRY INLET BOX																		0	EA	X
		STONE MASONRY HEADWALL																		0	EA	X
506	RIPRAP	6 INCH													10					10	CY	X
		RIPRAP SOIL (9 INCH)					6													6	CY	X
		RIPRAP SOIL (12 INCH)						4												4	CY	X
603	COR. STEEL	18-IN																		0	LF	X
607		FENCE (PLASTIC)		100	80	20						10	30							240	LF	X

*10% of ditch type 1 & 2 is anticipated to be part of rock excavation

Print Date: Feb 24, 2016	Sheet Revisions	As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE TABULATIONS	Project No./Code
File Name:	Date: / Comments / Init.	No Revisions:		CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:		Revised:	Designer: SJB / Structure Numbers	279 – 13134
Unit Information Unit Leader Initials		Void:	Detailer: CWM / Sheet Subset: / Subset Sheets:	Sheet Number 9

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BID SET
FEBRUARY, 2016

Know what's **below.**
Call before you dig.

PROJECT: City of Boulder OSMP Flood Damage Mitigation
SEGMENT: CHAPMAN DRIVE
BEGIN STA. 12000 **SURFACE WIDTH:** 10 ft **ASSUMED DISTURBED W:** 18 ft
END STA. 13500 **SURFACING THICKNESS:** 0 in **TOPSOIL THICKNESS** 4 in
LENGTH **1500** **SURFACING TYPE:** ABC (CLASS 6)

		STATION	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134		TOTAL		PAY ITEM
DAMAGE TYPES	GULLY EROSION	G6	100	25						25	50	25	100	80					405	LF	
		G12									50	50							100	LF	
		G18																	0	LF	
		G24																	0	LF	
		G36																	0	LF	
		G48																	0	LF	
	SHEET EROSION	S6 (1/2)																	0	LF	
		S6																	0	LF	
		S12																	0	LF	
		S18																	0	LF	
		S24																	0	LF	
		NO DAMAGE	0	75	100	100	100	100	100	75	0	25	0	20	100	100	100		995	LF	
202		CLEAN CULVERT								1									1	EA	X
	*DITCH EX.	(TYPE 1)	100	100	100	100	100	100	100	70	100	100	100	70	100	100	100		1440	LF	X
		(TYPE 2)																	0	LF	X
		(ROCK)	10	10	10	10	10	10	10	7	10	10	10	7	10	10	10		144	LF	X
	EARTHWORK	UNCLASSIFIED EX	15	15	15	15	15	15	15	10	15	15	15	10	15	15	15		213	CY	
		EMBANKMENT	2	0	0	0	0	0	0	0	5	4	2	1	0	0	0		15	CY	
		NET	13	14	15	15	15	15	15	10	10	11	13	9	15	15	15		198	CY	
		BORROW	-13	-14	-15	-15	-15	-15	-15	-10	-9	-10	-13	-9	-15	-15	-15		-196	CY	X
204		ROLLING DIP																	0	EA	X
		LEADOFF DITCH																	0	LF	X
		PULLOUT																	0	EA	
	DISTURBACE	DIST. - DITCHES	800	800	800	800	800	800	800	560	800	800	800	560	800	800	800		11520	SF	
		DIST. SHOULDER WORK																	0	LF	
		DIST. - OTHER (MLCH)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	SF	
		DIST. (SRB)	0	0	0	864	108	0	0	0	0	0	0	40	0	0	0		1012	SF	
		TOTAL DISTURBED AREA	800	800	800	1664	908	800	800	560	800	800	800	600	800	800	800		12532	SF	
208	BMP	EROSION LOG	0	0	0	15	15	0	0	0	0	0	0	25	0	0	0		55	LF	X
		GRAVEL BAG	30	30	6														66	LF	X
207	RESTO	TOP SOIL	10	10	10	21	11	10	10	7	10	10	10	7	10	10	10	0	155	CY	X
212		SEEDING	800	800	800	2528	1016	800	800	560	800	800	800	640	800	800	800	0	13544	0.31	AC	X
213		MULCH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	AC	X
216		SR BLANK	89	89	89	185	101	89	89	62	89	89	89	67	89	89	89	0		1392	SY	X
304	ABC Class 6	12' WIDTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	CY	X
		+PULLOUT																			
	VT MAT	ROAD																		0.0	CY	X
	VT MAT	R DIPS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	CY	
504		STONE MASONRY INLET BOX												1						1	EA	X
		STONE MASONRY HEADWALL												1						1	EA	X
506	RIPRAP	6 INCH																		0	CY	X
		RIPRAP SOIL (9 INCH)					6							2						8	CY	X
		RIPRAP SOIL (12 INCH)				64														64	CY	X
603	COR. STEEL	18-IN												28						28	LF	X
607		FENCE (PLASTIC)			60	10		50	100	60	20	50		80	72	20				522	LF	X

*10% of ditch type 1 & 2 is anticipated to be part of rock excavation

PROJECT: City of Boulder OSMP Flood Damage Mitigation
SEGMENT: CHAPMAN DRIVE
BEGIN STA. 13500 **SURFACE WIDTH:** 10 ft **ASSUMED DISTURBED W:** 18 ft
END STA. 15000 **SURFACING THICKNESS:** 0 in **TOPSOIL THICKNESS** 4 in
LENGTH **1500** **SURFACING TYPE:** ABC (CLASS 6)

		STATION	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149		TOTAL			PAY ITEM
DAMAGE TYPES	GULLY EROSION	G6																		0	LF	
		G12																		0	LF	
		G18																		0	LF	
		G24																		0	LF	
		G36																		0	LF	
		G48																		0	LF	
	SHEET EROSION	S6 (1/2)																		0	LF	
		S6																		0	LF	
		S12																		0	LF	
		S18																		0	LF	
		S24																		0	LF	
		NO DAMAGE	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100			1500	LF	
202		CLEAN CULVERT																		0	EA	X
	*DITCH EX.	(TYPE 1)	30																	30	LF	X
		(TYPE 2)																		0	LF	X
		(ROCK)	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0			3	LF	X
	EARTHWORK	UNCLASSIFIED EX	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0			4	CY	
		EMBANKMENT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	CY	
		NET	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0			4	CY	
		BORROW																			CY	X
204		ROLLING DIP																		0	EA	X
		LEADOFF DITCH																		0	LF	X
		PULLOUT																		0	EA	
	DISTURBACE	DIST. - DITCHES	240	0	0	0	0	0	0	0	0	0	0	0	0	0	0			240	SF	
		DIST. SHOULDER WORK																		0	LF	
		DIST. - OTHER (MLCH)	0	0	0	0	0	10403	0	0	0	0	0	0	0	0	0			10403	SF	
		DIST. (SRB)	0	0	0	0	108	0	0	0	0	0	0	0	0	0	0			108	SF	
		TOTAL DISTURBED AREA	240	0	0	0	108	10403	0	0	0	0	0	0	0	0	0			10751	SF	
208	BMP	EROSION LOG	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0			15	LF	X
		GRAVEL BAG																		0	LF	X
207	RESTO	TOP SOIL	3	0	0	0	1	128	0	0	0	0	0	0	0	0	0	0		133	CY	X
212		SEEDING	240	0	0	0	216	10403	0	0	0	0	0	0	0	0	0	0	10859	0.25	AC	X
213		MULCH	0	0	0	0	0	10403	0	0	0	0	0	0	0	0	0	0	10403	0.24	AC	X
216		SR BLANK	27	0	0	0	12	0	0	0	0	0	0	0	0	0	0	0		39	SY	X
304	ABC Class 6	12' WIDTH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	CY	X
		+PULLOUT																				
	VT MAT	ROAD																		0.0	CY	X
	VT MAT	R DIPS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	CY	
504		STONE MASONRY INLET BOX																		0	EA	X
		STONE MASONRY HEADWALL																		0	EA	X
506	RIPRAP	6 INCH																		0	CY	X
		RIPRAP SOIL (9 INCH)					6													6	CY	X
		RIPRAP SOIL (12 INCH)																		0	CY	X
603	COR. STEEL	18-IN																		0	LF	X
607		FENCE (PLASTIC)																			LF	X
		VEHICULAR GATE (16 FOOT)					1															

*10% of ditch type 1 & 2 is anticipated to be part of rock excavation

Print Date: Feb 24, 2016
File Name:
Horiz. Scale: Vert. Scale:
Unit Information Unit Leader Initials

Sheet Revisions

Date:	Comments	Init.

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CITY OF BOULDER Open Space & Mountain Parks

As Constructed
No Revisions:
Revised:
Void:

COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE
TABULATIONS

Designer: SJB
Detailer: CWM
Sheet Subset:
Structure Numbers
Subset Sheets:

Project No./Code
CHAPMAN DRIVE
279 – 13134
Sheet Number 10

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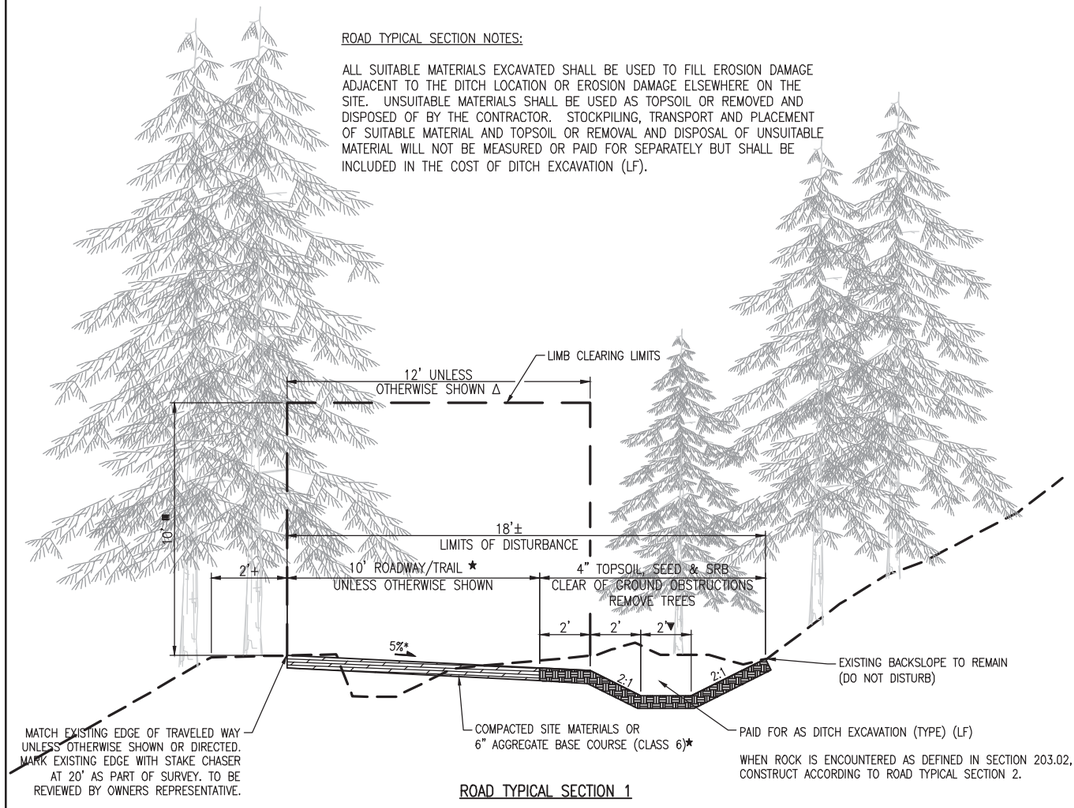
BID SET
FEBRUARY, 2016

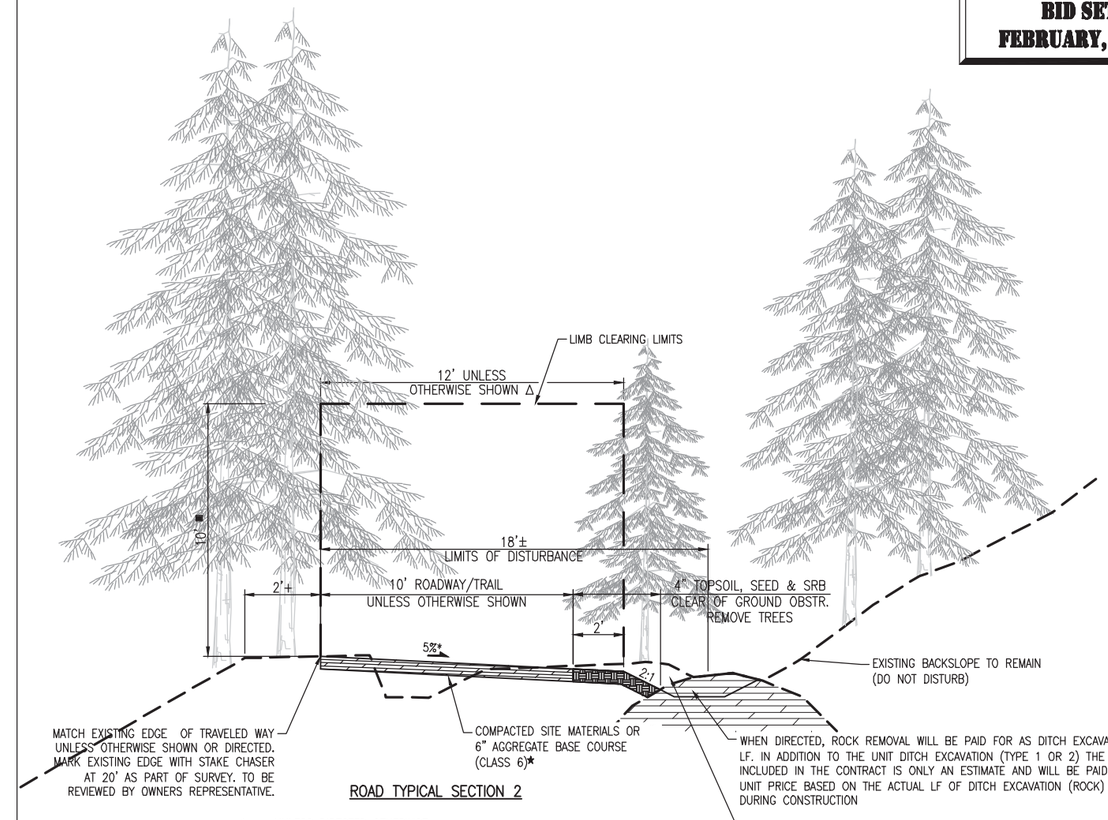
ROAD TYPICAL SECTION NOTES:

ALL SUITABLE MATERIALS EXCAVATED SHALL BE USED TO FILL EROSION DAMAGE ADJACENT TO THE DITCH LOCATION OR EROSION DAMAGE ELSEWHERE ON THE SITE. UNSUITABLE MATERIALS SHALL BE USED AS TOPSOIL OR REMOVED AND DISPOSED OF BY THE CONTRACTOR. STOCKPILING, TRANSPORT AND PLACEMENT OF SUITABLE MATERIAL AND TOPSOIL OR REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL WILL NOT BE MEASURED OR PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF DITCH EXCAVATION (LF).



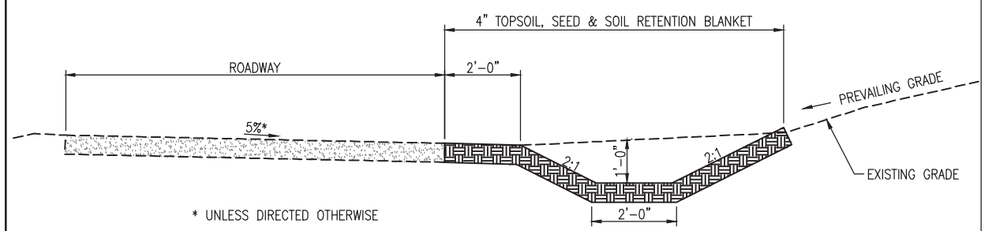
ROAD TYPICAL SECTION 1

* UNLESS DIRECTED OTHERWISE
▼ REDUCE IF NEEDED TO MATCH EXISTING BACKSLOPE
Δ 16' – STA. 0+75 – 14+00
■ 13.5' – STA. 0+75 – 14+00
★ 12' – STA. 0+75 – 14+00



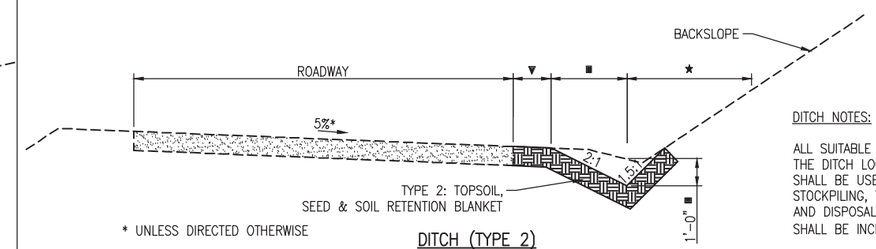
ROAD TYPICAL SECTION 2

* UNLESS DIRECTED OTHERWISE
Δ 16' – STA. 0+75 – 14+00
■ 13.5' – STA. 0+75 – 14+00



* UNLESS DIRECTED OTHERWISE

DITCH (TYPE 1) & LEADOFF DITCH



* UNLESS DIRECTED OTHERWISE

DITCH (TYPE 2)

DITCH NOTES:

ALL SUITABLE MATERIALS EXCAVATED SHALL BE USED TO FILL EROSION DAMAGE ADJACENT TO THE DITCH LOCATION OR EROSION DAMAGE ELSEWHERE ON THE SITE. UNSUITABLE MATERIALS SHALL BE USED AS TOPSOIL OR REMOVED AND DISPOSED OF BY THE CONTRACTOR. STOCKPILING, TRANSPORT AND PLACEMENT OF SUITABLE MATERIAL AND TOPSOIL OR REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL WILL NOT BE MEASURED OR PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF DITCH EXCAVATION (LF).

▼ SHOULDER 2'–0" PREFERRED, REDUCE IF REQUIRED FOR DITCH TO LIMIT BACKSLOPE DISTURBANCE.

■ 2'–0" @ 2:1 FOR 1' DEEP DITCH PREFERRED, AFTER SHOULDER REDUCTION, REDUCE DITCH WIDTH/DEPTH IF REQUIRED TO LIMIT BACKSLOPE DISTURBANCE.

★ 4'–0" MAX DISTURBANCE UP BACKSLOPE UNLESS OTHERWISE APPROVED.

Print Date: Feb 24, 2016	Sheet Revisions		
File Name:	Date:	Comments	Init.
Horiz. Scale: Vert. Scale:			
Unit Information Unit Leader Initials			

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CITY OF BOULDER Open Space & Mountain Parks

As Constructed	COB–OSMP FLOOD DAMAGE REPAIR AND MITIGATION–CHAPMAN DRIVE		Project No./Code
No Revisions:	TYPICAL SECTIONS		CHAPMAN DRIVE
Revised:	Designer: SJB	Structure Numbers	279 – 13134
Void:	Detailer: CWM		
	Sheet Subset:	Subset Sheets:	Sheet Number 11

G:\7.2 Clients\279 – CI Boulder OSMP\13134 – COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (11) Typical Section.dwg Feb 24, 2016 – 8:49am

THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A STORMWATER DISCHARGE PERMIT FROM THE COLORADO DEPARTMENT OF HEALTH PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVES ASSOCIATED WITH THIS PROPOSED DEVELOPMENT.

1. SITE DESCRIPTION

FOR PROJECT INFORMATION

A. PROJECT SITE DESCRIPTION: REPAIRS TO THE CHAPMAN DRIVE ACCESS ROAD TO ADDRESS FLOOD DAMAGE AND MITIGATION MEASURES TO REDUCE THE LIKELIHOOD OF DAMAGE FROM FUTURE EVENTS.

B. PROPOSED SEQUENCING FOR MAJOR ACTIVITIES:

1) MOBILIZATION/ CONSTRUCTION SURVEYING
2) EROSION CONTROL
3) DAMAGE REPAIR / BASE RECONDITIONING
4) INSTALLATION OF DRAINAGE STRUCTURES
5) GRADING OF DITCHES
6) GRADING OF ROLLING DIPS
7) AGGREGATE BASE COURSE FINISH SURFACE
8) RESTORATION / SEEDING
9) CLEANING

C. RECEIVING WATER:

1. OUTFALL LOCATIONS: THERE ARE NO ADDITIONS OF OUTFALL LOCATIONS WITHIN THE PROJECT LIMITS. SIMILAR DRAINAGE PATTERNS WILL BE MAINTAINED. AN UPHILL DITCH WILL BE CONSTRUCTED ADJACENT TO THE ROAD. CROSS CULVERTS OR ROLLING DIPS WILL BE INSTALLED TO MAINTAIN THE OVERALL DRAINAGE PATTERN.
2. NAMES OF RECEIVING WATER(S) ON SITE AND THE ULTIMATE RECEIVING WATER: BOULDER CREEK. ALL WATER RUNOFF ACROSS EXISTING GRADE AND FOLLOW EXISTING GENERAL DRAINAGE PATTERNS. THE ULTIMATE RECEIVING WATER IS BOULDER CREEK.

D. ALLOWABLE NON-STORMWATER DISCHARGES: NO KNOWN ALLOWABLE NON-STORMWATER 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.
2. IF DISCHARGES DO NOT MEET THE ABOVE CRITERIA A SEPARATE PERMIT FROM THE DEPARTMENT OF HEALTH WILL BE REQUIRED. CONTAMINATED GROUNDWATER REQUIRING COVERAGE UNDER A SEPARATE PERMIT MAY INCLUDE GROUNDWATER CONTAMINATED WITH POLLUTANTS FROM A LANDFILL, MINING ACTIVITIES, INDUSTRIAL POLLUTANT PLUMES, UNDERGROUND STORAGE TANK, ETC.

2. STORMWATER MANAGEMENT CONTROLS

A. 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, EXISTING LANDFORMS, OR OTHER BMPS AS APPROVED. EROSION LOGS SHALL BE PROVIDED DOWNHILL OF ANY OUT-SLOPE SECTIONS, BELOW ROLLING DIPS & CULVERTS AND AT THE BOTTOM OF ALL RIPRAP SOIL SECTIONS.

3. DURING CONSTRUCTION

RESPONSIBILITIES OF THE CONTRACTOR

A. MATERIALS HANDLING AND SPILL PREVENTION

1. ANY MATERIAL STOCKPILES SHALL BE LOCATED AWAY FROM SENSITIVE AREAS (AS DEFINED BY THE PROJECT MANAGER) AND CONFINED SO THAT NO MATERIAL OR THEIR RUN-OFF WILL ENTER STATE WATERS. LOCATIONS SHALL BE APPROVED BY THE ENGINEER IN CONSULTATION WITH CITY OF BOULDER
2. CONTAIN AND CLEANUP EQUIPMENT FUEL, OIL, AND LUBRICANT LEAKS.
3. BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND ANY OTHER CHEMICALS SHALL HAVE SECONDARY CONTAINMENT OR EQUIVALENT ADEQUATE PROTECTION SO AS TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING STATE WATERS.
4. CONTRACTOR SHALL INSPECT AND CERTIFY EQUIPMENT AND VEHICLES DAILY TO ENSURE PETROLEUM, OILS, AND LUBRICANTS (POL) ARE NOT LEAKING ONTO THE SOIL OR PAVEMENT. ABSORBENT MATERIAL OR CONTAINERS APPROVED BY THE ENGINEER SHALL BE USED TO PREVENT LEAKING POL FROM REACHING THE SOIL OR PAVEMENT. CONTRACTOR SHALL HAVE READY APPROVED ABSORBENT MATERIAL OR CONTAINERS OF SUFFICIENT CAPACITY TO CONTAIN ANY POL LEAK THAT CAN REASONABLY BE FORESEEN. ALL MATERIALS RESULTING FROM POL LEAKAGE CONTROL AND CLEANUP SHALL BE PROPERTY OF THE CONTRACTOR AND REMOVED FROM THE SITE. THE COST FOR CONTROL AND CLEANUP OF POL LEAKS SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE WORK.

B. STOCKPILE MANAGEMENT

1. SILT FENCE, BERMS OR OTHER SEDIMENT CONTROL DEVICES SHALL BE PLACED AT THE TOE (OR JUST BEYOND TOE) OF ALL ERODIBLE STOCKPILES (INCLUDING TOPSOIL). SEDIMENT CONTROL OR STOCKPILES WILL NOT BE PAID FOR SEPARATELY.
2. THERE SHALL BE NO STOCKPILING OR SIDE CASTING OF WASTE MATERIALS INCLUDING BUT NOT LIMITED TO PAINT CHIPS, ASPHALT, AND CONCRETE ADJACENT TO ANY STATE WATERS.

C. GRADING AND SLOPE STABILIZATION

1. PLACEMENT OF TOPSOIL OR SOIL CONDITIONER, SEED, MULCH AND MULCH TACKIFIER (OR BLANKETS) WILL NOT BE DONE IN A SINGLE OPERATION, BUT SHALL BE COMPLETED:
A) WHEN FINAL GRADING IS COMPLETED, PERMANENT STABILIZATION SHALL OCCUR WITHIN 7 DAYS
B) IN DISTURBED AREAS WHERE WORK IS TEMPORARILY HALTED, THE AREAS SHALL BE TEMPORARILY STABILIZED WITHIN 7 DAYS AFTER ACTIVITY HAS CEASED, UNLESS WORK IS TO BE RESUMED WITHIN 30 CALENDAR DAYS AFTER THE ACTIVITY CEASED (AS AUTHORIZED BY THE ENGINEER).

D. SURFACE ROUGHENING

1. DISTURBED SURFACES SHALL BE LEFT IN A ROUGHENED CONDITION BY EQUIPMENT TRACKING, SCARIFYING OR DISKING THE SURFACE ON CONTOUR WITH A 2 TO 4 INCH MINIMUM VARIATION IN SOIL SURFACE

E. VEHICLE TRACKING

1. CONTRACTOR SHALL CERTIFY THAT CONSTRUCTION EQUIPMENT HAS BEEN CLEANED PRIOR TO SITE ARRIVAL. VEHICLES SHALL BE FREE OF SOIL AND DEBRIS CAPABLE OF TRANSPORTING NOXIOUS WEED SEEDS OR ROOTS ONTO THE SITE.
2. VEHICLE TRACKING PADS PER CDOT M-208-1 ARE REQUIRED AT ANY PUBLIC ROAD ACCESS POINT.

F. TEMPORARY STABILIZATION

1. WHEN DISTURBED AREAS REQUIRE STABILIZATION DURING THE SUMMER AND WINTER WHEN SEEDING IS NOT ALLOWED, TEMPORARY STABILIZATION SHALL OCCUR. TEMPORARY STABILIZATION SHALL NOT BE PAID FOR THE CONVENIENCE OF THE CONTRACTOR. TEMPORARY STABILIZATION SHALL CONSIST OF:
A) EROSION LOGS PLACED AT MAXIMUM 20' SPACING IN DITCHES AND AT OUTFALLS OF NEW ROLLING DIPS.
B) EROSION LOGS PLACED AT OUTFALLS OF ALL SOIL RIPRAP AREAS
C) INLET PROTECTION AT EXISTING AND NEW CULVERTS.

G. NEW INLET/CULVERT PROTECTION

1. INLET PROTECTION IS REQUIRED AT ALL EXISTING AND NEW CULVERTS. EXCEPTS THOSE ABANDONED IN PLACE. DUE TO WATER FLOW PATTERNS. PRIOR TO CONSTRUCTION COMMENCING, INLETS NEEDING PROTECTION SHALL BE EVALUATED AND THE SWMP REVISED ACCORDINGLY.

H. STREET CLEANING

1. ROADWAY SWEEPING SHALL OCCUR ON AN ON-GOING BASIS. SEDIMENT AND DEBRIS SHALL BE REMOVED CONTINUOUSLY FROM THE ROADWAY AS TRACKING OCCURS. STORM DRAIN INLET PROTECTION SHALL BE IN PLACE PRIOR TO SHOVELING, SWEEPING, OR VACUUMING. COST SHALL BE INCLUDED IN EROSION CONTROL (LS) AND WILL NOT BE PAID FOR SEPARATELY.

4. BMP MAINTENANCE

MAINTENANCE SHALL BE IN THE RESPONSIBILITY OF THE CONTRACTOR. BMP'S SHALL BE REGULARLY MAINTAINED AND SHALL BE REPAIRED OR REPLACED AS NEEDED, MAINTENANCE OF BMP'S WILL NOT BE PAID FOR SEPARATELY. THE CONTRACTOR SHALL MAINTAIN THE EROSION CONTROL DEVICES FOR 1 YEAR UNLESS OTHERWISE APPROVED BY THE OWNER.

5. INTERIM AND FINAL STABILIZATION

A. SEEDING PLAN

% PLS* SPECIES	COMMON NAME	VARIETY**	OF MIX	LBS/AC
PASCOPYRUM SMITHII	WESTERN WHEATGRASS	NATIVE OR ARRIBA	30	4.8
ELYMUS TRACHYCAULUS	SLENDER WHEATGRASS	NATIVE OR PRIMAR	30	4.4
NASSELLA VIRIDULA	GREEN NEEDLEGRASS	NATIVE OR LODORM	25	3.0
CHONDROSUM GRACILE	BLUE GRAMA	NATIVE OR LOVINGTON	5	0.9
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	NATIVE OR PASTURA	10	1.4

NOTE: SEEDING RATE PLS LBS/ACRE IS FOR BROADCAST SEEDING. THE RATE CAN BE DIMINISHED HALF IF DRILLED SEEDING IS USED. OWNER WILL SUPPLY SEED OF THIS MIX OR SIMILAR. CONTRACTOR IS RESPONSIBLE FOR APPLICATION.

*PLS = PURE LIVE SEED
** OTHER VARIETIES OF GRASS SEED MAY BE USED.

B. SEEDING APPLICATION: DRILL SEED 0.25 INCH TO 0.5 INCH INTO THE SOIL AT HALF THE RATE. IN AREAS NOT ACCESSIBLE TO A DRILL, HAND BROADCAST AND RAKE 0.25 INCH TO 0.5 INCH INTO THE SOIL. RAKING OR HARROWING DEPTHS SHALL NOT EXCEED ¾" INCH.

C. MULCHING APPLICATION: USE HYDROMULCHING WHERE A BLANKET IS NOT REQUIRED.

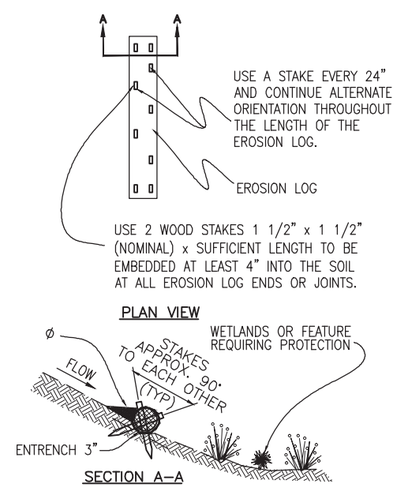
D. SOIL CONDITIONING AND FERTILIZER REQUIREMENTS:

1. FERTILIZER SHALL NOT BE USED ON THE PROJECT.

E. BLANKET APPLICATION: ON SLOPES STEEPER THAN 3:1 AND DITCHES, THE BLANKET SHALL BE PLACED IN LIEU OF MULCH. ONLY SOIL RETENTION BLANKET (EXCELSIOR) (BIODEGRADABLE CLASS 1) SHALL BE USED WHERE BLANKET IS REQUIRED.

F. RESEEDING OPERATIONS/CORRECTIVE STABILIZATION

1. SEEDED AREAS SHALL BE REVIEWED DURING THE 14 DAY INSPECTIONS BY THE CITY OF BOULDER OSMP FOR BARE SOILS CAUSED BY SURFACE OR WIND EROSION. BARE AREAS CAUSED BY SURFACE OR GULLY EROSION, BLOWN AWAY MULCH, ETC. SHALL BE REGRADED, SEEDED, MULCHED AND HAVE MULCH (OR BLANKET) APPLIED AS NECESSARY.
2. AREAS WHERE SEED HAS NOT GERMINATED AFTER ONE SEASON SHALL BE EVALUATED BY THE ENGINEER AND CITY OF BOULDER OSMP. AREAS THAT HAVE NOT GERMINATED SHALL HAVE SEED, MULCH AND MULCH TACKIFIER (OR BLANKET) REAPPLIED.

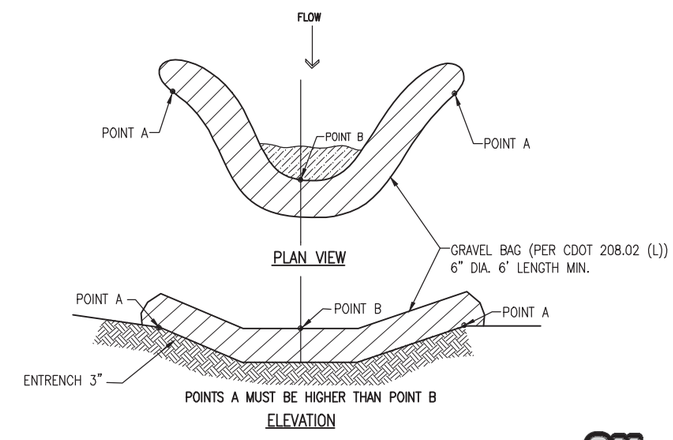


SECTION A–A

TYPICAL STAKING PATTERN AND EROSION LOG APPLICATION

Ø SEDIMENT REMOVAL SHALL BE PERFORMED

1 EROSION LOG DETAIL
NTS



2 DITCH GRAVEL BAG CHECK DAM DETAIL

PLACE GRAVEL BAGS AT 20' MAXIMUM SPACING IN ALL DITCHES AT 8% OR GREATER LONGITUDINAL SLOPE AFTER PLACEMENT OF SOIL RETENTION BLANKET.

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Print Date: Feb 24, 2016	Sheet Revisions		
File Name:	Date:	Comments	Init.
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CITY OF BOULDER Open Space & Mountain Parks

As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE		Project No./Code
No Revisions:	EROSION CONTROL NOTES AND DETAILS		CHAPMAN DRIVE
Revised:	Designer: SJB	Structure Numbers	279 – 13134
Void:	Detailer: CWM		Sheet Number 12
	Sheet Subset:	Subset Sheets:	

G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (12) Erosion Control Notes and Details.dwg Feb 24, 2016 - 8:49am

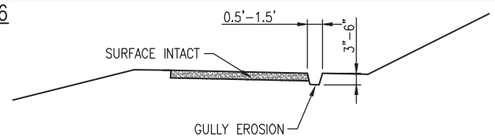
DAMAGE TYPES: GULLY EROSION

(SEE SHEETS 18–23 FOR APPROXIMATE LOCATIONS)

REPAIR TREATMENTS

CONSTRUCTION NOTES

GE 6



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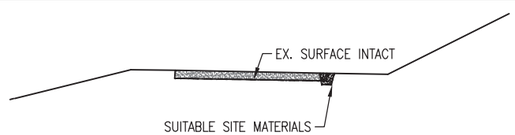
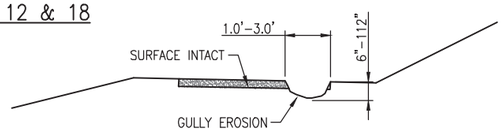


GE 6

1. SURFACING REPAIRS PAID FOR AS RECONDITIONING (LS).

GE 12 & 18



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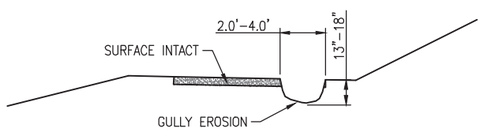
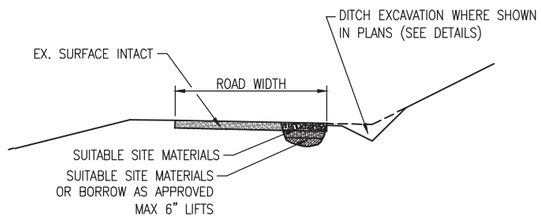


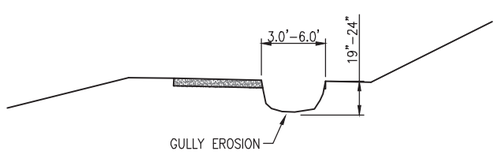
GE 18



GE 12 GE 18

1. THE CONTRACTOR SHALL USE SUITABLE SITE MATERIALS FROM DITCH EXCAVATIONS FOR SUBGRADE REPAIR. THE COST FOR PLACEMENT AND COMPACTION OF SUITABLE SITE MATERIALS SHALL BE INCLUDED WITH THE ASSOCIATED EXCAVATION THAT GENERATED THE MATERIAL.
2. WHEN NO SUITABLE SITE MATERIALS ARE AVAILABLE FOR SUBGRADE REPAIR, IMPORTED MATERIAL, AS APPROVED BY THE PROJECT MANAGER, SHALL BE USED. THIS MATERIAL WILL BE PAID FOR AS BORROW.
3. SURFACING REPAIRS PAID FOR AS RECONDITIONING (LS).

GE 24 & 36



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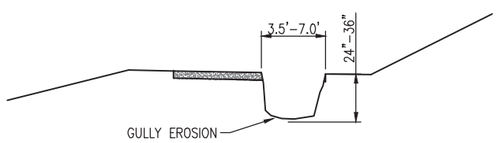
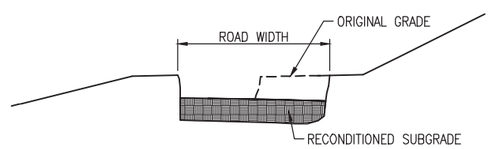


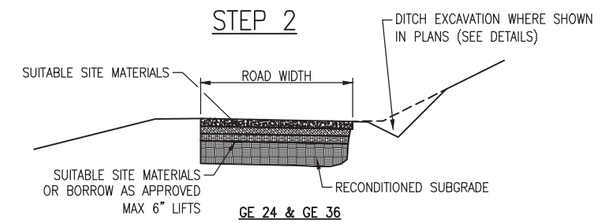
GE 36

STEP 1



GE 24 & GE 36

STEP 2



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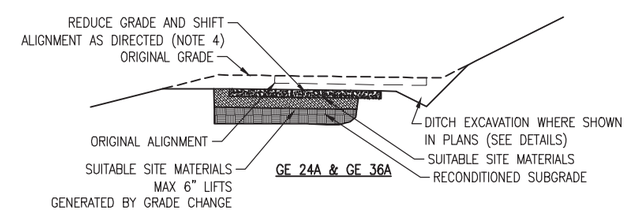
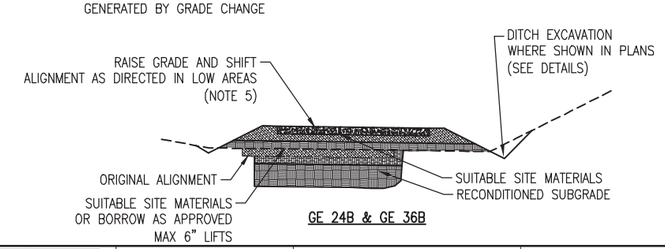


GE 24A & GE 36A



GE 24B & GE 36B

STEP 1:

1. THE CONTRACTOR SHALL RIP, DOZE OR OTHERWISE REWORK TO PROVIDE A UNIFORM SUBGRADE ACROSS THE ENTIRE ROADWAY WIDTH. FULLY EXPOSED ROCK GREATER THAN 6 INCHES IN GREATEST DIMENSION SHALL BE REMOVED FOR USE ELSEWHERE IN THE PROJECT AS RIPRAP. PAID FOR AS RECONDITIONING (LS). PLACEMENT OF ROCK GENERATED WILL BE PAID FOR SEPARATELY AS RIPRAP.

STEP 2:

2. THE CONTRACTOR SHALL USE SUITABLE SITE MATERIALS FROM DITCH EXCAVATIONS, BERM EXCAVATIONS, ETC. FOR SUBGRADE REPAIR. THE COST FOR PLACEMENT AND COMPACTION OF SUITABLE SITE MATERIALS SHALL BE INCLUDED WITH THE ASSOCIATED EXCAVATION THAT GENERATED THE MATERIAL.
3. WHEN NO SUITABLE SITE MATERIALS ARE AVAILABLE FOR SUBGRADE REPAIR, IMPORTED MATERIAL, AS APPROVED BY THE PROJECT MANAGER, SHALL BE USED. MATERIAL AND PLACEMENT WILL BE PAID FOR AS BORROW.
4. THE ROADWAY PROFILE SHALL BE LOWERED AND ALIGNMENT ADJUSTED AS DIRECTED TO REDUCE THE NEED FOR IMPORTED MATERIALS. COST OF THIS WORK INCLUDED IN RECONDITIONING (LS).
5. THE ROADWAY PROFILE SHALL BE RAISED AND ALIGNMENT ADJUSTED WHERE CALLED FOR IN THE PLANS OR OTHERWISE DIRECTED. IMPORT MATERIAL IF REQUIRED TO ACHIEVE FINAL GRADE WILL BE PAID FOR AS BORROW, SEE NOTE 3 ABOVE.
6. SURFACING REPAIRS PAID FOR AS RECONDITIONING (LS).

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CITY OF BOULDER Open Space & Mountain Parks

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No Revisions:			CHAPMAN DRIVE
Revised:	Designer: SJB	Structure Numbers	279 – 13134
Void:	Detailer: CWM		Sheet Number 13
	Sheet Subset:	Subset Sheets:	

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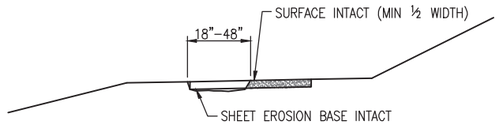
DAMAGE TYPES: SHEET EROSION

(SEE SHEETS 18–23 FOR APPROXIMATE LOCATIONS)

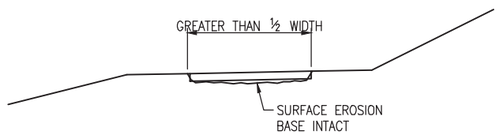
REPAIR TREATMENTS

CONSTRUCTION NOTES

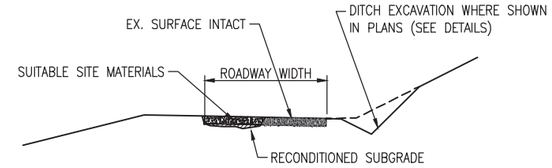
SE 6



SE 6 (HALF)



SE 6 (FULL)



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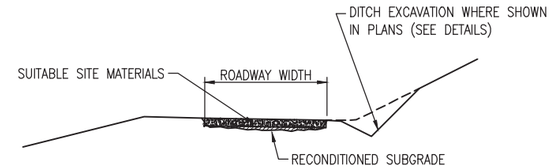


SE 6 (FULL)

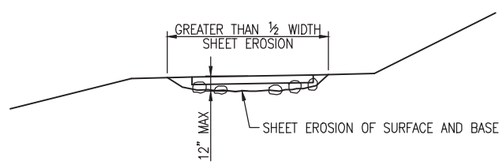
STEP 1:

1. THE CONTRACTOR SHALL RIP, DOZE OR OTHERWISE REWORK TO PROVIDE A UNIFORM SUBGRADE ACROSS THE ENTIRE ROADWAY WIDTH. ROCK GREATER THAN 6 INCHES IN GREATEST DIMENSION SHALL BE REMOVED FOR USE ELSEWHERE IN THE PROJECT AS RIPRAP. PAID FOR AS RECONDITIONING (LS). PLACEMENT OF SITE ROCK USED AS RIPRAP WILL BE PAID FOR SEPARATELY.

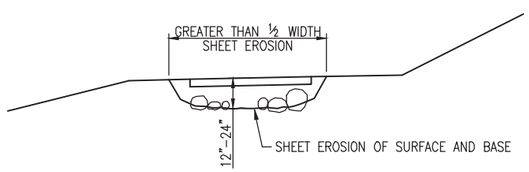
STEP 2:

2. SURFACING REPAIRS PAID FOR AS RECONDITIONING (LS).

SE 12 & SE >12



SE 12



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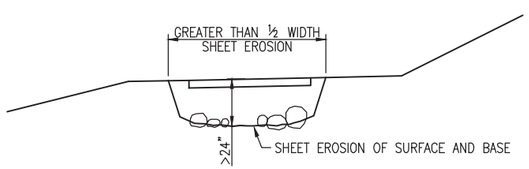

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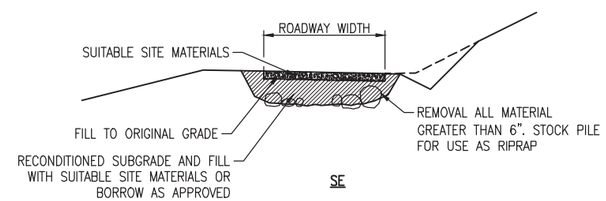

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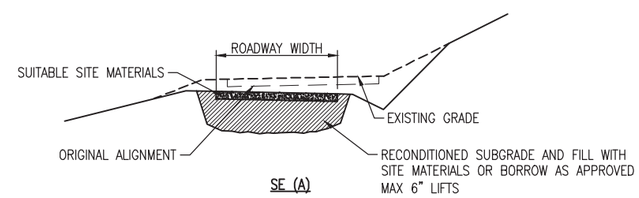
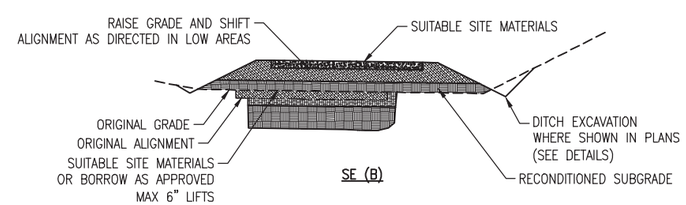


SE (A)



SE (B)

STEP 1:

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STEP 2:

2. THE CONTRACTOR SHALL USE SUITABLE SITE MATERIALS FROM DITCH EXCAVATIONS, BERM EXCAVATIONS, ETC. FOR SUBGRADE REPAIR. THE COST FOR PLACEMENT AND COMPACTION OF SUITABLE SITE MATERIALS SHALL BE INCLUDED WITH THE ASSOCIATED EXCAVATION THAT GENERATED THE MATERIAL.
3. WHEN NO SUITABLE SITE MATERIALS ARE AVAILABLE FOR SUBGRADE REPAIR, IMPORTED MATERIAL, AS APPROVED BY THE PROJECT MANAGER, SHALL BE USED. MATERIAL AND PLACEMENT WILL BE PAID FOR AS BORROW.
4. THE ROADWAY PROFILE SHALL BE LOWERED AND ALIGNMENT ADJUSTED WHERE CALLED FOR IN THE PLANS OR OTHERWISE DIRECTED TO REDUCE THE NEED FOR IMPORTED MATERIALS. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN RECONDITIONING (LS).
5. THE ROADWAY PROFILE SHALL BE RAISED AND ALIGNMENT ADJUSTED WHERE CALLED FOR IN THE PLANS OR OTHERWISE DIRECTED TO TO REDUCE THE NEED TO REMOVE MATERIAL FROM THE SITE. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN RECONDITIONING (LS), IMPORT MATERIAL IF REQUIRED TO ACHIEVE FINAL GRADE WILL BE PAID FOR AS BORROW, SEE NOTE 3 ABOVE.
6. SURFACING REPAIRS PAID FOR AS RECONDITIONING (LS).

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No Revisions:			CHAPMAN DRIVE
Revised:	Designer: SJB	Structure Numbers	279 – 13134
Void:	Detailer: CWM		Sheet Number 14
	Sheet Subset:	Subset Sheets:	

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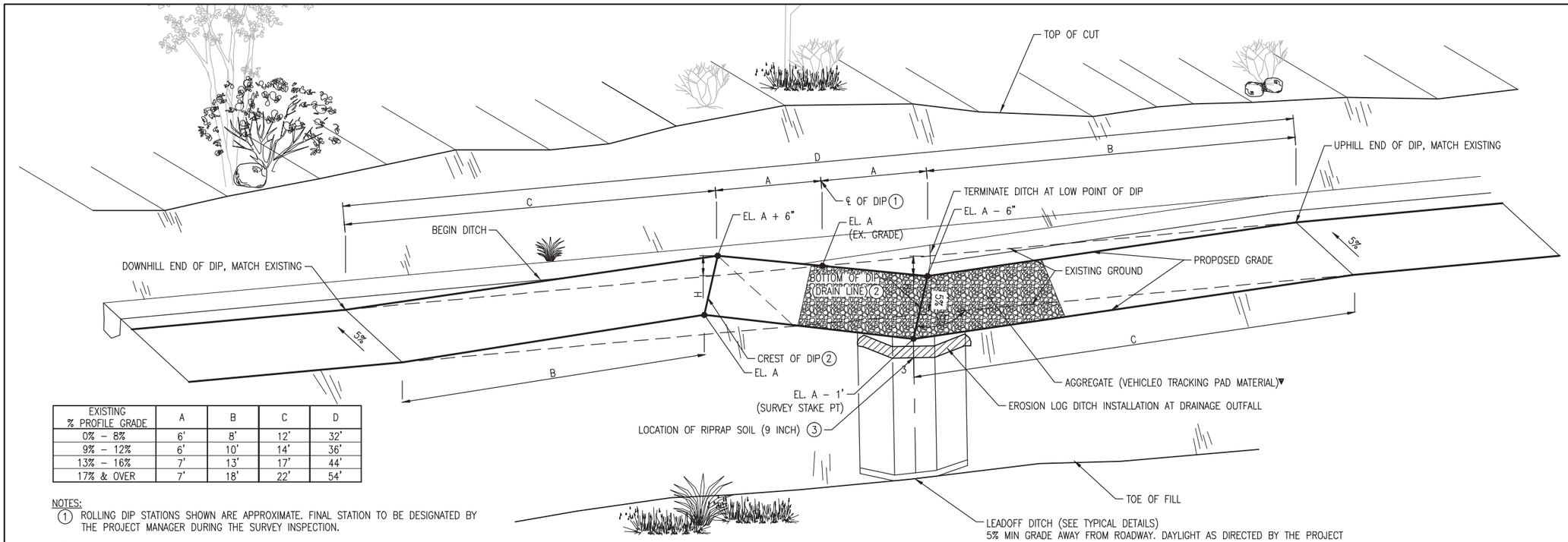


EXISTING % PROFILE GRADE	A	B	C	D
0% – 8%	6'	8'	12'	32'
9% – 12%	6'	10'	14'	36'
13% – 16%	7'	13'	17'	44'
17% & OVER	7'	18'	22'	54'

NOTES:

(1) ROLLING DIP STATIONS SHOWN ARE APPROXIMATE. FINAL STATION TO BE DESIGNATED BY THE PROJECT MANAGER DURING THE SURVEY INSPECTION.

(2) ROUND GRADE

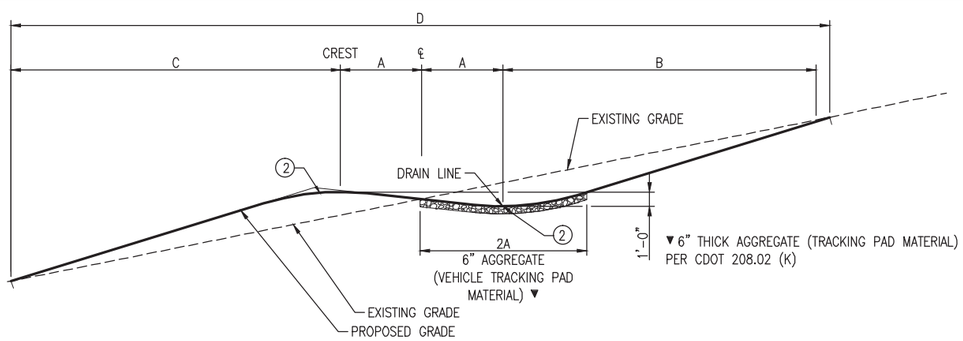
▼ 6" THICK AGGREGATE (TRACKING PAD MATERIAL) PER CDOT 208.02 (K). AGGREGATE TO BE COVERED WITH SITE SOIL TO FILL VOIDS. SITE ROCK MEETING THE REQUIREMENTS OF 208.02 (K) SHALL BE USED WHEN AVAILABLE. COST OF MATERIALS AND PLACEMENT, WHETHER SITE MATERIALS OR IMPORTED SHALL BE INCLUDED IN THE COST OF ROLLING DIP (EACH)

(3) IF DIRECTED BY THE PROJECT MANAGER, PLACE ½–2 CY OF RIPRAP SOIL (9 INCH) AT THE OUTFALL OF ROLLING DIPS. COST SHALL BE PAID FOR AS RIPRAP SOIL (9 INCH).

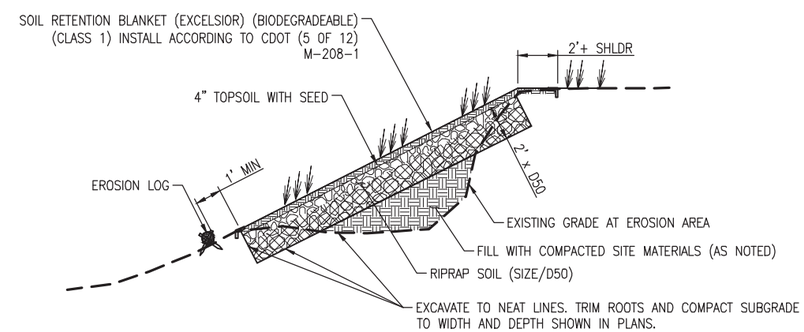
LEADOFF DITCH (SEE TYPICAL DETAILS)
5% MIN GRADE AWAY FROM ROADWAY. DAYLIGHT AS DIRECTED BY THE PROJECT MANAGER. WHERE EXCAVATION REQUIRED, PAID FOR AS LEAD OFF DITCH (LF). DISTURBED AREAS TO RECEIVE TOPSOIL, SEED AND SOIL RETENTION BLANKET UNLESS OTHERWISE SHOWN OR DIRECTED TO RECEIVE RIPRAP.

EACH LEADOFF DITCH SHALL INCLUDE EROSION LOG DITCH INSTALLATION AT THE DOWNSTREAM END AND AT 20' MAX SPACING IF APPLICABLE.

ROLLING DIP (RD)
N.T.S



PROFILE VIEW



RIPRAP SOIL SLOPE STABILIZATION

NOTES:
1. RIPRAP SOIL SHALL BE 70% RIPRAP 30% SITE MATERIALS OR MATERIALS FROM STOCKPILE. MIXED UNIFORMLY.
2. PLACE STONE–SOIL MIX TO RESULT IN SECURELY INTERLOCKED ROCK AT THE DESIGN THICKNESS AND GRADE. COMPACT AND LEVEL TO ELIMINATE ALL VOIDS AND ROCKS PROJECTING ABOVE DESIGN RIPRAP TOP GRADE

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Revised:	Designer: SJB	Structure Numbers	279 – 13134
Void:	Detailer: CWM		
	Sheet Subset:	Subset Sheets:	Sheet Number 15

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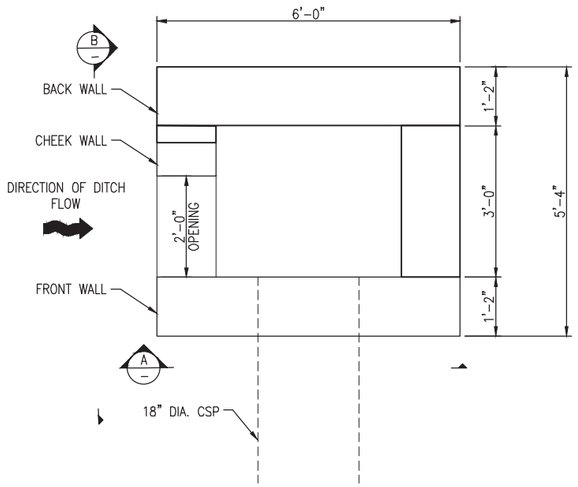
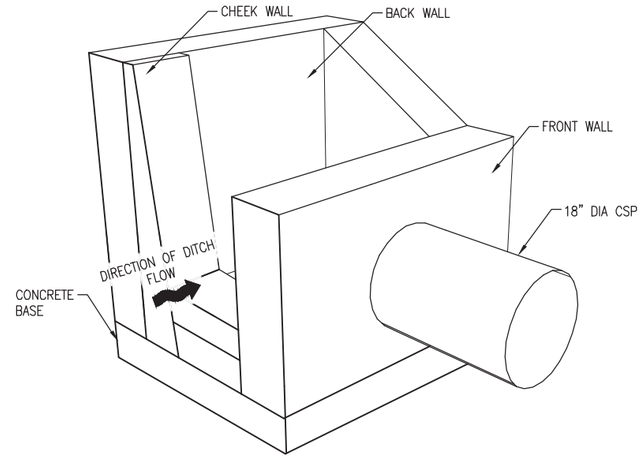
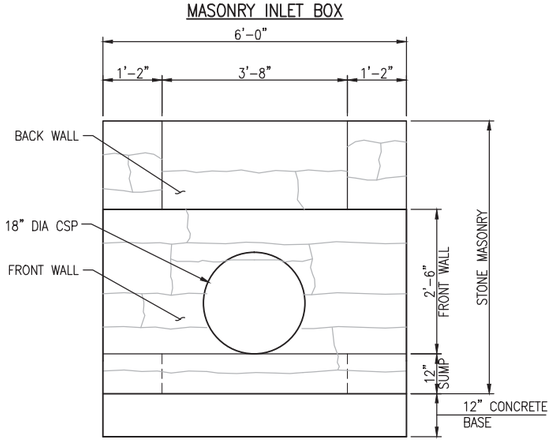


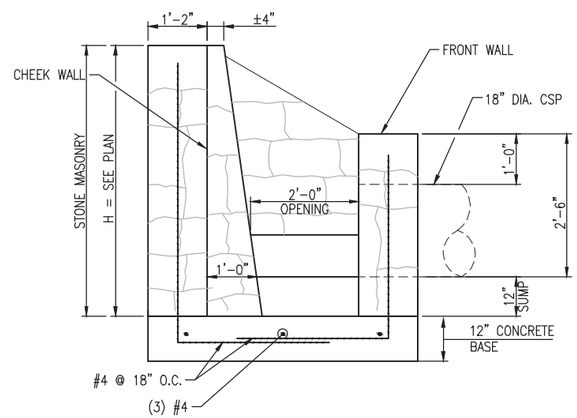
MASONRY INLET BOX



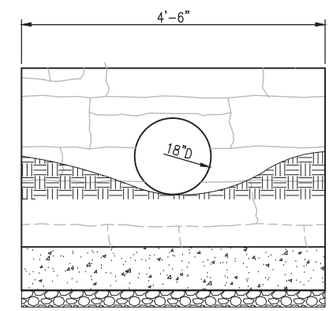
MASONRY INLET BOX ORTHO



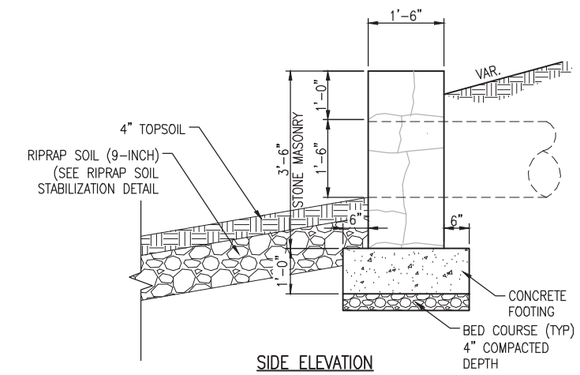
A MASONRY INLET BOX



B MASONRY INLET BOX



FRONT ELEVATION



SIDE ELEVATION

MASONRY HEADWALL DETAIL

NOTES:
1. CONSTRUCT HEADWALLS PARALLEL TO THE LINE AND GRADE OF ROADWAY WHERE THE HEADWALL IS LESS THAN 2' BELOW SHOULDER GRADE.
2. MODIFY HEADWALL WHEN PIPES ARE SKEWED AS DIRECTED BY PM
3. PAID FOR AS STONE MASONRY HEADWALL (EA). COST INCLUDES CONCRETE FOOTING

NOTE:
INLET BOXES SHOWN IN PHOTOS ARE LOCATED ON THE NORTH SIDE OF SH119, WEST OF SUGARLOAF RD.

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FEBRUARY, 2016

Print Date: Feb 24, 2016	Sheet Revisions			As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE TYPICAL DETAILS	Project No./Code
File Name:	Date:	Comments	Init.	No Revisions:		CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:				Revised:	Designer: SJB / Structure Numbers	279 – 13134
Unit Information Unit Leader Initials				Void:	Detailer: CWM	Sheet Number 16
					Sheet Subset: / Subset Sheets:	

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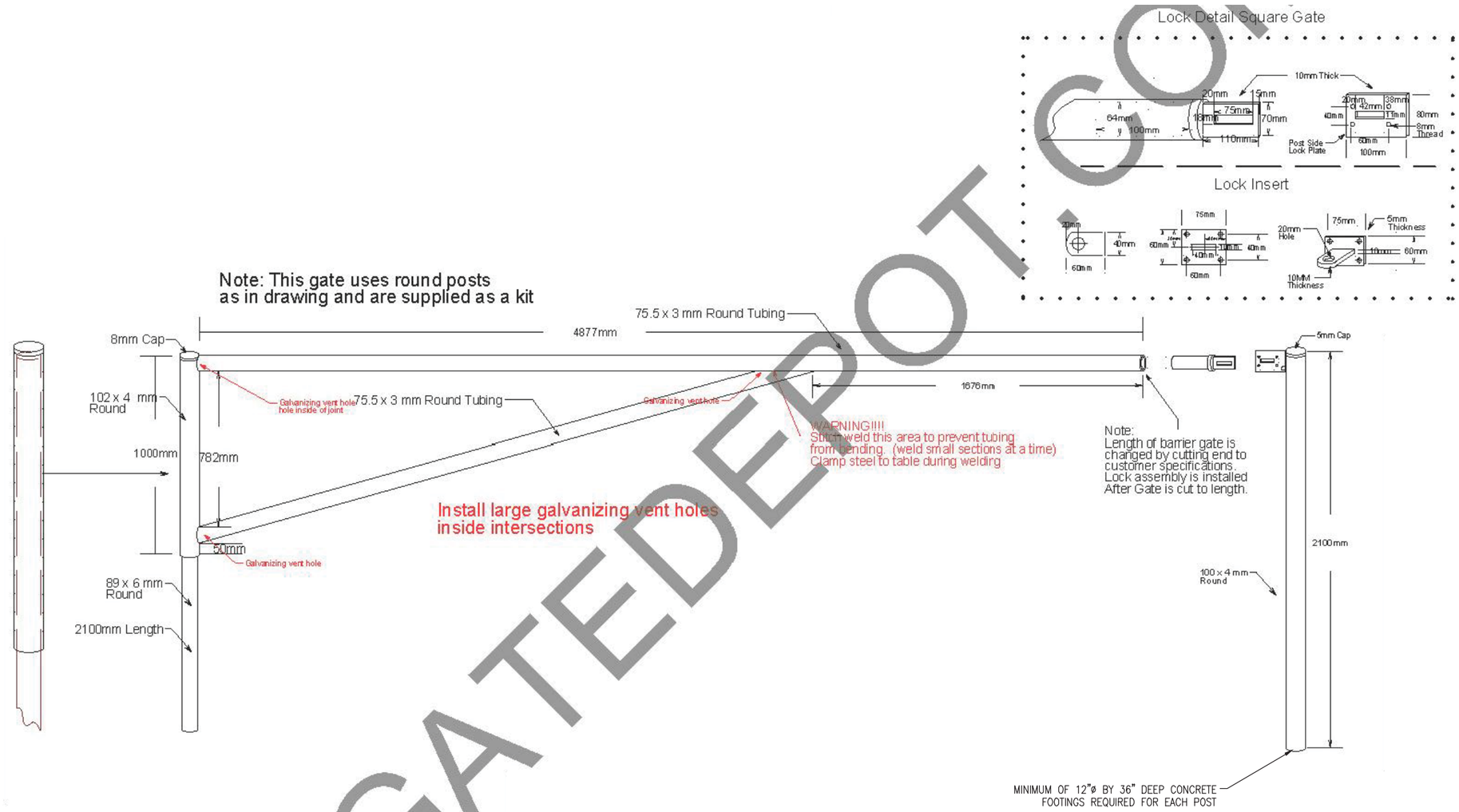
G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (15-17) Typical Details.dwg Feb 24, 2016 - 8:49am



ROUND BARRIER GATE
(VARIABLE LENGTH 11' – 16')

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Print Date: Feb 24, 2016		Sheet Revisions			As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE	Project No./Code
File Name:		Date:	Comments	Init.	No Revisions:	TYPICAL DETAILS	CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:					Revised:	Designer: SJB / Structure Numbers	279 – 13134
Unit Information Unit Leader Initials					Void:	Detailer: CWM	Sheet Number 17
						Sheet Subset: / Subset Sheets:	

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Print Date: Feb 24, 2016		Sheet Revisions			As Constructed	COB–OSMP FLOOD DAMAGE REPAIR AND MITIGATION–CHAPMAN DRIVE	Project No./Code
File Name:		Date:	Comments	Init.	No Revisions:	FLOOD DAMAGE SURVEY	CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:					Revised:	Designer: SJB / Structure Numbers	279 – 13134
Unit Information Unit Leader Initials					Void:	Detailer: CWM / Sheet Subset: 1 / Subset Sheets: 6	Sheet Number 18

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Print Date: Feb 24, 2016	Sheet Revisions		
File Name:	Date:	Comments	Init.
Horiz. Scale: Vert. Scale:			
Unit Information Unit Leader Initials			

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No Revisions:
Revised:
Void:

COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE
FLOOD DAMAGE SURVEY

Designer:	SJB	Structure Numbers	
Detailer:	CWM		
Sheet Subset:	2	Subset Sheets:	6

Project No./Code
CHAPMAN DRIVE
279 – 13134
Sheet Number 19

BID SET
FEBRUARY, 2016

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NOTE:
SEE SHEETS 13 AND 14 FOR DESCRIPTIONS OF DAMAGE TYPES

0 50 100
SCALE: 1" = 50'

Print Date: Feb 24, 2016	Sheet Revisions			As Constructed	COB–OSMP FLOOD DAMAGE REPAIR AND MITIGATION–CHAPMAN DRIVE		Project No./Code
File Name:	Date:	Comments	Init.	No Revisions:	FLOOD DAMAGE SURVEY		CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:				Revised:	Designer: SJB	Structure Numbers	279 – 13134
Unit Information Unit Leader Initials					Detailer: CWM		
				Void:	Sheet Subset: 3	Subset Sheets: 6	Sheet Number 20

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G:\Y.2 Clients\279 – CI Boulder OSMP\13134 – COB–OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (18–23) Flood Damage Survey.dwg Feb 24, 2016 – 8:50am

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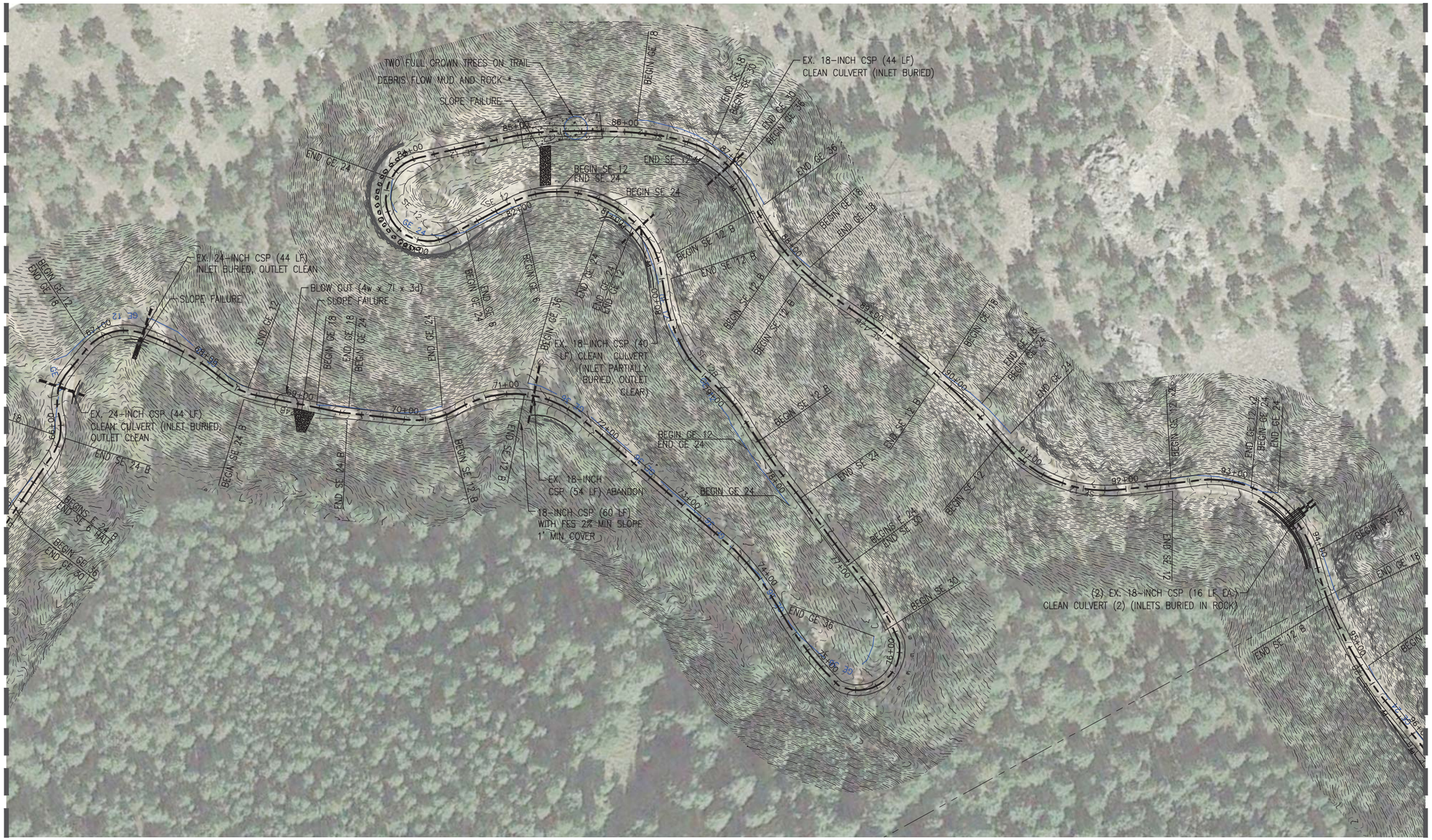

NOTE:
SEE SHEETS 13 AND 14 FOR DESCRIPTIONS OF DAMAGE TYPES

* LOOSE ROCK MATERIAL SHALL BE REMOVED AND USED AS RIPRAP.

0 50 100
SCALE: 1" = 50'

Print Date: Feb 24, 2016	Sheet Revisions		
File Name:	Date:	Comments	Init.
Horiz. Scale: Vert. Scale:			
Unit Information Unit Leader Initials			

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No Revisions:	FLOOD DAMAGE SURVEY		CHAPMAN DRIVE
Revised:	Designer: SJB	Structure Numbers	279 – 13134
Void:	Detailer: CWM		
	Sheet Subset: 4	Subset Sheets: 6	Sheet Number 21

G:\Y2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (18-23) Flood Damage Survey.dwg Feb 24, 2016 - 8:51am

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0 50 100
SCALE: 1" = 50'

Print Date: Feb 24, 2016	Sheet Revisions			As Constructed	COB–OSMP FLOOD DAMAGE REPAIR AND MITIGATION–CHAPMAN DRIVE FLOOD DAMAGE SURVEY	Project No./Code
File Name:	Date:	Comments	Init.	No Revisions:		CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:				Revised:	Designer: SJB / Structure Numbers	279 – 13134
Unit Information Unit Leader Initials				Void:	Detailer: CWM / Sheet Subset: 5 / Subset Sheets: 6	Sheet Number 22

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NOTE:
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DESCRIPTIONS OF DAMAGE TYPES

N

0 50 100
SCALE: 1" = 50'

Print Date: Feb 24, 2016		Sheet Revisions			As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE	Project No./Code
File Name:		Date:	Comments	Init.	No Revisions:	FLOOD DAMAGE SURVEY	CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:					Revised:	Designer: SJB / Structure Numbers	279 – 13134
Unit Information Unit Leader Initials					Void:	Detailer: CWM	Sheet Number 23
						Sheet Subset: 6 / Subset Sheets: 6	

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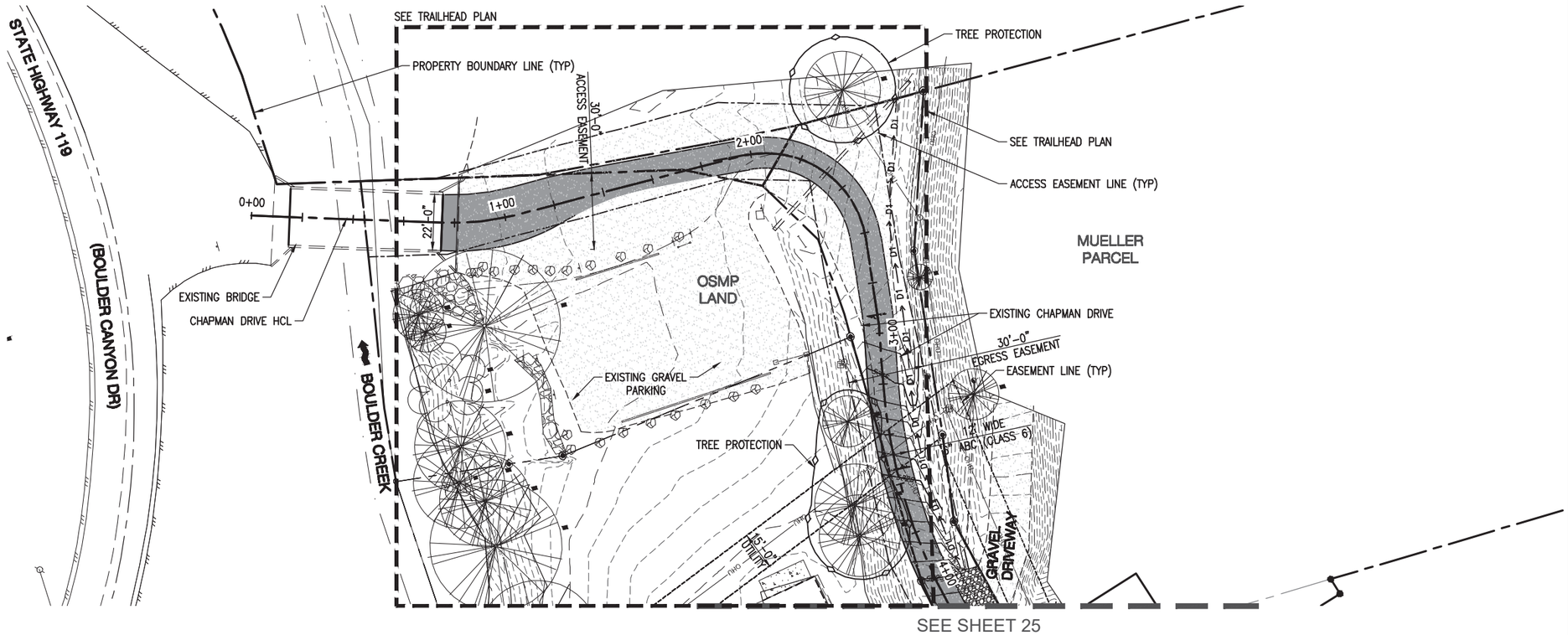
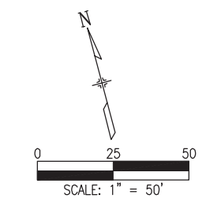
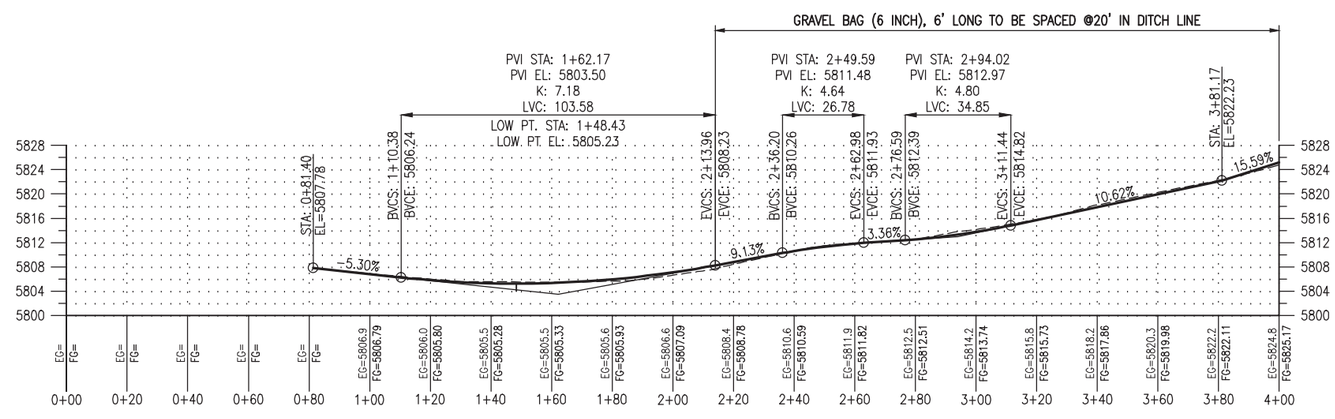


SEE SHEET 25





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Print Date: Feb 24, 2016	Sheet Revisions	Loris and Associates, Inc.	As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION–CHAPMAN DRIVE
File Name:	Date: / Comments / Init.	100 Superior Plaza Way, Suite 220, Superior, Colorado 80027	No Revisions:	FLOOD DAMAGE MITIGATION
Horiz. Scale: 1"=50' Vert. Scale:		303.444.2073	Revised:	STA. 0+00 – 4+00
Unit Information Unit Leader Initials		www.LorisandAssociates.com	Void:	Designer: SJB / Detailer: CWM / Structure Numbers
		CITY OF BOULDER Open Space & Mountain Parks		Sheet Subset: 1 / Subset Sheets: 21

Project No./Code: CHAPMAN DRIVE — 279 – 13134

Sheet Number 24

G:\7.2 Clients\279 – 01 Boulder OSMP\13134 – COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (24-26)-Flood Damage Mitigation (sta 0+00-14+00).dwg Feb 24, 2016 – 8:51am

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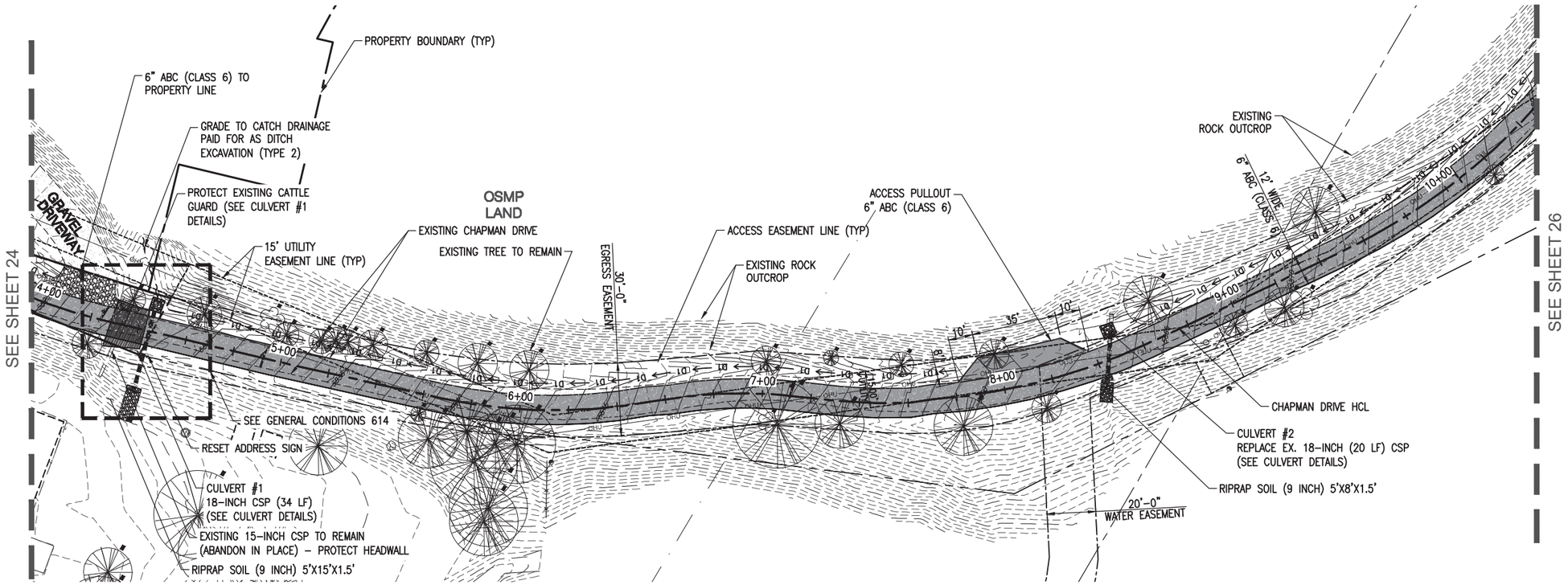

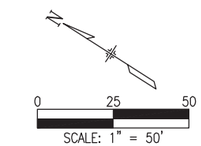

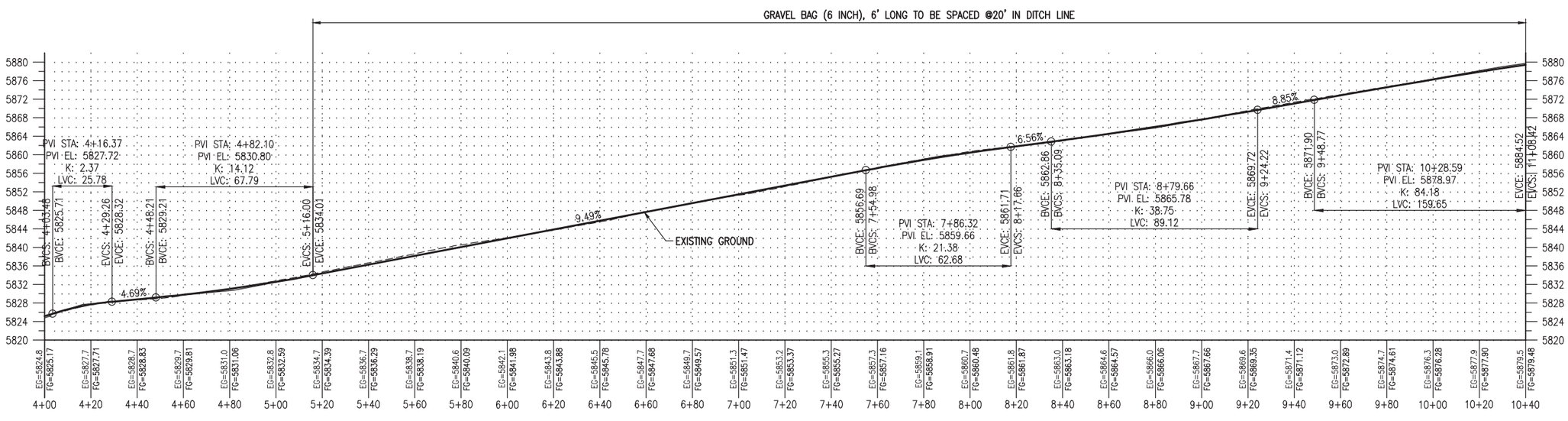

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Print Date: Feb 24, 2016	Sheet Revisions		
File Name:	Date:	Comments	Init.
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No Revisions:	FLOOD DAMAGE MITIGATION STA. 4+00 - 9+00			CHAPMAN DRIVE
Revised:	Designer: SJB	Structure Numbers		279 - 13134
Void:	Detailer: CWM			
	Sheet Subset: 2	Subset Sheets: 21		Sheet Number 25

G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (24-26)-Flood Damage Mitigation (sta 0+00-14+00).dwg Feb 24, 2016 - 8:52am

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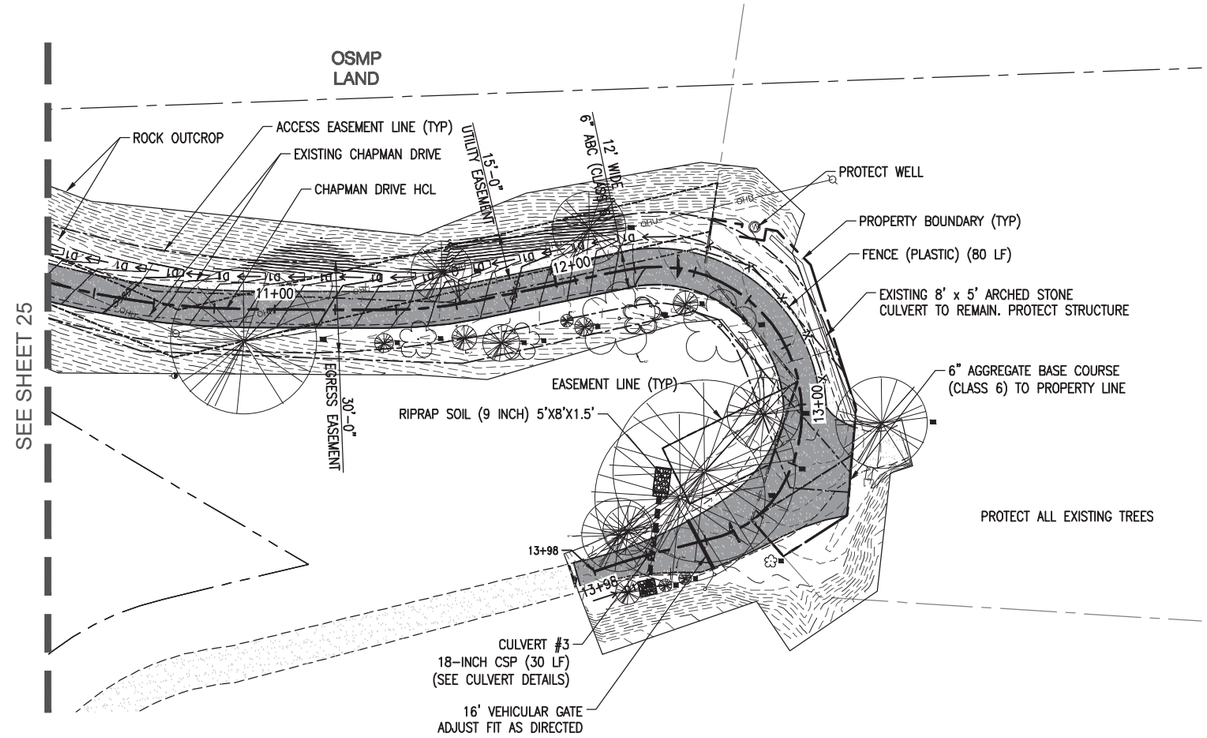

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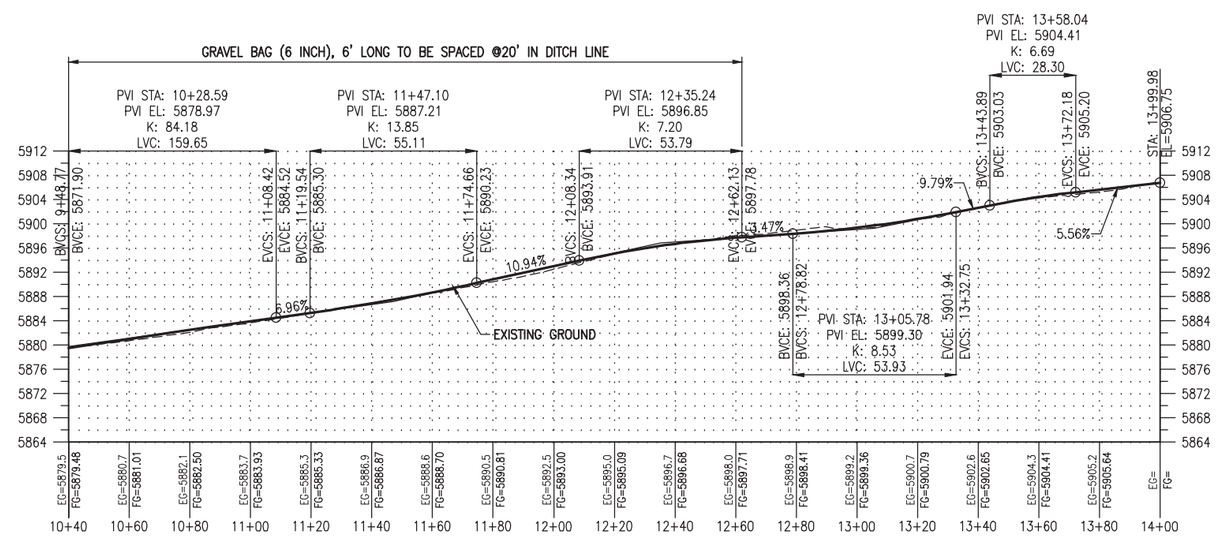
SCALE: 1" = 50'



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File Name:	Date:	Comments	Init.
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No Revisions:	FLOOD DAMAGE MITIGATION STA. 10+40 - 14+00			CHAPMAN DRIVE
Revised:	Designer: SJB	Structure Numbers		279 - 13134
Void:	Detailer: CWM			
	Sheet Subset: 3	Subset Sheets: 21		Sheet Number 26

G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (24-26)-Flood Damage Mitigation (sta 0+00-14+00).dwg Feb 24, 2016 - 8:52am

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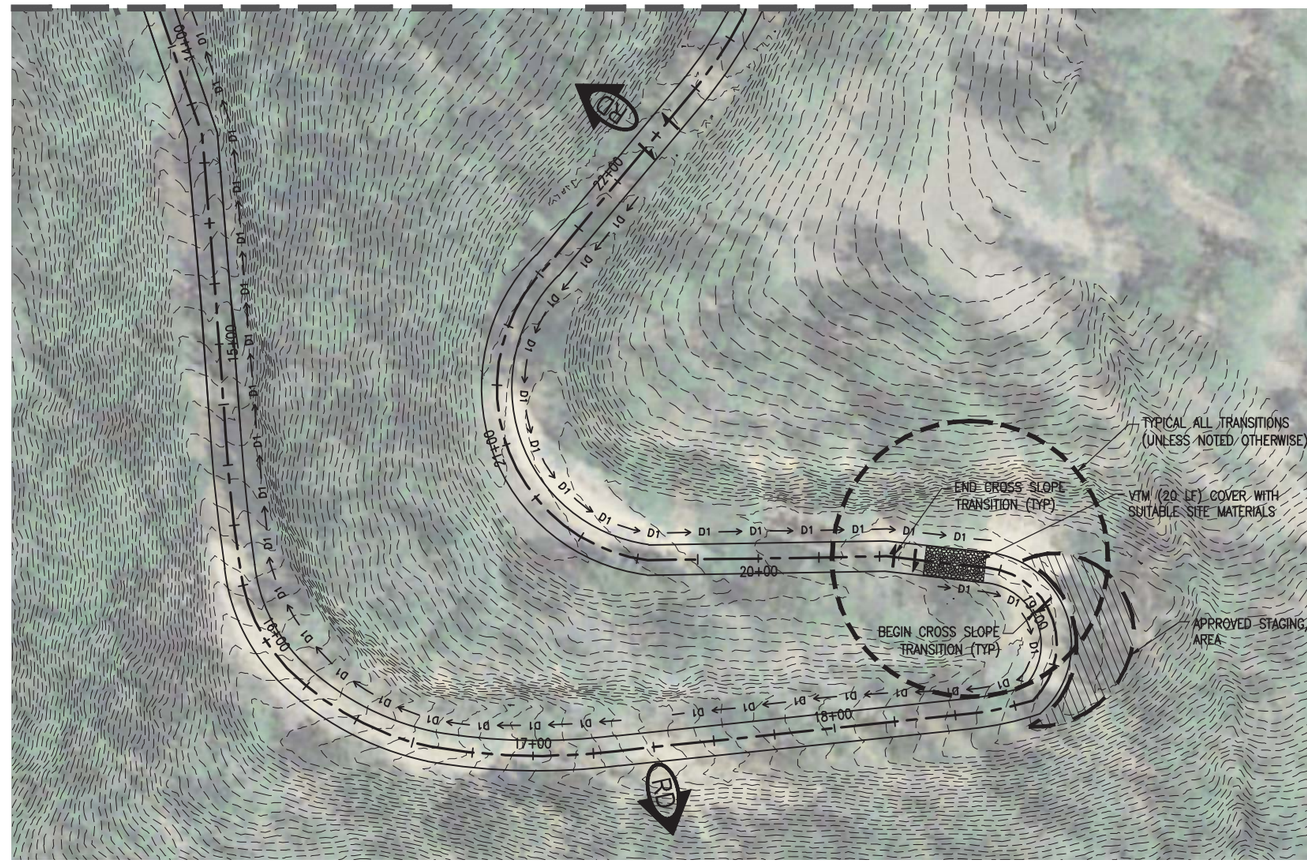
SEE SHEET 26 SEE SHEET 28



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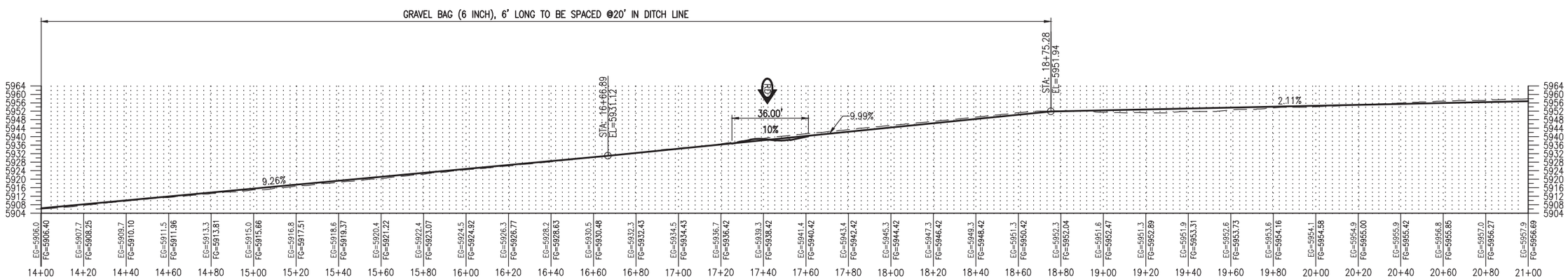

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Print Date: Feb 24, 2016	Sheet Revisions	As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION–CHAPMAN DRIVE
File Name:	Date: / Comments / Init.	No Revisions:	FLOOD DAMAGE MITIGATION
Horiz. Scale: 1:50 Vert. Scale: 1:50		Revised:	STA. 14+00 – 21+00
Unit Information Unit Leader Initials		Void:	Designer: SJB / Detailer: CWM / Structure Numbers
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Project No./Code
CHAPMAN DRIVE
279 – 13134
Sheet Number 27

G:\7.2 Clients\279 – CI Boulder OSMP\13134 – COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (27-33) Flood Damage Mitigation (sta. 14+00-63+00).dwg Feb 24, 2016 – 8:52am

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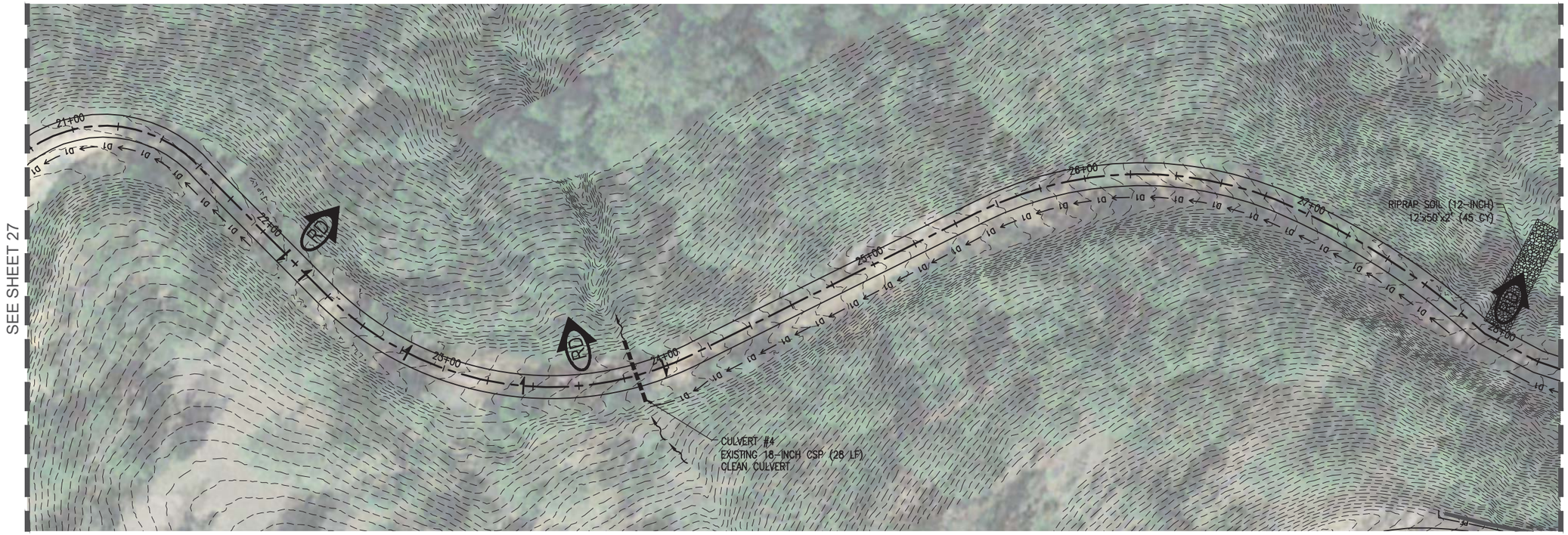

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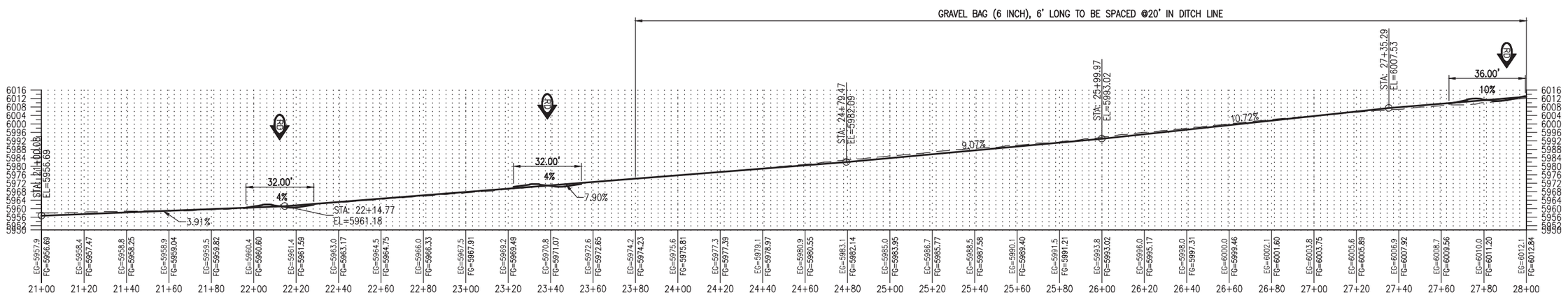

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Print Date: Feb 24, 2016	Sheet Revisions	As Constructed	COB–OSMP FLOOD DAMAGE REPAIR AND MITIGATION–CHAPMAN DRIVE
File Name:	Date: / Comments / Init.	No Revisions:	FLOOD DAMAGE MITIGATION
Horiz. Scale: 1:50 Vert. Scale: 1:50		Revised:	STA. 21+00 – 28+00
Unit Information / Unit Leader Initials		Void:	Designer: SJB / Detailer: CWM / Structure Numbers
			Sheet Subset: 5 / Subset Sheets: 21

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Project No./Code
CHAPMAN DRIVE
279 – 13134
Sheet Number 28

G:\7.2 Clients\279 – CI Boulder OSMP\13134 – COB–OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (27–33) Flood Damage Mitigation (sta. 14+00–63+00).dwg Feb 24, 2016 – 8:53am

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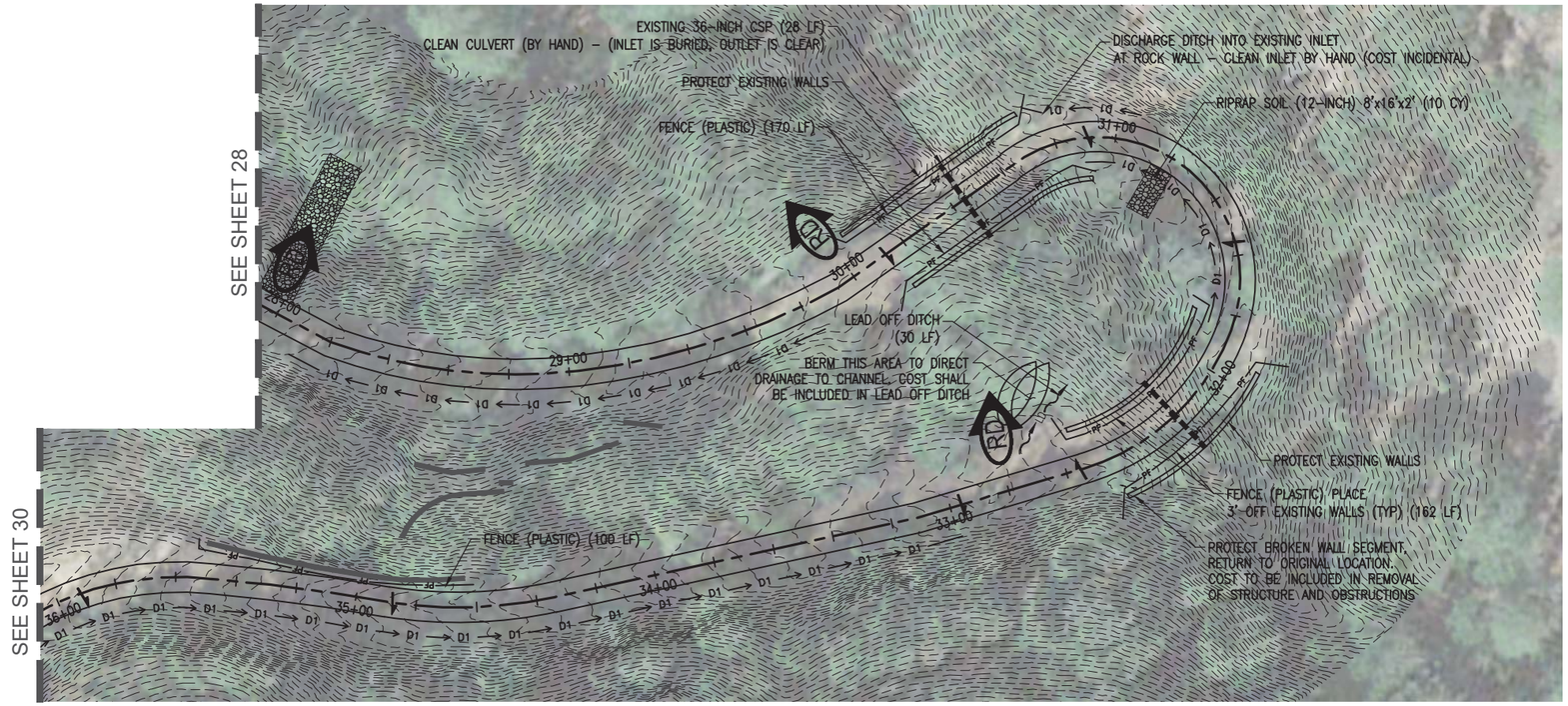

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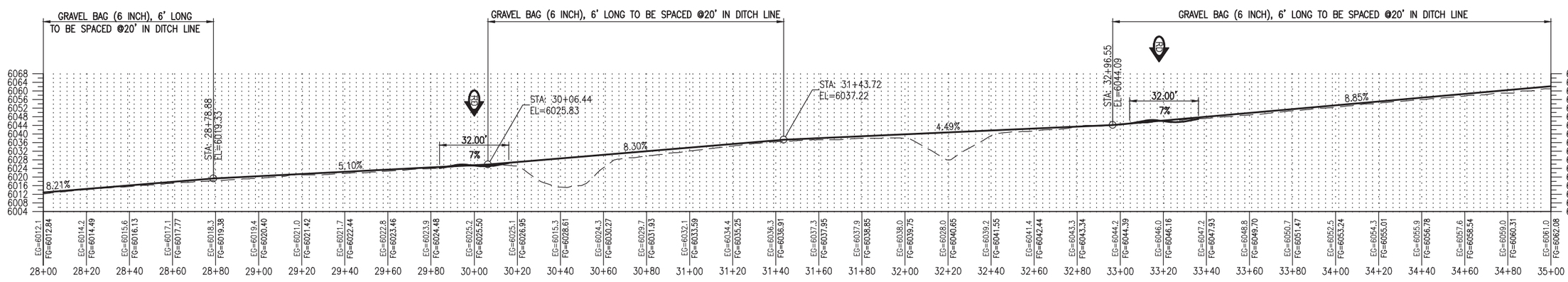

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File Name:	Date: / Comments / Init.			No Revisions:	FLOOD DAMAGE MITIGATION STA. 28+00 – 35+00
Horiz. Scale: 1:50 Vert. Scale: 1:50				Revised:	Designer: SJB / Structure Numbers
Unit Information / Unit Leader Initials				Void:	Detailer: CWM
					Sheet Subset: 6 / Subset Sheets: 21

Project No./Code: CHAPMAN DRIVE — 279 – 13134

Sheet Number 29

G:\7.2 Clients\279 – CI Boulder OSMP\13134 – COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (27-33) Flood Damage Mitigation (sta. 14+00-63+00).dwg Feb 24, 2016 – 8:53am

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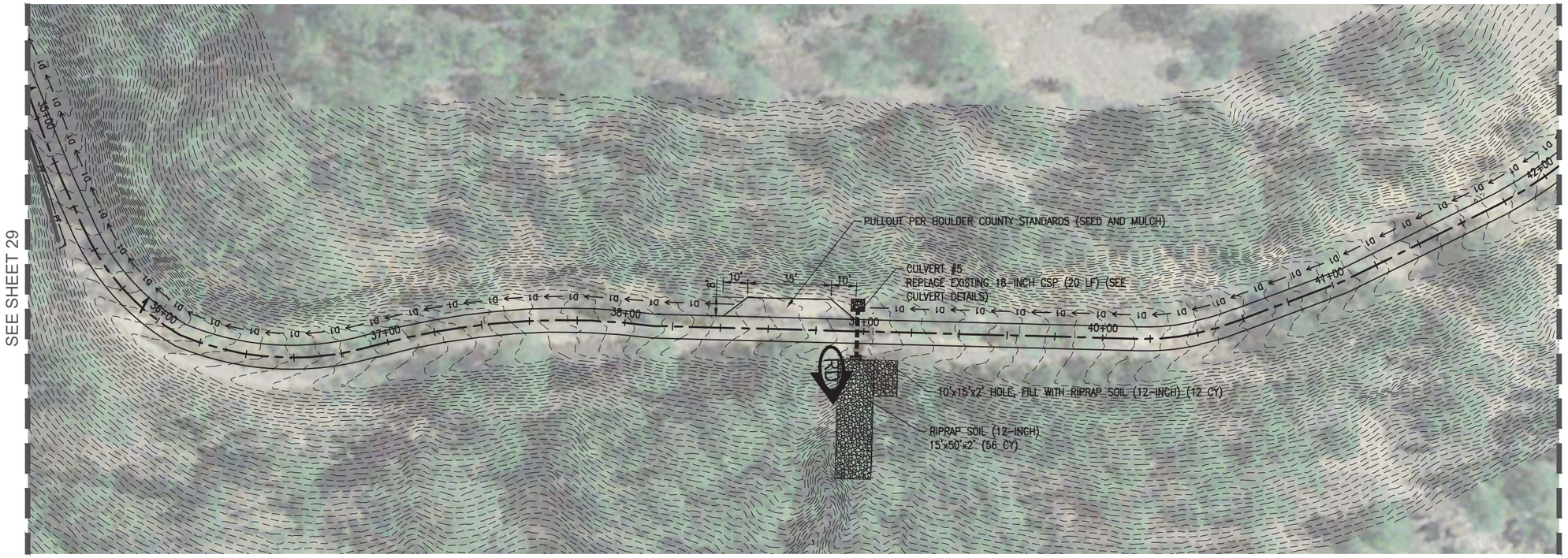
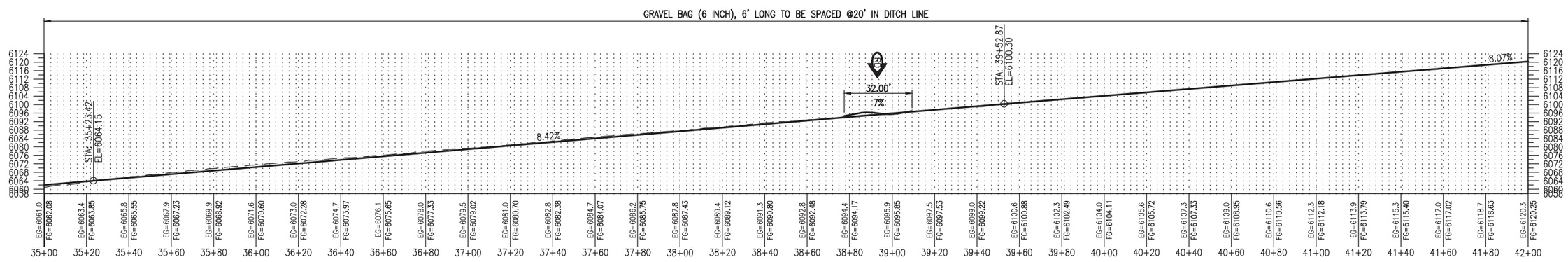


N

0 25 50
SCALE: 1" = 50'



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Print Date: Feb 24, 2016	Sheet Revisions	As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE
File Name:	Date: / Comments / Init.	No Revisions:	FLOOD DAMAGE MITIGATION
Horiz. Scale: 1:50 Vert. Scale: 1:50		Revised:	STA. 35+00 - 42+00
Unit Information / Unit Leader Initials		Void:	Designer: SJB / Detailer: CWM / Structure Numbers / Sheet Subset: 7 / Subset Sheets: 21

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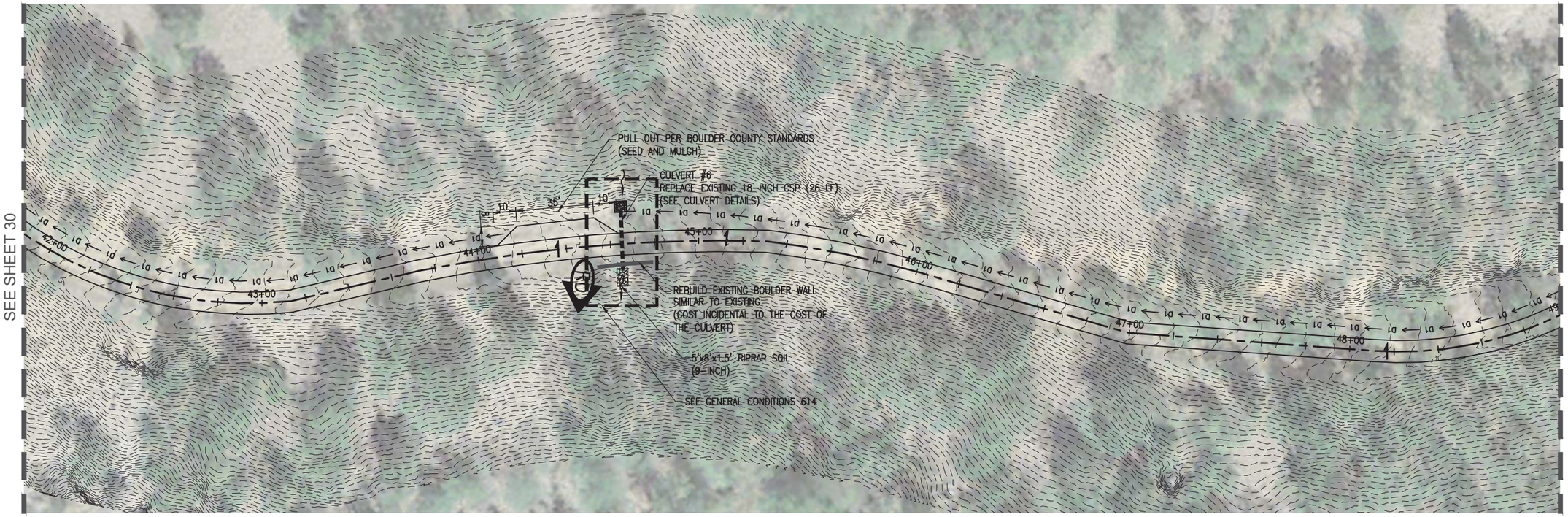
CITY OF BOULDER
Open Space & Mountain Parks

Project No./Code
CHAPMAN DRIVE
279 - 13134
Sheet Number 30

G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (27-33) Flood Damage Mitigation (sta. 14+00-63+00).dwg Feb 24, 2016 - 8:53am

BID SET
FEBRUARY, 2016

Know what's **below.** **Call** before you dig.



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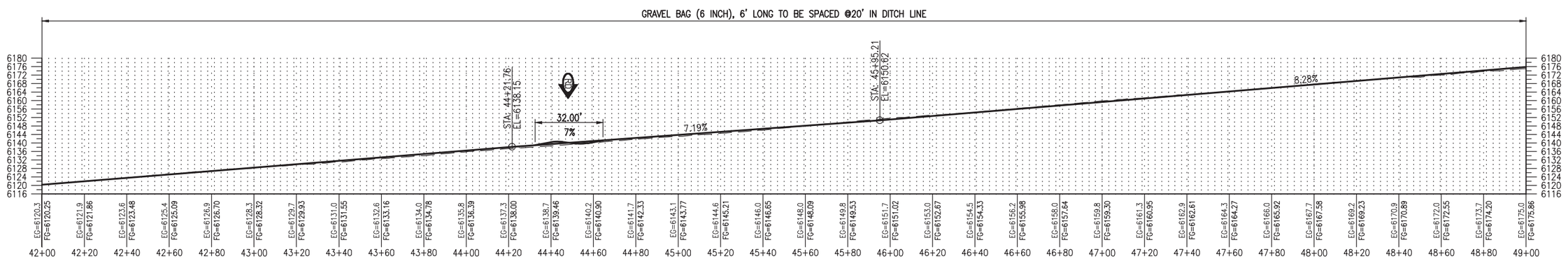

ELEVATIONS PROVIDED FOR REFERENCE ONLY. FINISH GRADES TO BE ADJUSTED IN THE FIELD BASED ON SITE CONDITIONS.

Print Date: Feb 24, 2016	Sheet Revisions		
File Name:	Date:	Comments	Init.
Horiz. Scale: 1:50 Vert. Scale: 1:50			
Unit Information Unit Leader Initials			

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CITY OF BOULDER Open Space & Mountain Parks

As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE		Project No./Code
No Revisions:	FLOOD DAMAGE MITIGATION STA. 42+00 - 49+00		CHAPMAN DRIVE
Revised:	Designer: SJB	Structure Numbers	279 - 13134
Void:	Detailer: CWM		
	Sheet Subset: 8	Subset Sheets: 21	Sheet Number 31

G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (27-33) Flood Damage Mitigation (sta. 14+00-63+00).dwg Feb 24, 2016 - 8:53am

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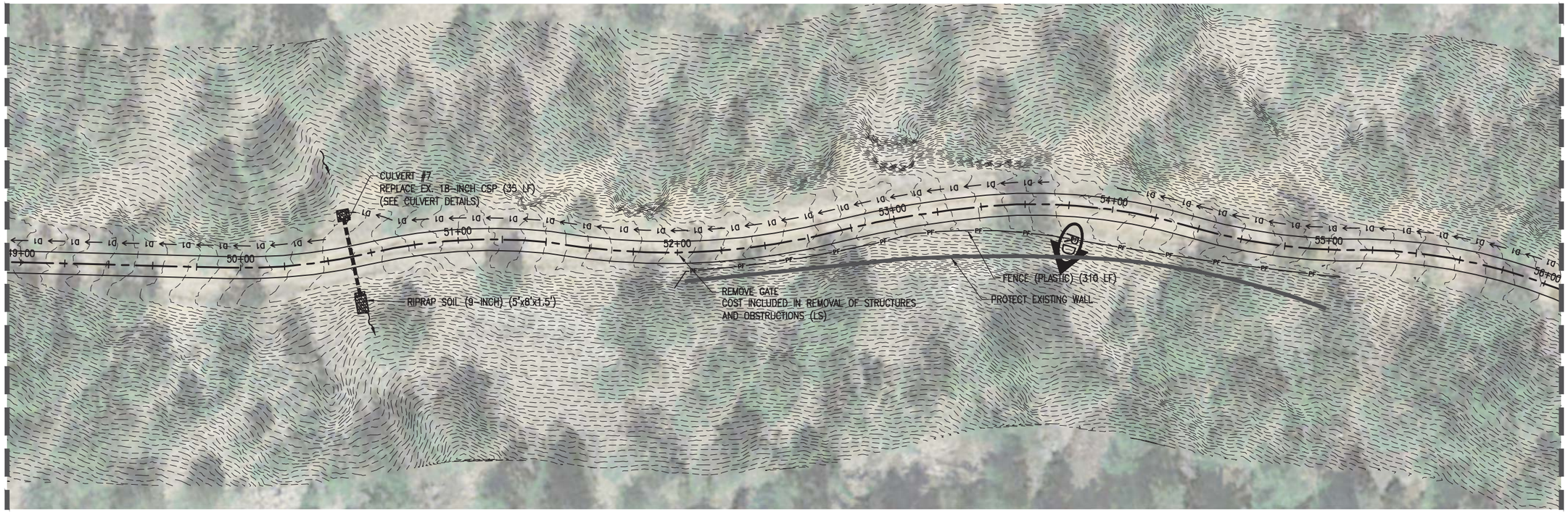
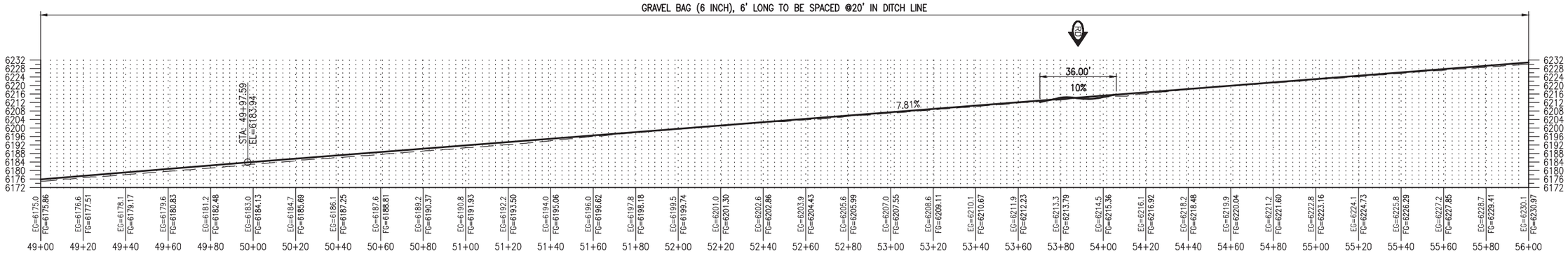
FEBRUARY, 2016



Know what's **below.** **Call** before you dig.

0 25 50
SCALE: 1" = 50'



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Print Date: Feb 24, 2016	Sheet Revisions		
File Name:	Date:	Comments	Init.
Horiz. Scale: 1:50 Vert. Scale: 1:50			
Unit Information Unit Leader Initials			

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As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE		Project No./Code
No Revisions:	FLOOD DAMAGE MITIGATION STA. 49+00 – 56+00		CHAPMAN DRIVE
Revised:	Designer: SJB	Structure Numbers	279 – 13134
Void:	Detailer: CWM		
	Sheet Subset: 9	Subset Sheets: 21	Sheet Number 32

G:\7.2 Clients\279 – CI Boulder OSMP\13134 – COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (27-33) Flood Damage Mitigation (sta. 14+00-63+00).dwg Feb 24, 2016 – 8:53am

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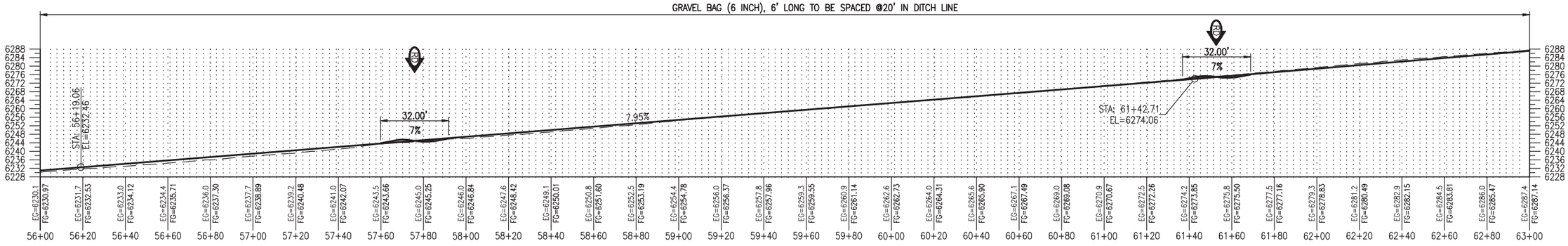
0 25 50
SCALE: 1" = 50'

GRAVEL BAG (6 INCH), 6' LONG TO BE SPACED @20' IN DITCH LINE



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File Name:	Date: / Comments / Init.			No Revisions:	FLOOD DAMAGE MITIGATION STA. 56+00 - 63+00
Horiz. Scale: 1:50 Vert. Scale: 1:50				Revised:	Designer: SJB / Structure Numbers
Unit Information / Unit Leader Initials				Void:	Detailer: CWM
					Sheet Subset: 10 / Subset Sheets: 21

Project No./Code
CHAPMAN DRIVE
279 - 13134
Sheet Number 33

G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (27-33) Flood Damage Mitigation (sta. 14+00-63+00).dwg Feb 24, 2016 - 8:53am

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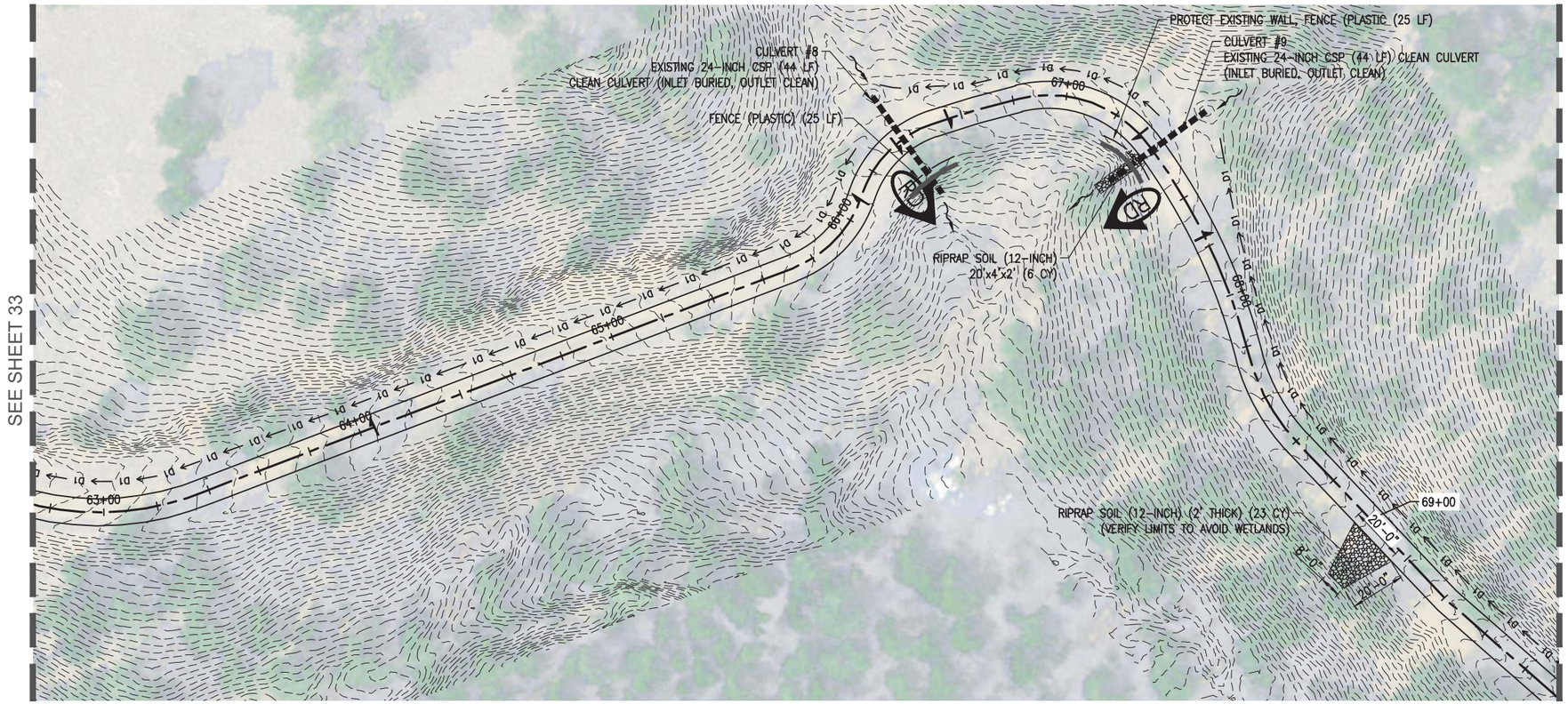
Know what's **below.** **Call** before you dig.



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0 25 50
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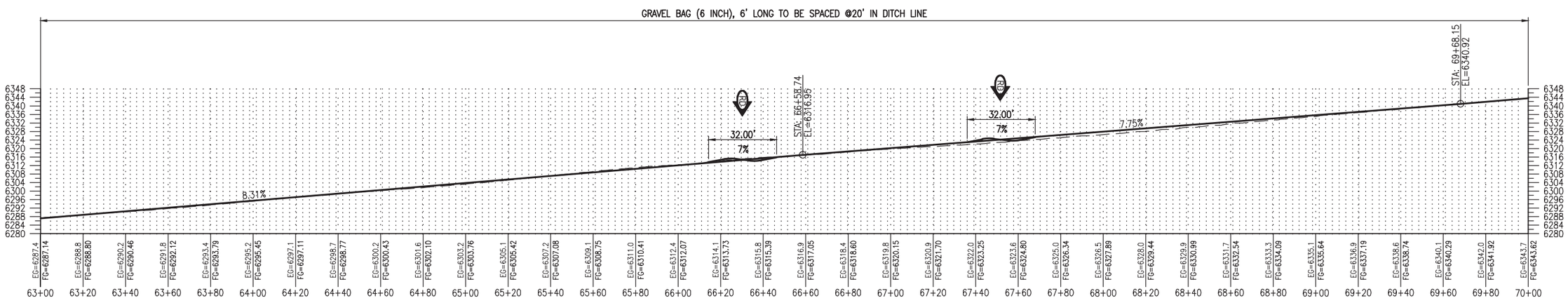

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Print Date: Feb 24, 2016	Sheet Revisions	As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE
File Name:	Date: / Comments / Init.	No Revisions:	FLOOD DAMAGE MITIGATION
Horiz. Scale: 1:50 Vert. Scale: 1:50		Revised:	STA. 63+00 - 70+00
Unit Information Unit Leader Initials		Void:	Designer: SJB / Detailer: CWM / Structure Numbers / Sheet Subset: 11 / Subset Sheets: 21

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CITY OF BOULDER Open Space & Mountain Parks

Project No./Code: CHAPMAN DRIVE
279 - 13134
Sheet Number 34

G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (34-44) Flood Damage Mitigation (sta.133+00 - 208+00).dwg Feb 24, 2016 - 8:54am

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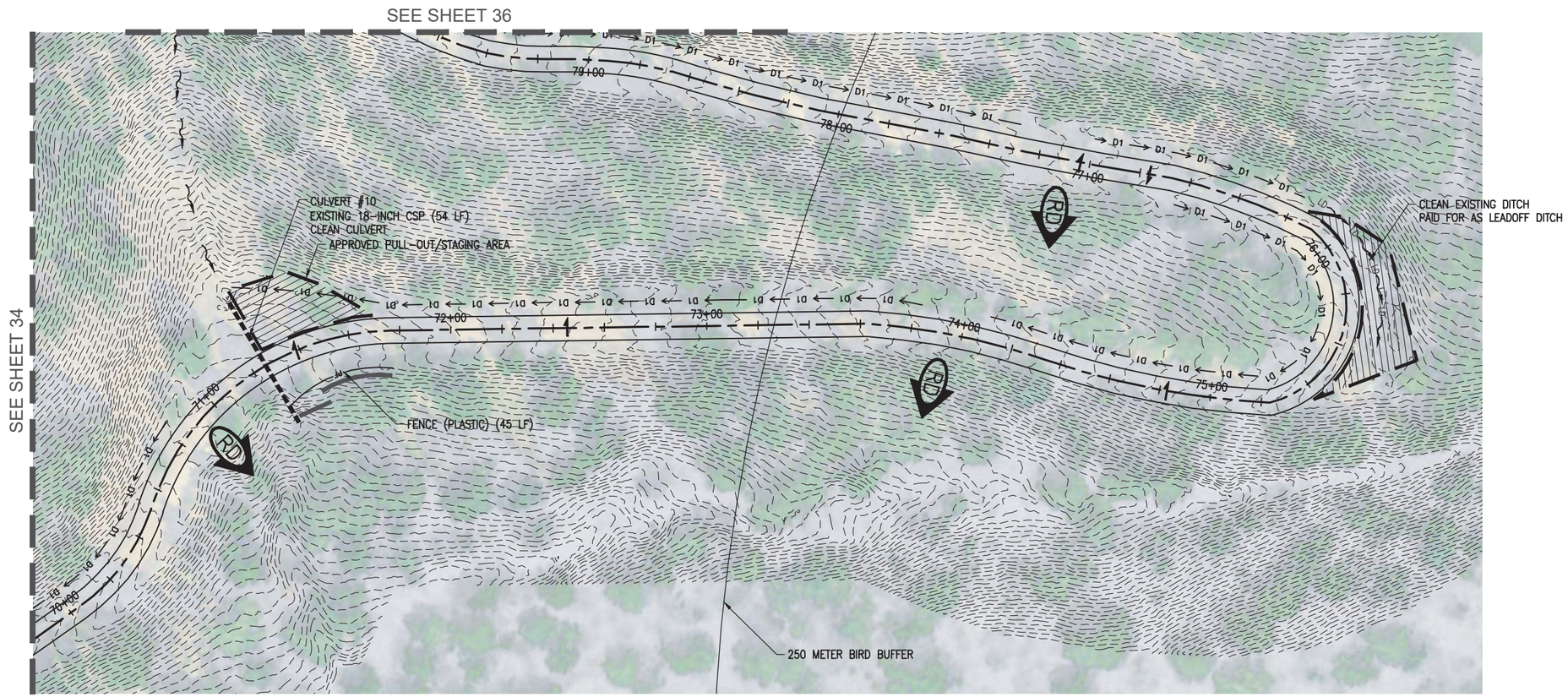

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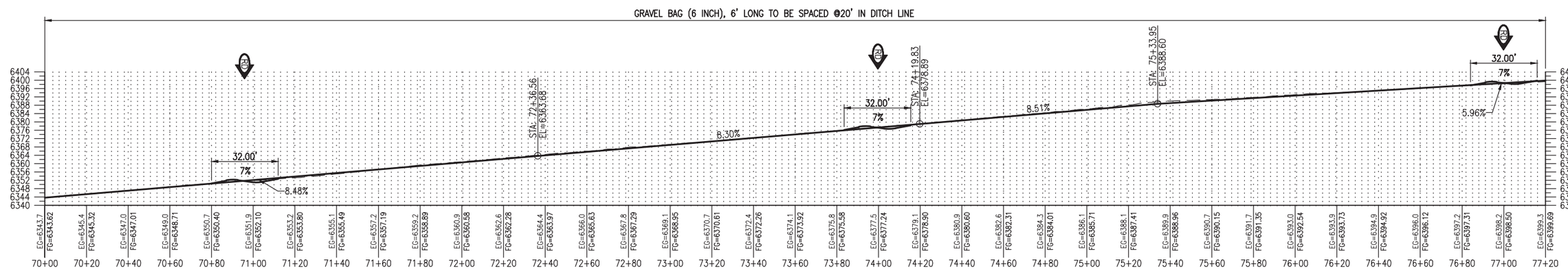

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Print Date: Feb 24, 2016	Sheet Revisions	As Constructed	COB–OSMP FLOOD DAMAGE REPAIR AND MITIGATION–CHAPMAN DRIVE
File Name:	Date: / Comments / Init.	No Revisions:	FLOOD DAMAGE MITIGATION
Horiz. Scale: 1:50 Vert. Scale: 1:50		Revised:	STA. 70+00 – 77+00
Unit Information / Unit Leader Initials		Void:	Designer: SJB / Detailer: CWM / Structure Numbers
			Sheet Subset: 12 / Subset Sheets: 21

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CITY OF BOULDER Open Space & Mountain Parks

Project No./Code: CHAPMAN DRIVE
279 – 13134
Sheet Number 35

G:\7.2 Clients\279 – CI Boulder OSMP\13134 – COB–OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (34–44) Flood Damage Mitigation (sta.133+00 – 208+00).dwg Feb 24, 2016 – 8:54am

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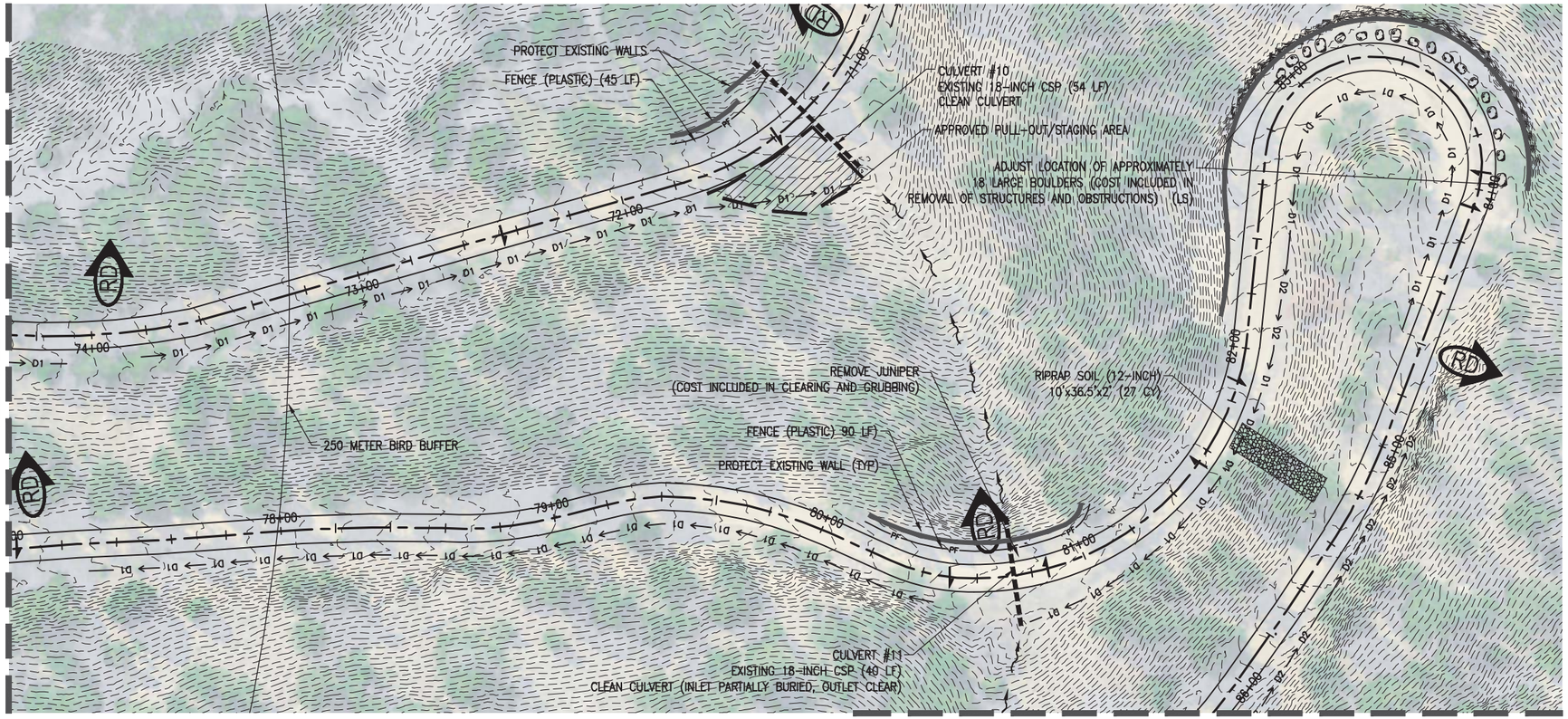
SEE SHEET 35



SEE SHEET 35

SEE SHEET 37

0 25 50
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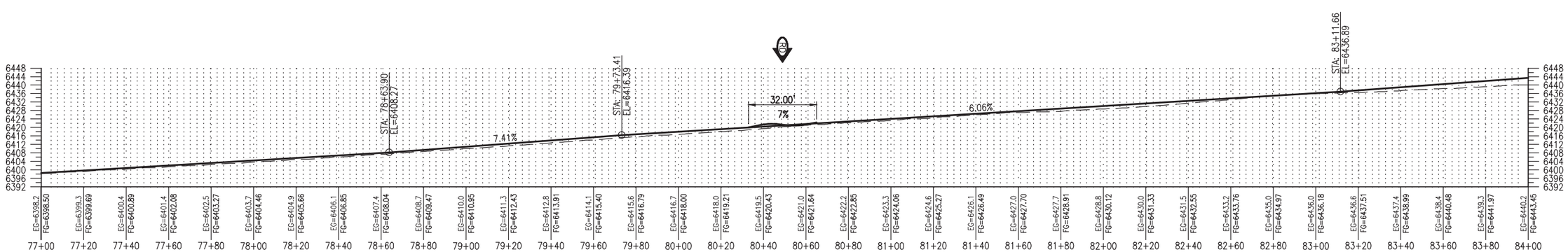

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Print Date: Feb 24, 2016	Sheet Revisions		
File Name:	Date:	Comments	Init.
Horiz. Scale: 1:50 Vert. Scale: 1:50			
Unit Information Unit Leader Initials			

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CITY OF BOULDER Open Space & Mountain Parks

As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE		Project No./Code
No Revisions:	FLOOD DAMAGE MITIGATION STA. 77+00 - 84+00		CHAPMAN DRIVE
Revised:	Designer: SJB	Structure Numbers	279 - 13134
Void:	Detailer: CWM		
	Sheet Subset: 13	Subset Sheets: 21	Sheet Number 36

G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (34-44) Flood Damage Mitigation (sta.133+00 - 208+00).dwg Feb 24, 2016 - 8:54am

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FEBRUARY, 2016

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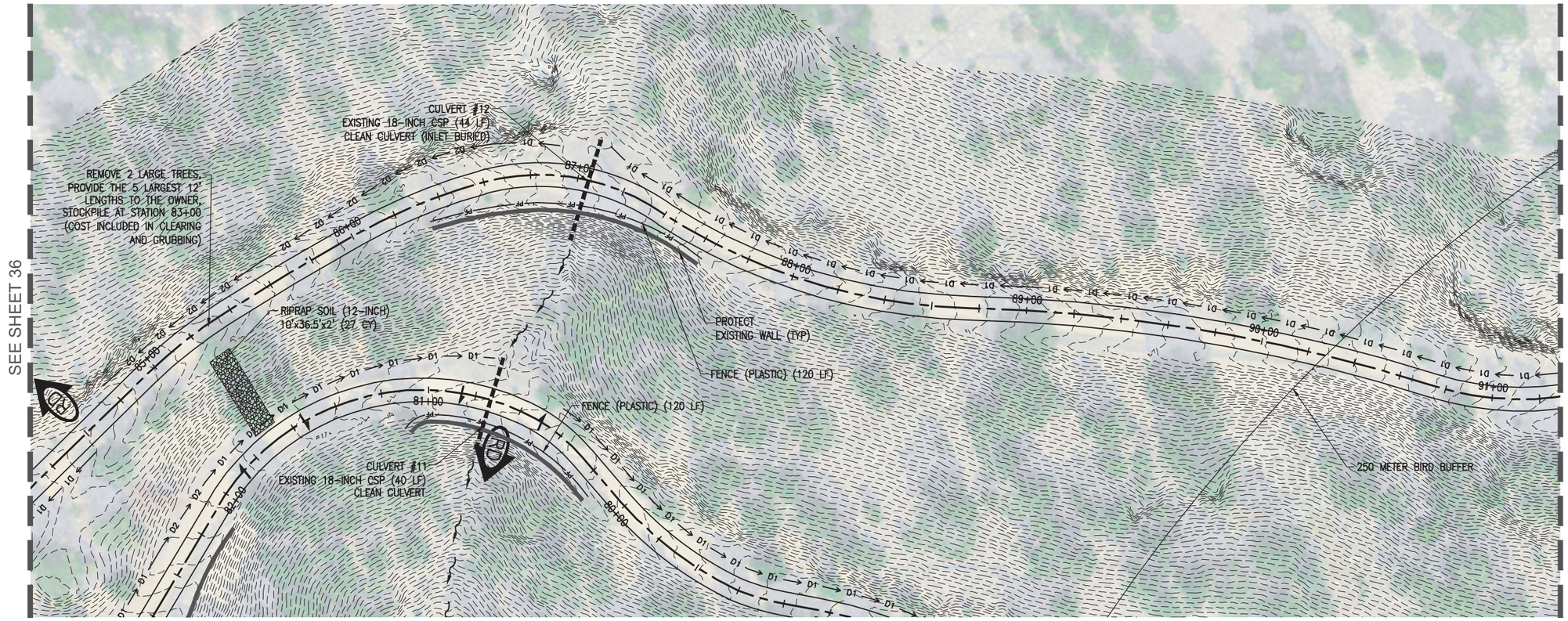

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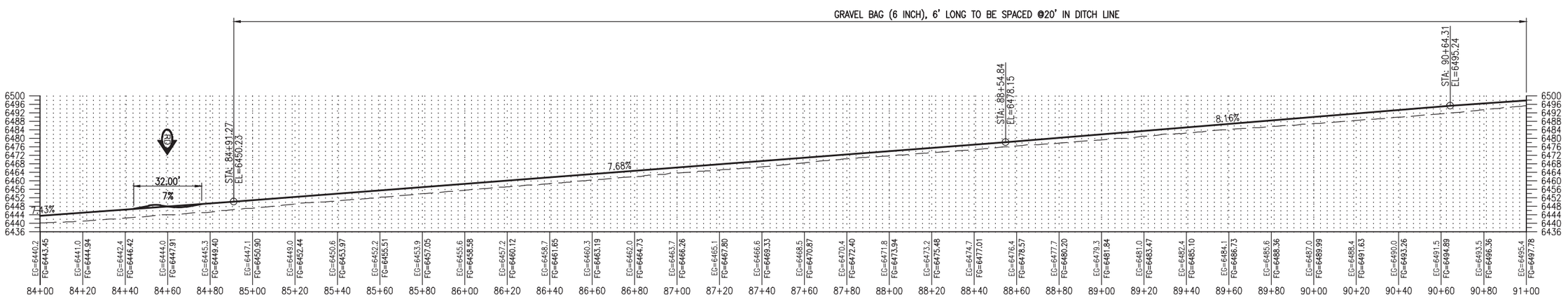

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File Name:	Date: / Comments / Init.	100 Superior Plaza Way, Suite 220, Superior, Colorado 80027, 303.444.2073, www.LorisandAssociates.com	No Revisions:
Horiz. Scale: 1:50 Vert. Scale: 1:50		CITY OF BOULDER Open Space & Mountain Parks	Revised:
Unit Information Unit Leader Initials			Void:

COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE
FLOOD DAMAGE MITIGATION
STA. 84+00 - 91+00

Designer:	SJB	Structure Numbers	
Detailer:	CWM		
Sheet Subset:	14	Subset Sheets:	21

Project No./Code: CHAPMAN DRIVE
279 - 13134
Sheet Number 37

G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (34-44) Flood Damage Mitigation (sta.133+00 - 208+00).dwg Feb 24, 2016 - 8:55am

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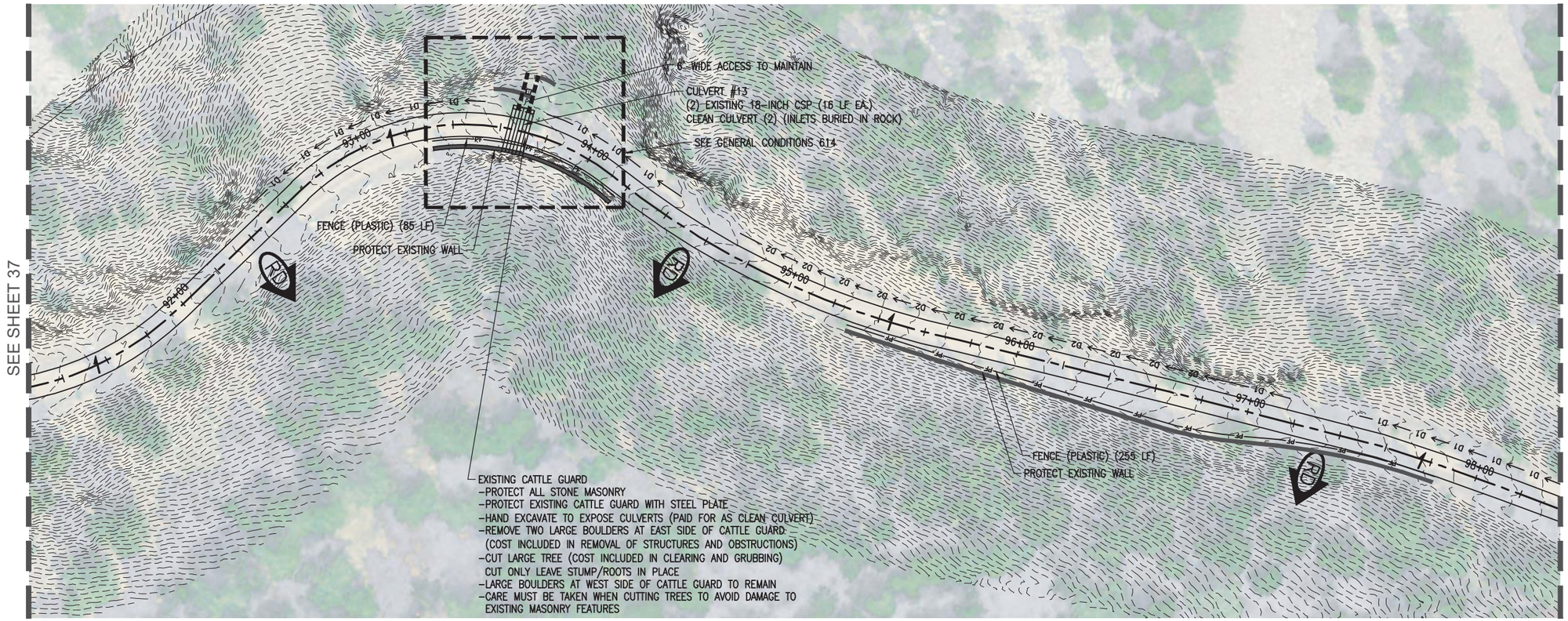
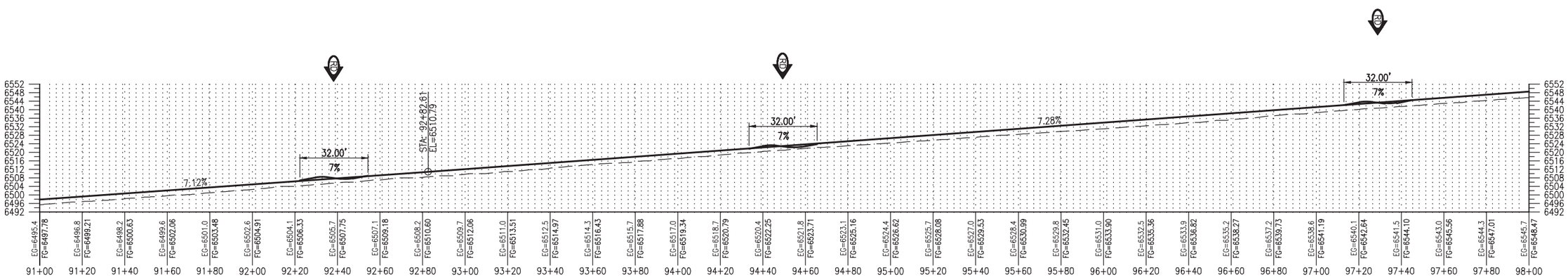


N

0 25 50

SCALE: 1" = 50'



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Print Date: Feb 24, 2016	Sheet Revisions		
File Name:	Date:	Comments	Init.
Horiz. Scale: 1:50 Vert. Scale: 1:50			
Unit Information Unit Leader Initials			

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CITY OF BOULDER Open Space & Mountain Parks

As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE			Project No./Code
No Revisions:	FLOOD DAMAGE MITIGATION STA. 91+00 - 98+00			CHAPMAN DRIVE
Revised:	Designer: SJB	Structure Numbers		279 - 13134
Void:	Detailer: CWM			
	Sheet Subset: 15	Subset Sheets: 21		Sheet Number 38

G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (34-44) Flood Damage Mitigation (sta.133+00 - 208+00).dwg Feb 24, 2016 - 8:55am

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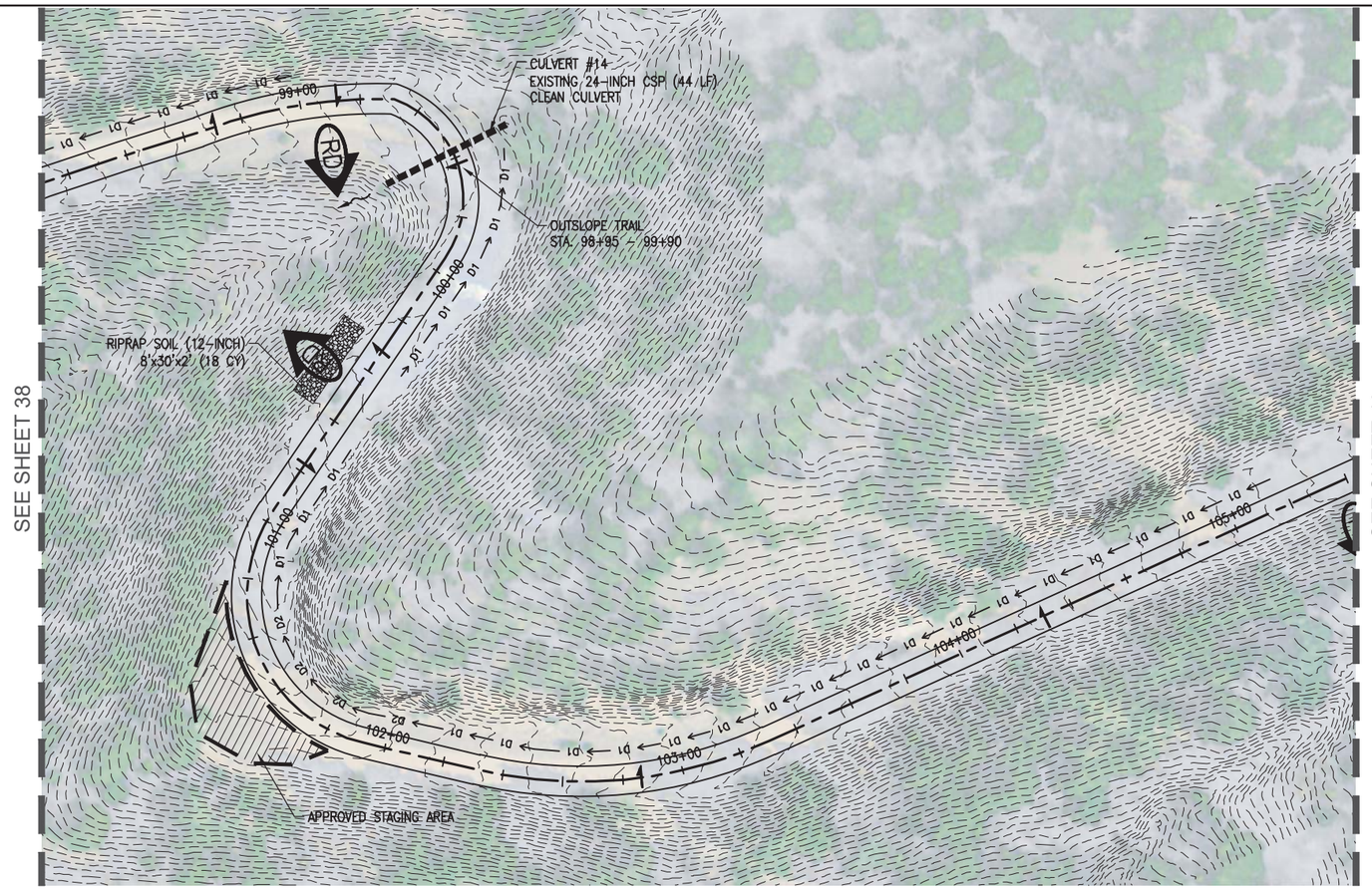
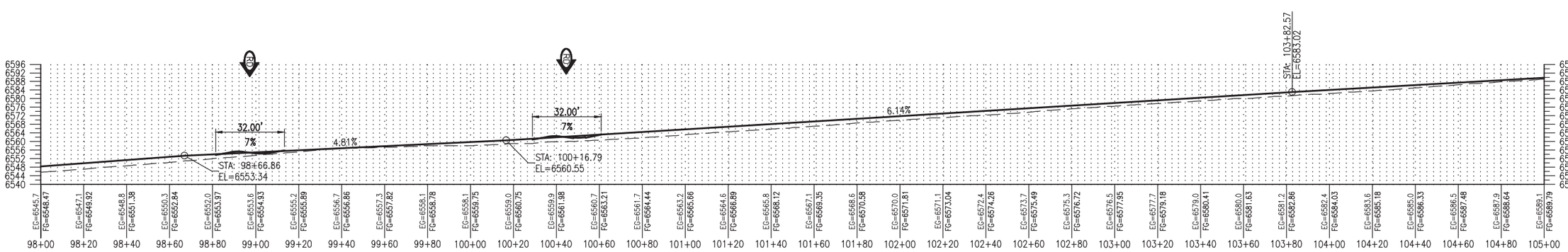


0 25 50
SCALE: 1" = 50'



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Print Date: Feb 24, 2016	Sheet Revisions		
File Name:	Date:	Comments	Init.
Horiz. Scale: 1:50 Vert. Scale: 1:50			
Unit Information Unit Leader Initials			

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CITY OF BOULDER
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As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE		Project No./Code
No Revisions:	FLOOD DAMAGE MITIGATION		CHAPMAN DRIVE
Revised:	STA. 98+00 - 105+00		279 - 13134
Void:	Designer: SJB / Detailer: CWM	Structure Numbers	Sheet Number 39
	Sheet Subset: 16	Subset Sheets: 21	

G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (34-44) Flood Damage Mitigation (sta.133+00 - 208+00).dwg Feb 24, 2016 - 8:55am

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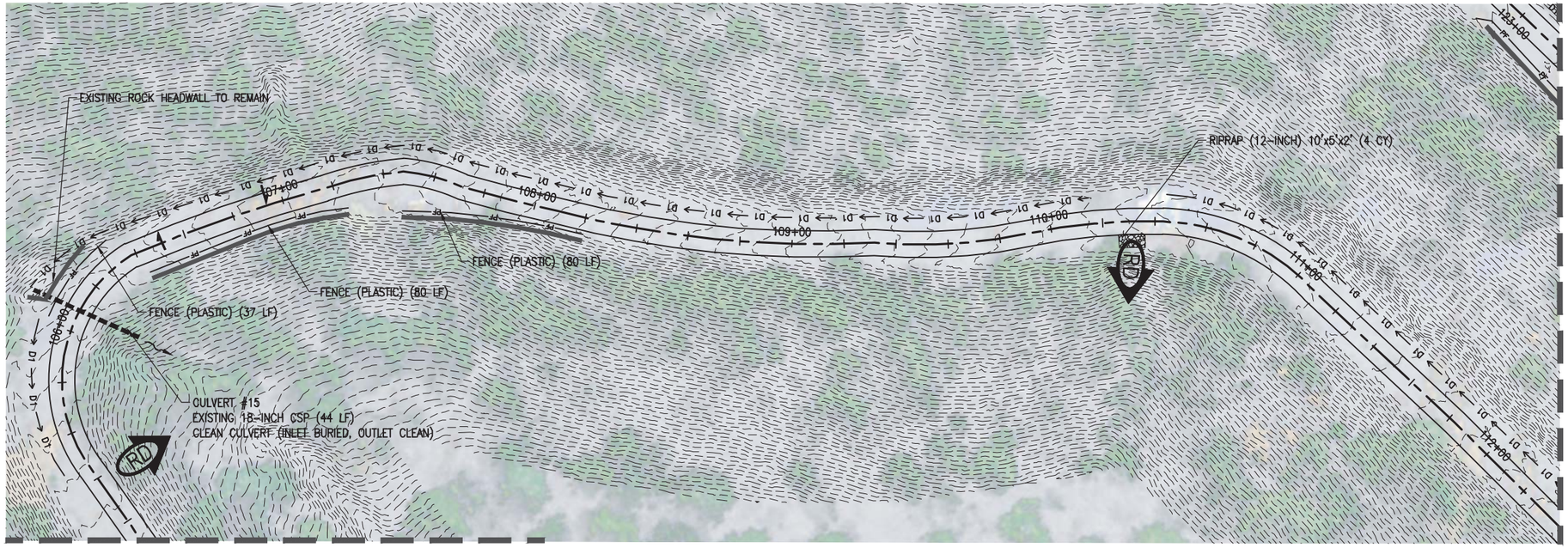
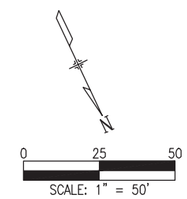
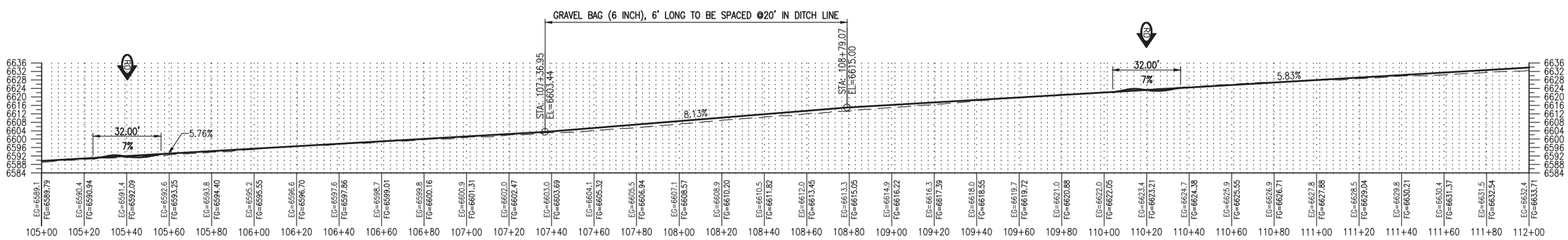


SEE SHEET 39

SEE SHEET 41





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Print Date: Feb 24, 2016	Sheet Revisions			As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE
File Name:	Date:	Comments	Init.	No Revisions:	FLOOD DAMAGE MITIGATION
Horiz. Scale: 1:50 Vert. Scale: 1:50				Revised:	STA. 105+00 - 112+00
Unit Information Unit Leader Initials				Void:	Designer: SJB / Detailer: CWM / Structure Numbers / Sheet Subset: 17 / Subset Sheets: 21

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CITY OF BOULDER Open Space & Mountain Parks

Project No./Code: CHAPMAN DRIVE
279 - 13134
Sheet Number 40

G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (34-44) Flood Damage Mitigation (sta.133+00 - 208+00).dwg Feb 24, 2016 - 8:55am

SEE SHEET 42

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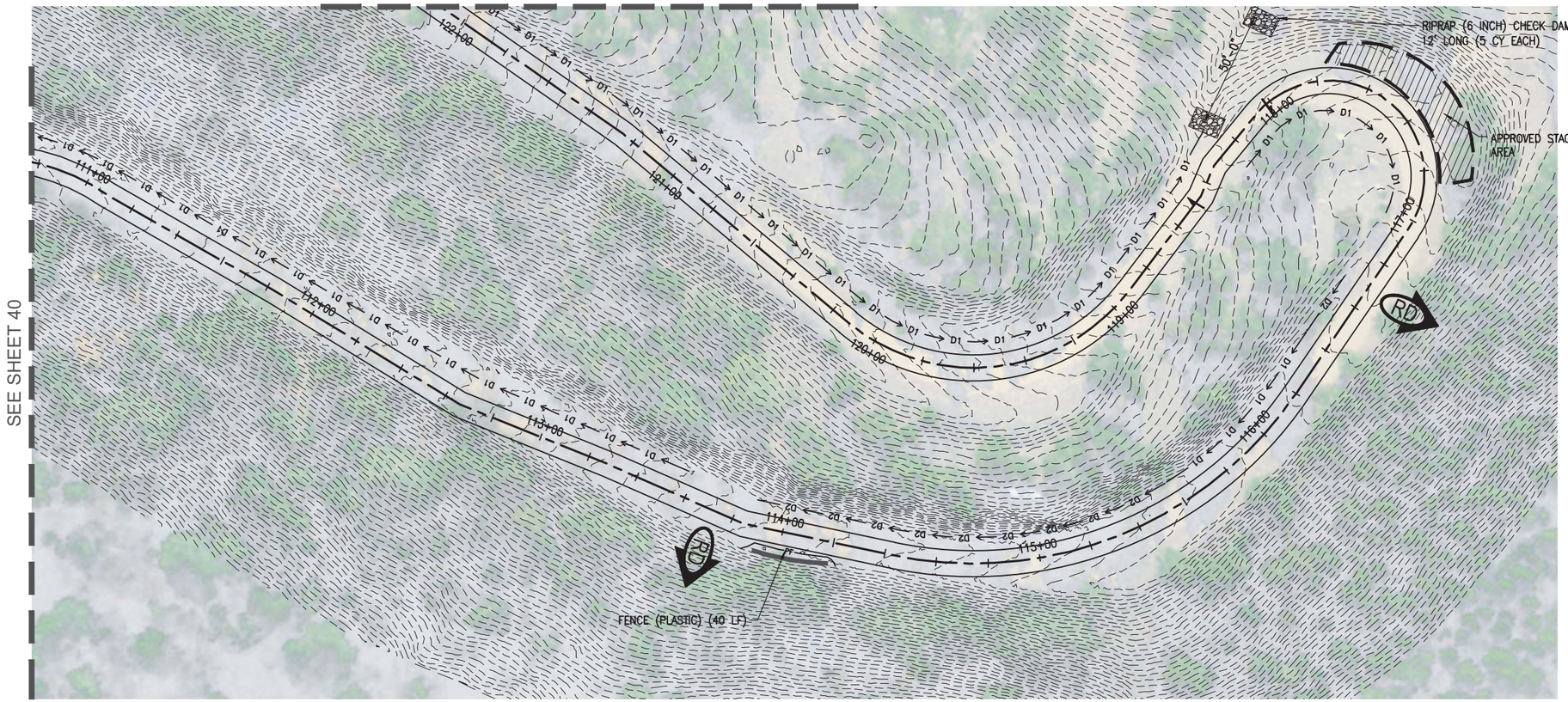
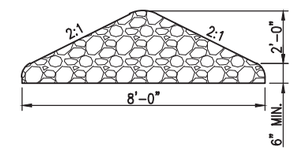


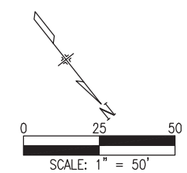
SEE SHEET 40

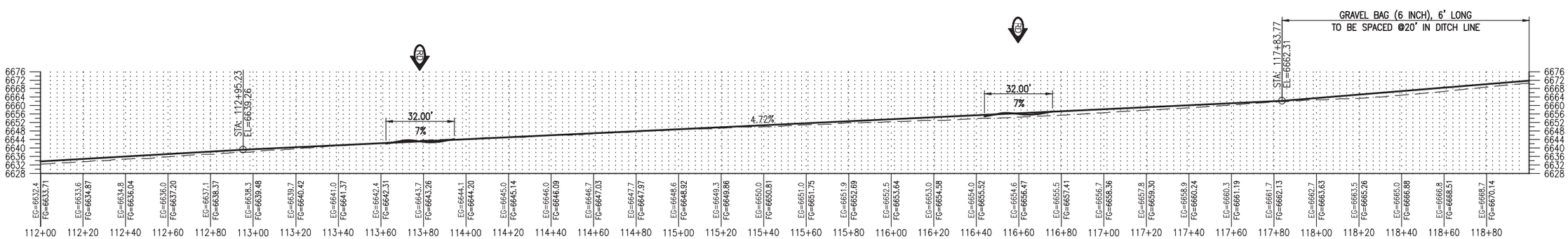
Know what's **below.** **Call** before you dig.



TYPICAL ROCK CHECK DAM DETAIL

1. RIPRAP (6 INCH)
2. ENDS OF RIPRAP CHECK DAM SHALL BE 6" HIGHER THAN CENTER OF CHECK DAM PER CDOT M-208-1 (SHEET NO. 8 OF 12)





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File Name:	Date: / Comments / Init.			No Revisions:	FLOOD DAMAGE MITIGATION STA. 112+00 - 119+00
Horiz. Scale: 1:50 Vert. Scale: 1:50				Revised:	Designer: SJB / Structure Numbers
Unit Information Unit Leader Initials				Void:	Detailer: CWM
					Sheet Subset: 18 / Subset Sheets: 21

Project No./Code
CHAPMAN DRIVE
279 - 13134
Sheet Number 41

G:\7-2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (34-44) Flood Damage Mitigation (sta.133+00 - 208+00).dwg Feb 24, 2016 - 8:55am

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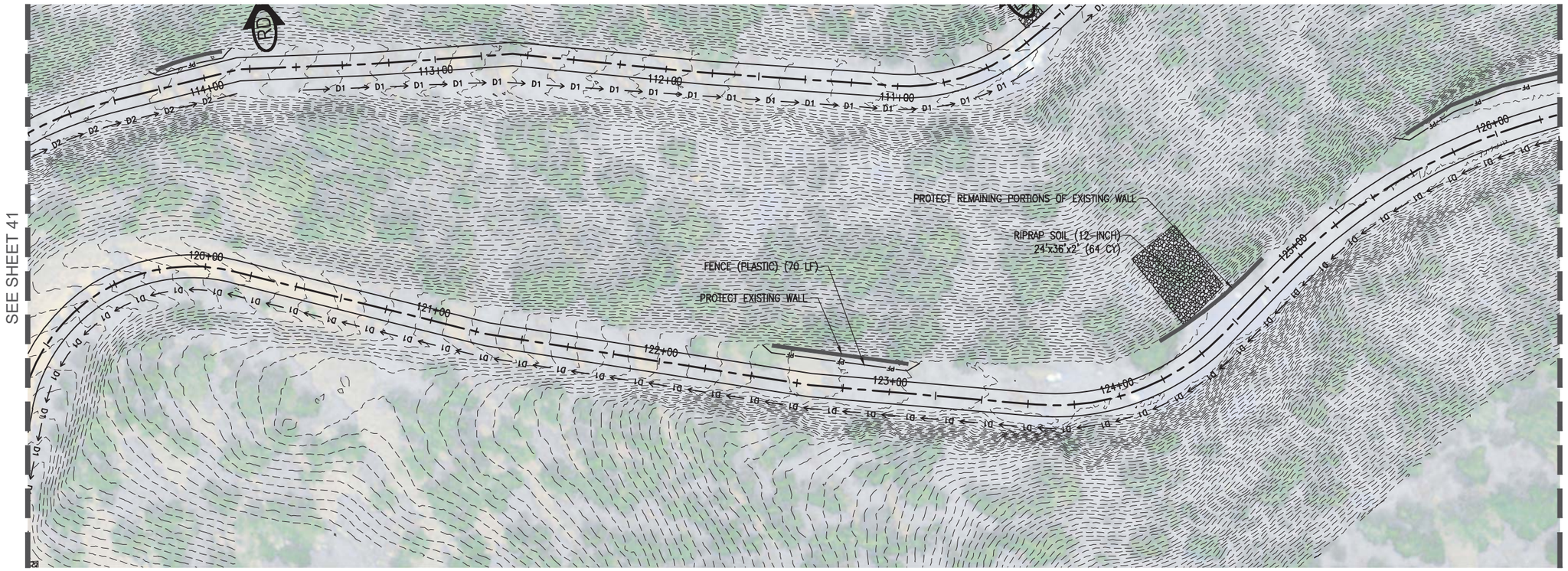

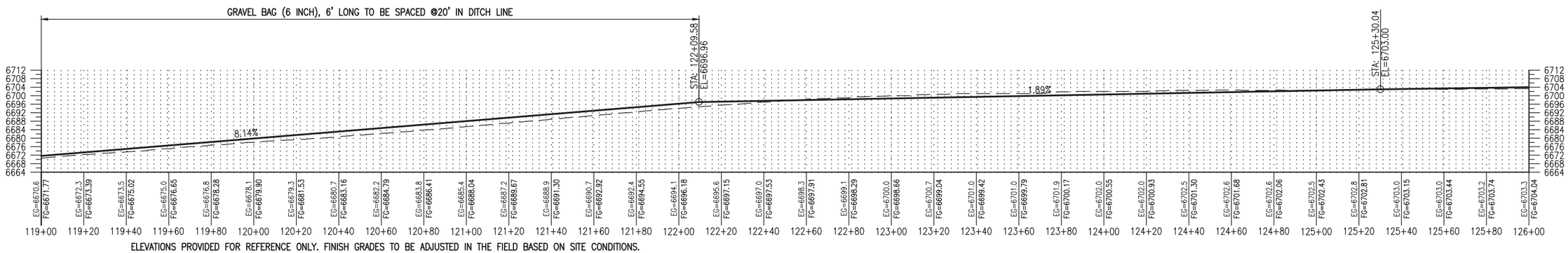

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File Name:	Date: / Comments / Init.			No Revisions:	FLOOD DAMAGE MITIGATION STA. 119+00 - 126+00	CHAPMAN DRIVE
Horiz. Scale: 1:50 Vert. Scale: 1:50				Revised:	Designer: SJB / Structure Numbers	279 - 13134
Unit Information / Unit Leader Initials				Void:	Detailer: CWM / Sheet Subset: 19 / Subset Sheets: 21	Sheet Number 42

G:\Y.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (34-44) Flood Damage Mitigation (sta.133+00 - 208+00).dwg Feb 24, 2016 - 8:56am

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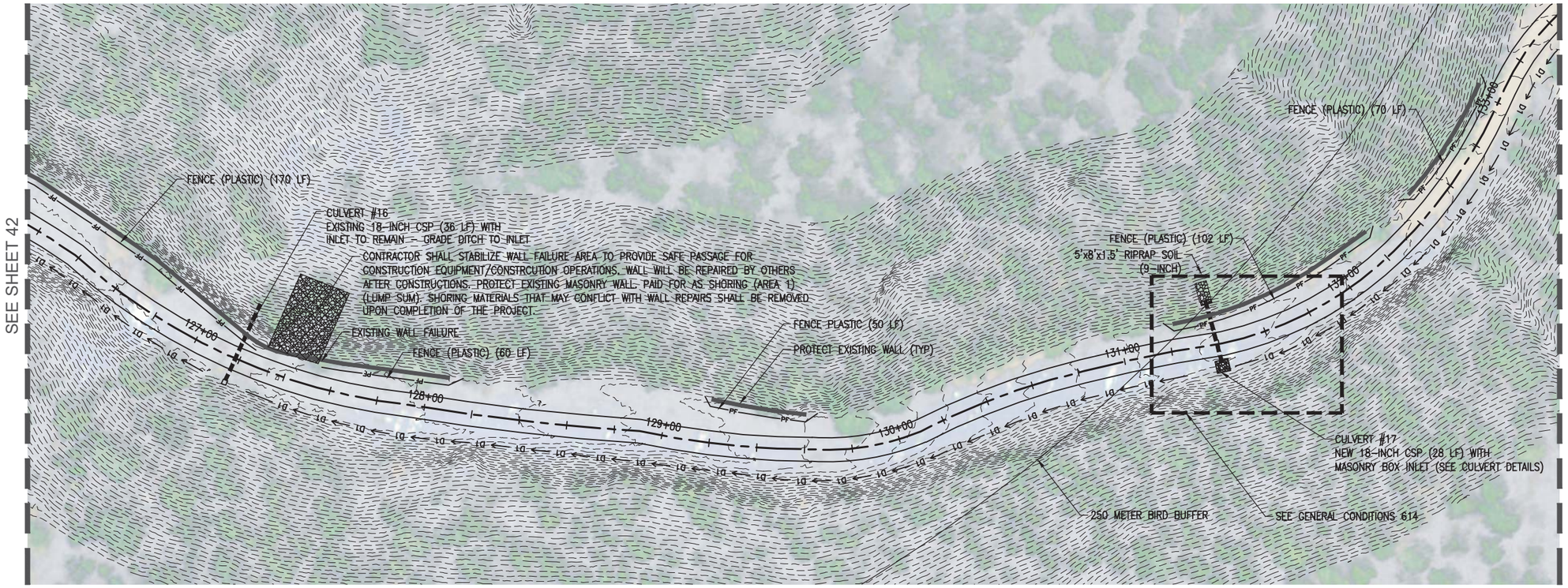
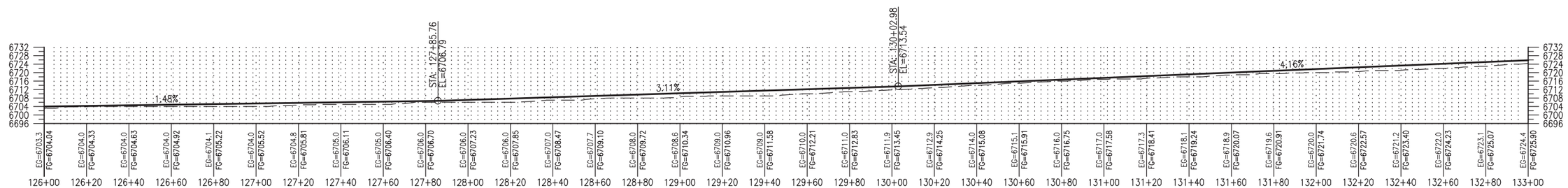
FEBRUARY, 2016

Know what's below. Call before you dig.





ELEVATIONS PROVIDED FOR REFERENCE ONLY. FINISH GRADES TO BE ADJUSTED IN THE FIELD BASED ON SITE CONDITIONS.

Print Date: Feb 24, 2016	Sheet Revisions		
File Name:	Date:	Comments	Init.
Horiz. Scale: 1:50 Vert. Scale: 1:50			
Unit Information Unit Leader Initials			

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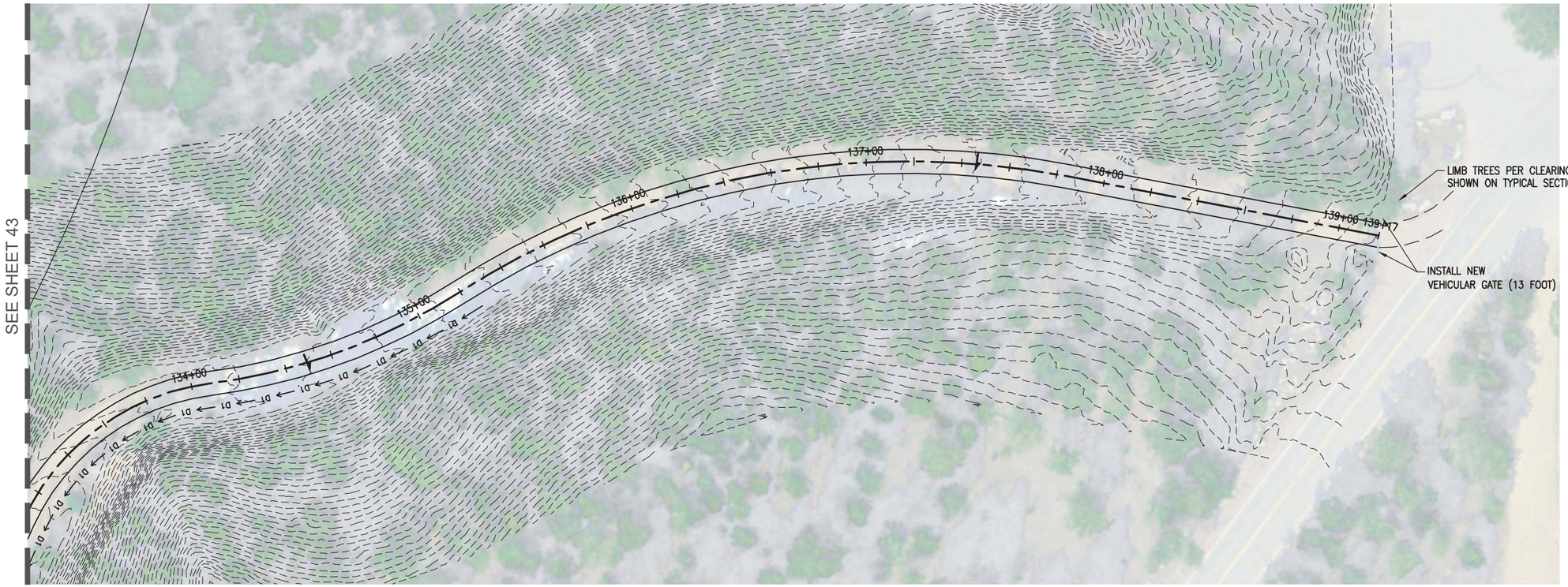
CITY OF BOULDER Open Space & Mountain Parks

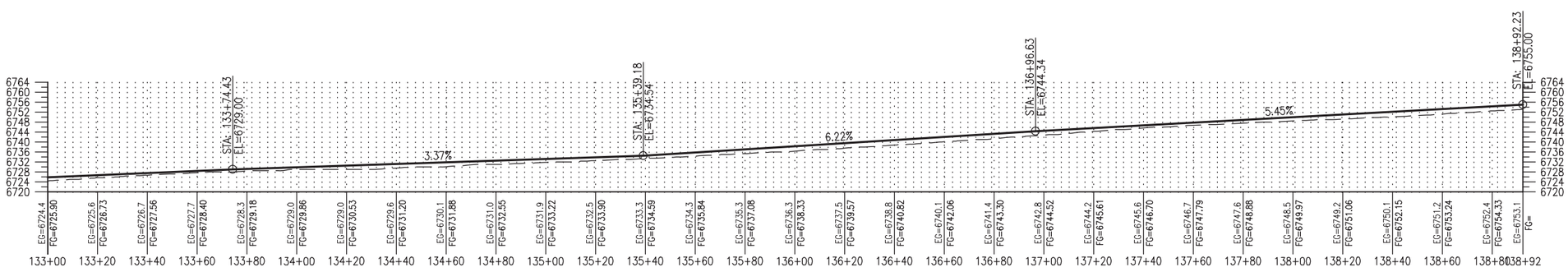
As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE		Project No./Code
No Revisions:	FLOOD DAMAGE MITIGATION STA. 126+00 - 133+00		CHAPMAN DRIVE
Revised:	Designer: SJB	Structure Numbers	279 - 13134
Void:	Detailer: CWM		
	Sheet Subset: 20	Subset Sheets: 21	Sheet Number 43

G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (34-44) Flood Damage Mitigation (sta.133+00 - 208+00).dwg Feb 24, 2016 - 8:56am

BID SET
FEBRUARY, 2016

Know what's **below.** **Call** before you dig.





ELEVATIONS PROVIDED FOR REFERENCE ONLY. FINISH GRADES TO BE ADJUSTED IN THE FIELD BASED ON SITE CONDITIONS.

Print Date: Feb 24, 2016	Sheet Revisions	As Constructed	COB–OSMP FLOOD DAMAGE REPAIR AND MITIGATION–CHAPMAN DRIVE FLOOD DAMAGE MITIGATION STA. 133+00 – 138+80
File Name:	Date: / Comments / Init.	No Revisions:	Designer: SJB / Structure Numbers
Horiz. Scale: 1:50 Vert. Scale: 1:50		Revised:	Detailer: CWM
Unit Information / Unit Leader Initials		Void:	Sheet Subset: 21 / Subset Sheets: 21

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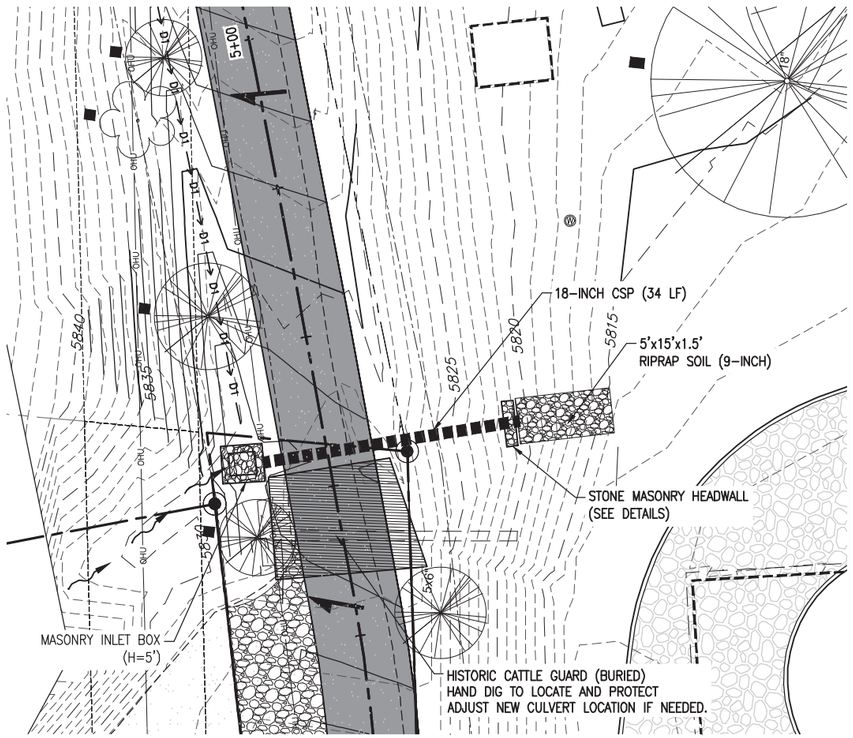
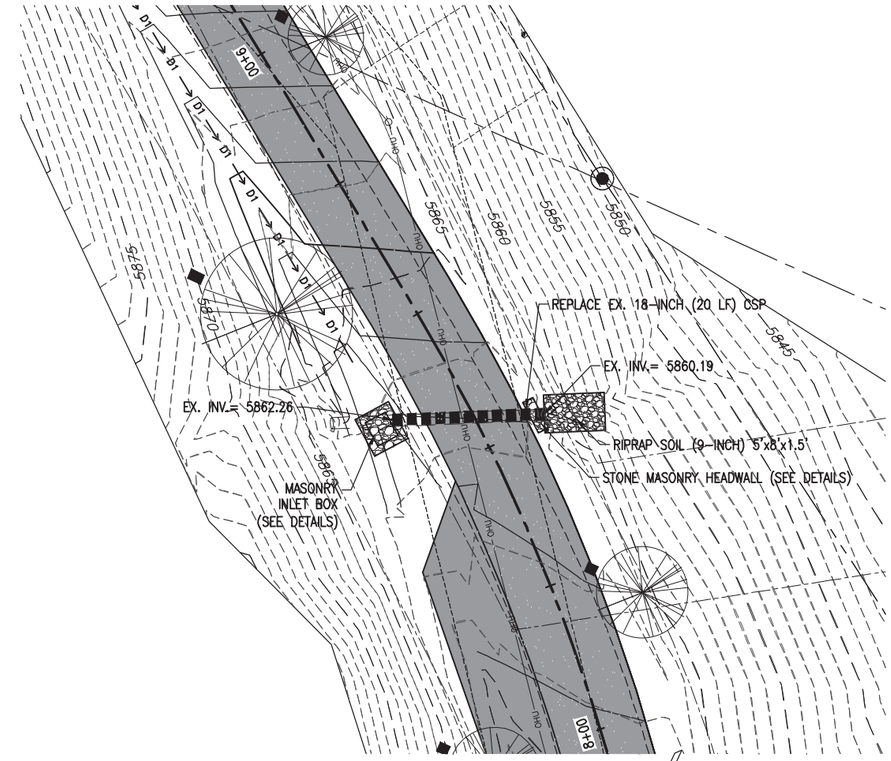
Project No./Code: CHAPMAN DRIVE
279 – 13134
Sheet Number 44

G:\7.2 Clients\279 – CI Boulder OSMP\13134 – COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (34-44) Flood Damage Mitigation (sta.133+00 – 208+00).dwg Feb 24, 2016 – 8:56am



NOTE:
SEE GENERAL CONDITIONS 614

CULVERT #1



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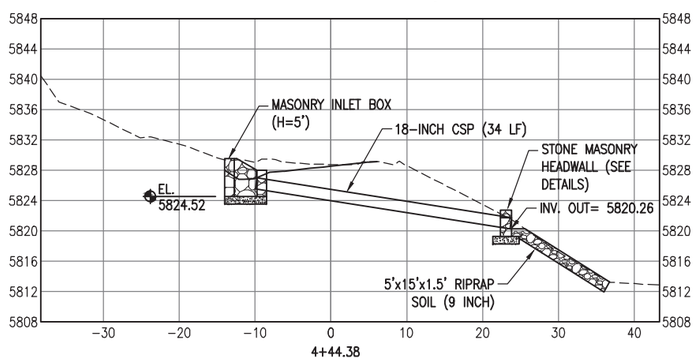

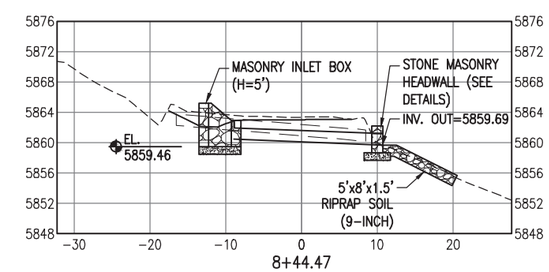

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SCALE: 1" = 20'

Print Date: Feb 24, 2016		Sheet Revisions			As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE	Project No./Code
File Name:		Date:	Comments	Init.	No Revisions:	CULVERT AND SLOPE PROTECTION DETAILS	CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:					Revised:	Designer: SJB / Structure Numbers	279 – 13134
Unit Information Unit Leader Initials					Void:	Detailer: LX / Sheet Subset: 1 / Subset Sheets: 10	Sheet Number 45

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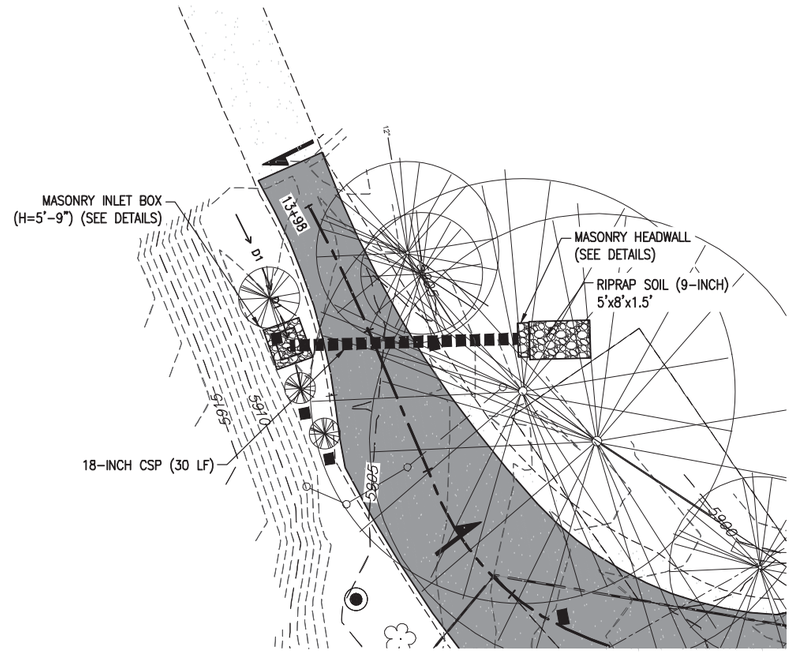
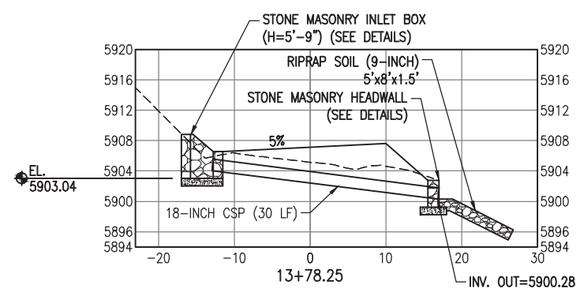
G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (45-46) Culverts Plan & Section (CDTH).dwg Feb 24, 2016 - 9:09am



CULVERT #3



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Print Date: Feb 24, 2016		Sheet Revisions			As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE	Project No./Code
File Name:		Date:	Comments	Init.	No Revisions:	CULVERT AND SLOPE PROTECTION DETAILS	CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:					Revised:	Designer: SJB / Structure Numbers	279 – 13134
Unit Information Unit Leader Initials					Void:	Detailer: LX / Sheet Subset: 2 / Subset Sheets: 10	Sheet Number 46

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G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (45-46) Culverts Plan & Section (CDTH).dwg Feb 24, 2016 - 8:57am

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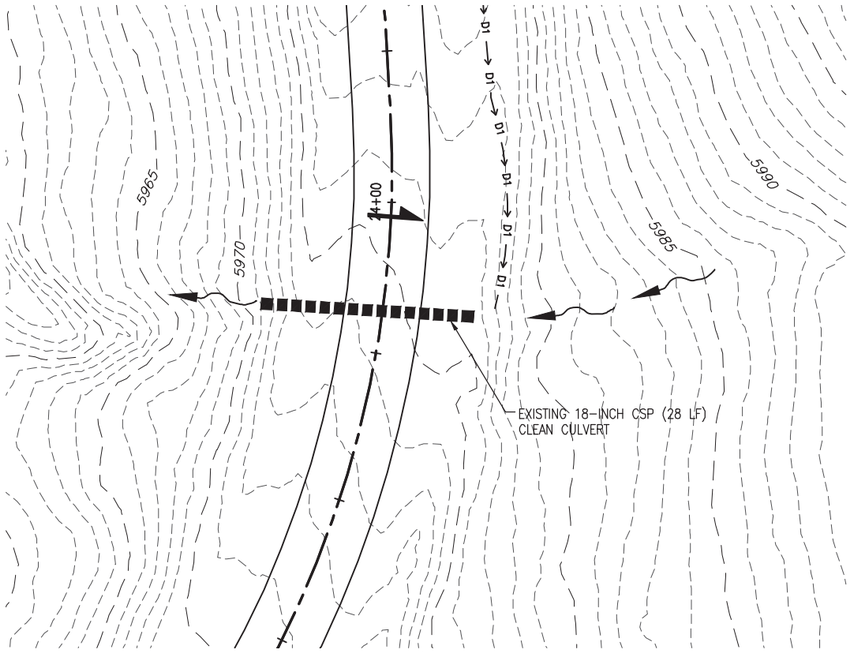
FEBRUARY, 2016



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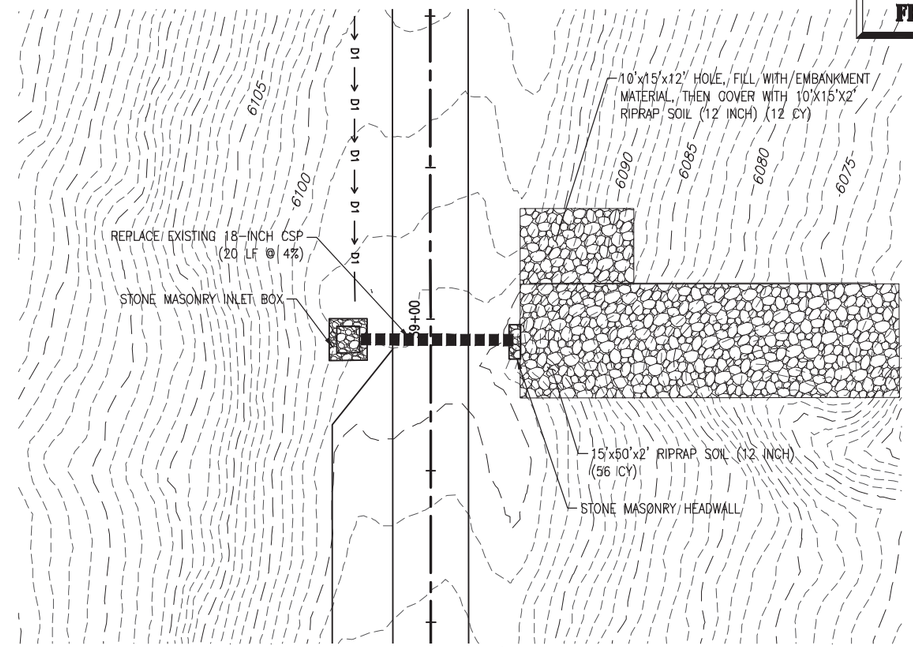
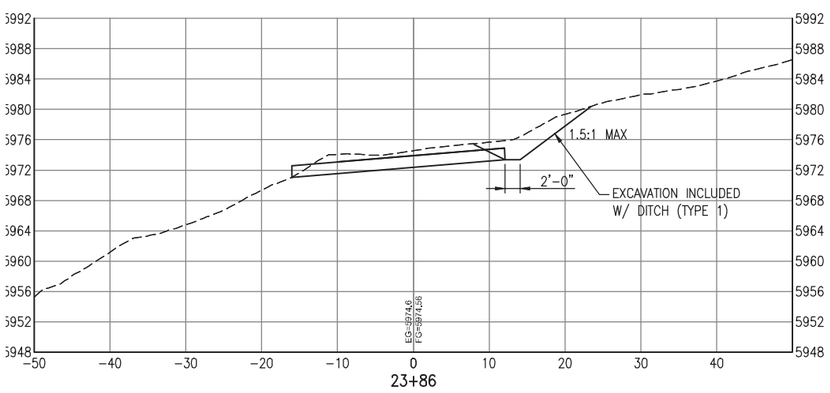
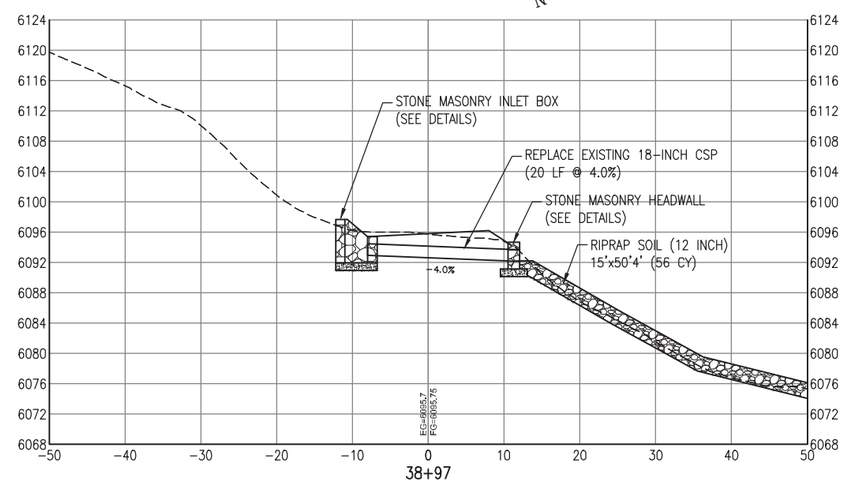


CULVERT #5





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Print Date:	Sheet Revisions			As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE		Project No./Code
File Name:	Date:	Comments	Init.	No Revisions:	CULVERT AND SLOPE PROTECTION DETAILS		CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:				Revised:	Designer: SJB	Structure Numbers	279 – 13134
Unit Information Unit Leader Initials				Void:	Detailer: LX		
					Sheet Subset: 3	Subset Sheets: 10	Sheet Number 47

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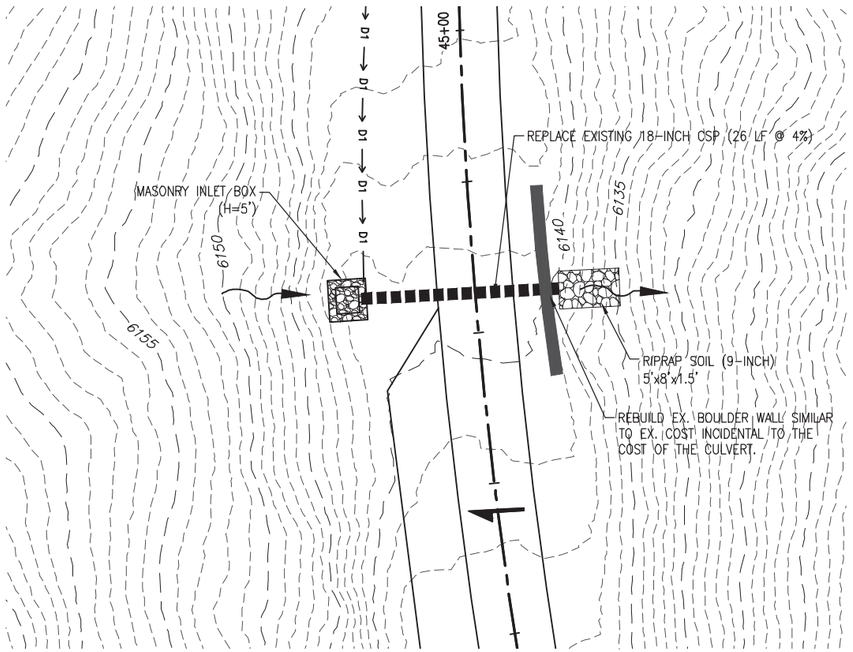
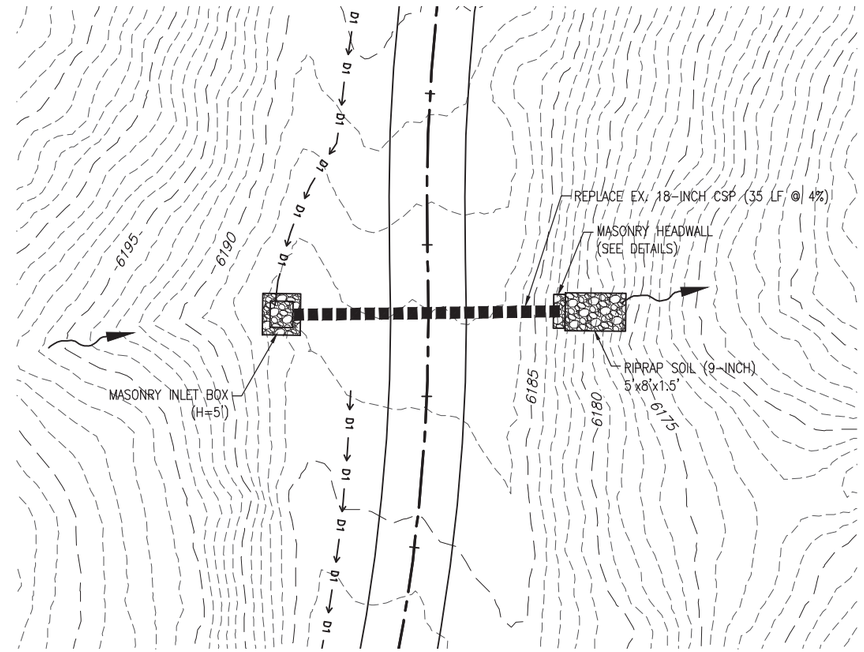
G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (47-53) Culverts Plan & Section.dwg Feb 24, 2016 - 8:57am

BID SET
FEBRUARY, 2016



NOTE:
SEE GENERAL CONDITIONS 614

CULVERT #6



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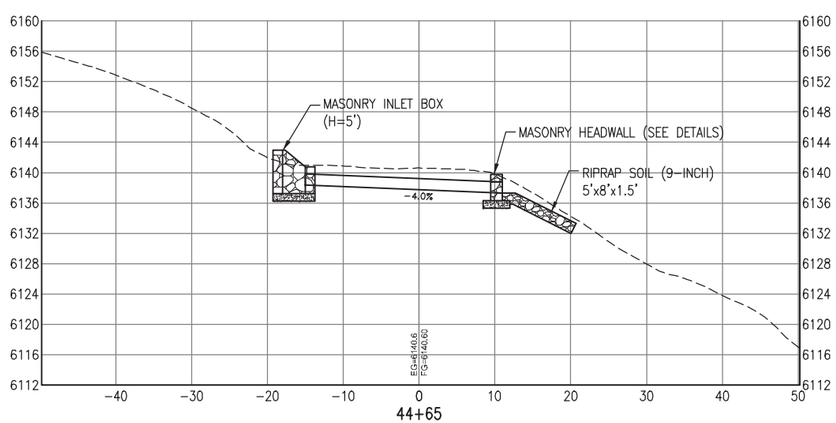

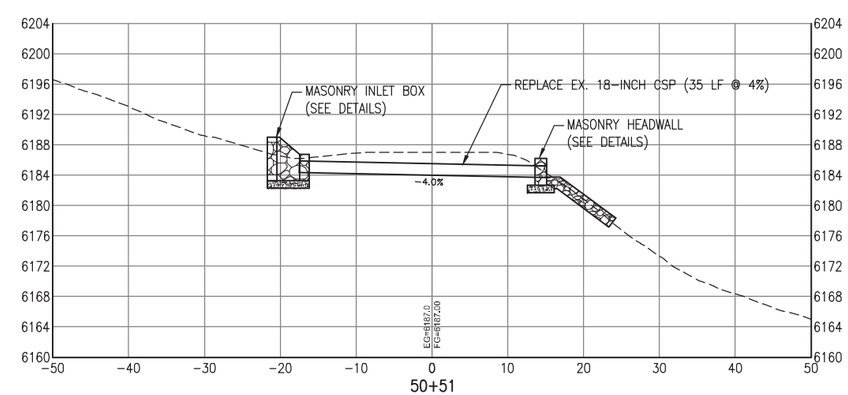

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Print Date:		Sheet Revisions			As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE	Project No./Code
File Name:		Date:	Comments	Init.	No Revisions:	CULVERT AND SLOPE PROTECTION DETAILS	CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:					Revised:	Designer: SJB / Structure Numbers	279 – 13134
Unit Information Unit Leader Initials					Void:	Detailer: LX / Sheet Subset: 4 / Subset Sheets: 10	Sheet Number 48

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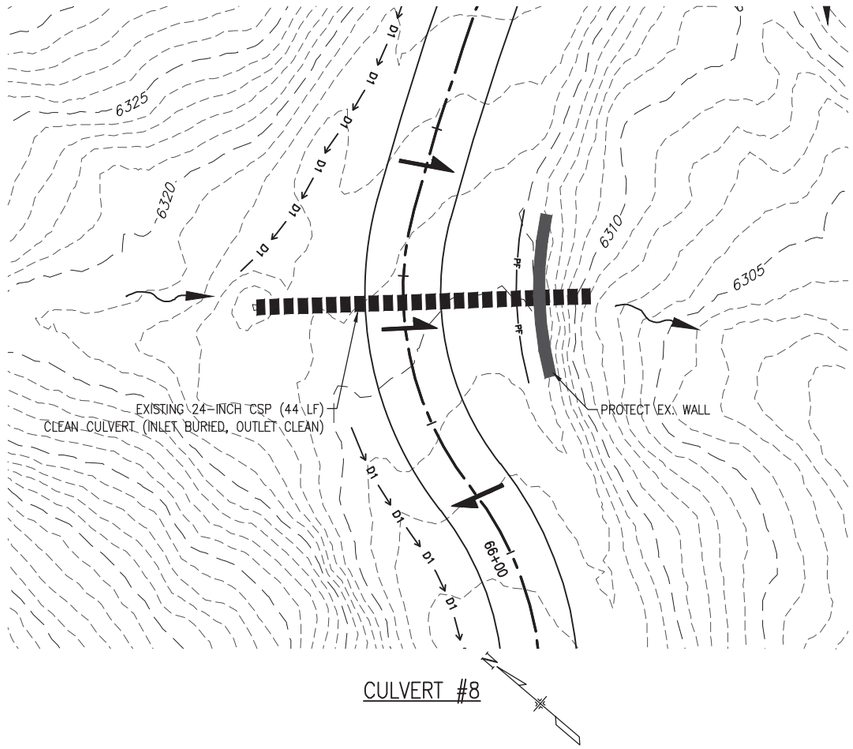
G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (47-53) Culverts Plan & Section.dwg Feb 24, 2016 - 8:57am

BID SET
FEBRUARY, 2016



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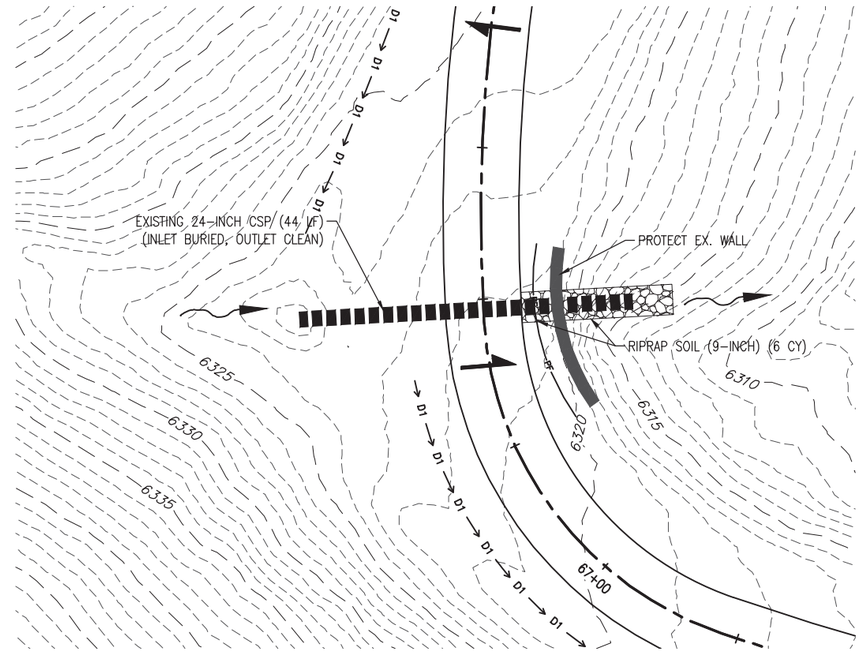
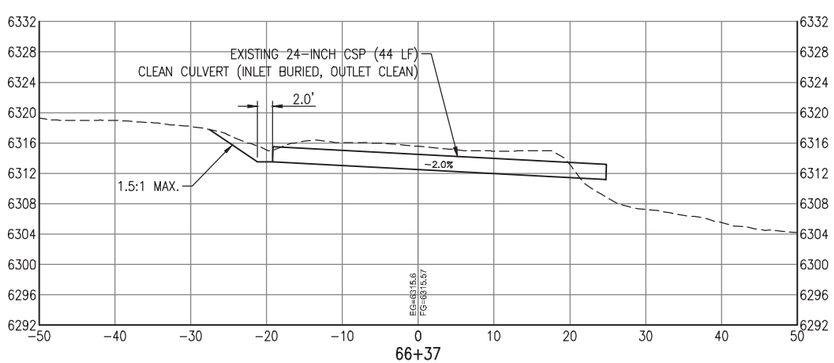
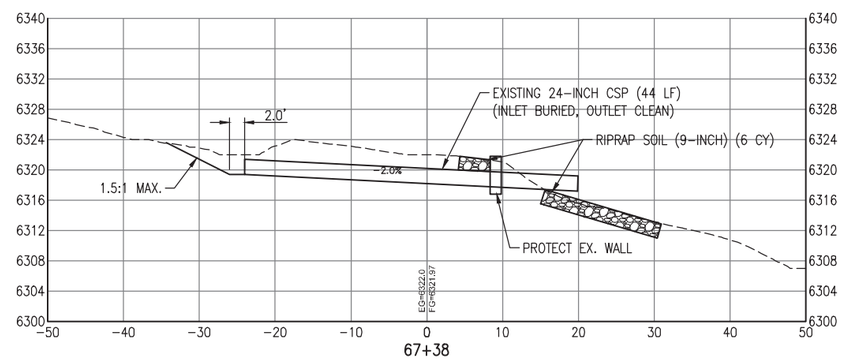


NOTE:
SEE GENERAL CONDITIONS 614

CULVERT #9





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Print Date:		Sheet Revisions			As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE	Project No./Code
File Name:		Date:	Comments	Init.	No Revisions:	CULVERT AND SLOPE PROTECTION DETAILS	CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:					Revised:	Designer: SJB / Structure Numbers	279 – 13134
Unit Information Unit Leader Initials					Void:	Detailer: LX / Sheet Subset: 5 / Subset Sheets: 10	Sheet Number 49

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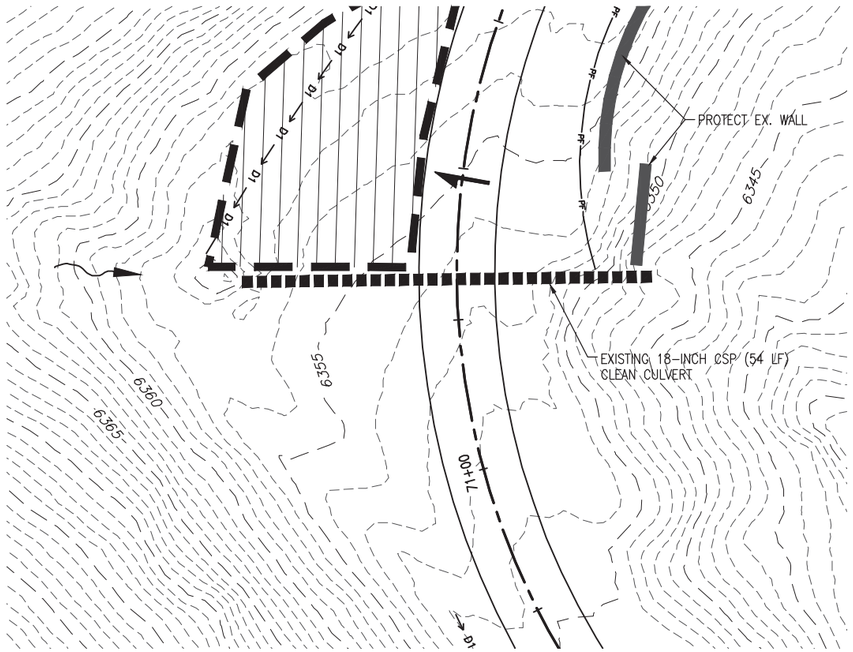
BID SET
FEBRUARY, 2016



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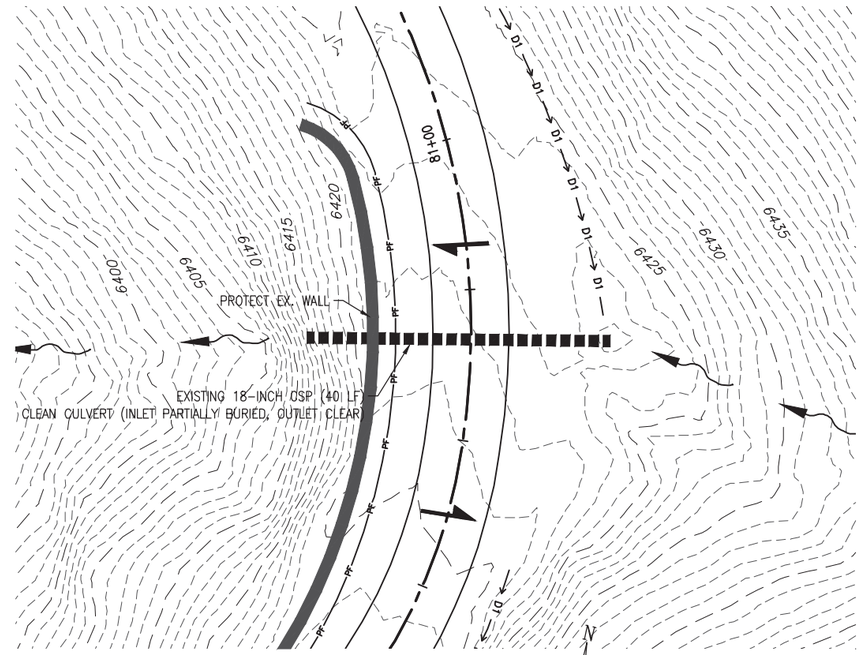

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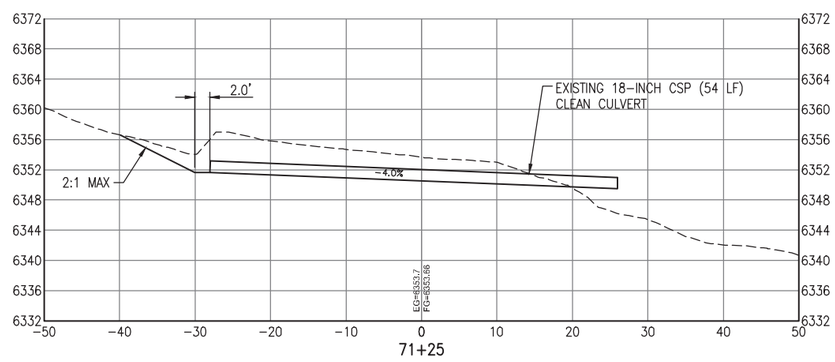

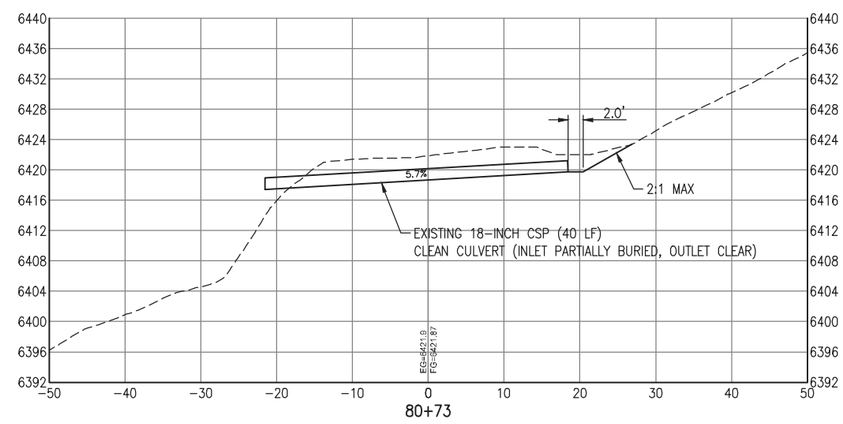

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Print Date:		Sheet Revisions			As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE	Project No./Code
File Name:		Date:	Comments	Init.	No Revisions:	CULVERT AND SLOPE PROTECTION DETAILS	CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:					Revised:	Designer: SJB / Structure Numbers	279 – 13134
Unit Information Unit Leader Initials					Void:	Detailer: LX	
						Sheet Subset: 6 / Subset Sheets: 10	Sheet Number 50

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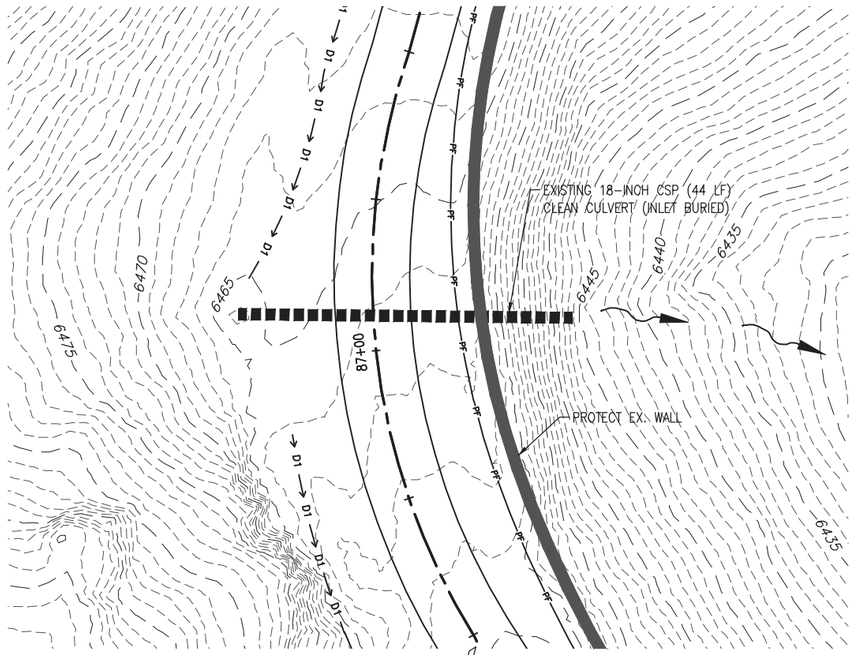
G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (47-53) Culverts Plan & Section.dwg Feb 24, 2016 - 8:58am

BID SET
FEBRUARY, 2016



CULVERT #12

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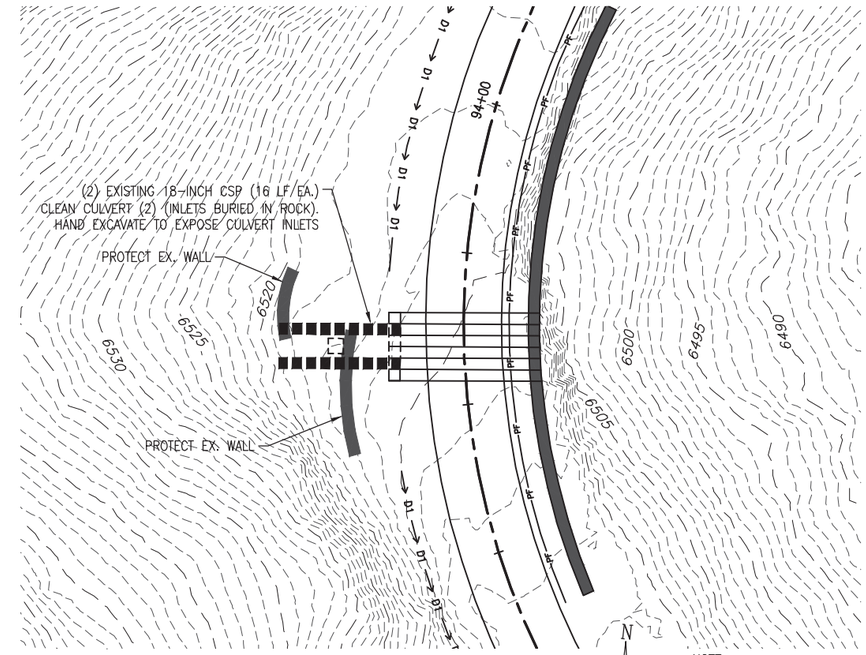
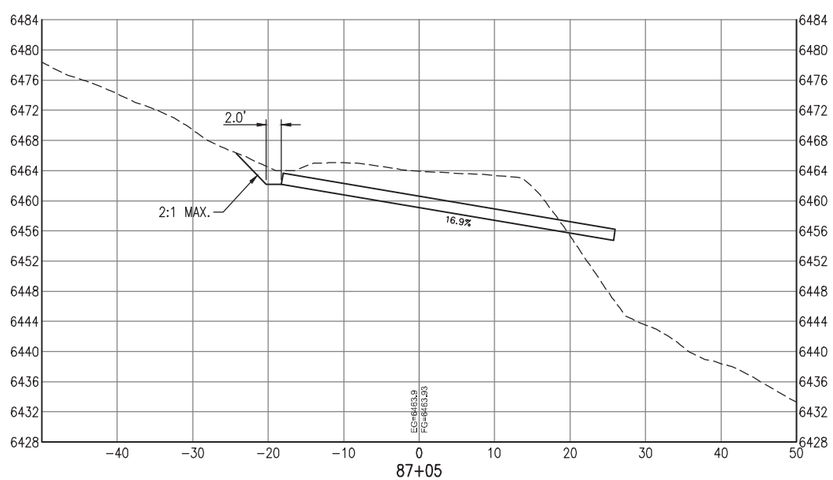


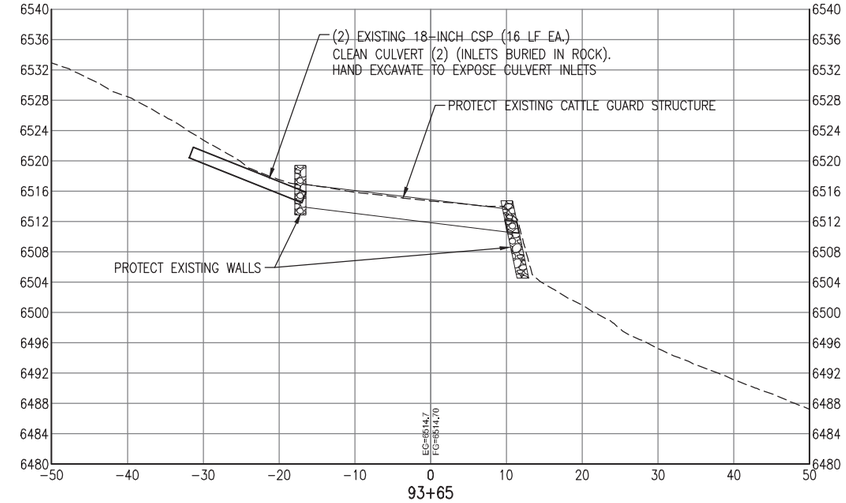
N

NOTE:
SEE GENERAL CONDITIONS 614

CULVERT #13

SEE PLAN FOR ADDITIONAL NOTES





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Print Date:	Sheet Revisions			As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE CULVERT AND SLOPE PROTECTION DETAILS	Project No./Code
File Name:	Date:	Comments	Init.	No Revisions:		CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:				Revised:	Designer: SJB / Structure Numbers	279 – 13134
Unit Information Unit Leader Initials				Void:	Detailer: LX / Sheet Subset: 7 / Subset Sheets: 10	Sheet Number 51

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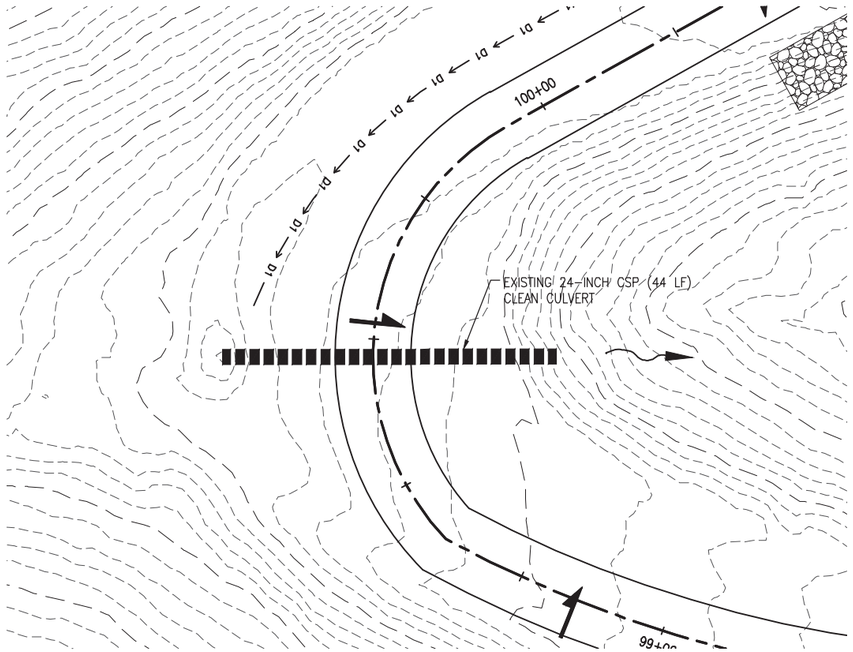
FEBRUARY, 2016



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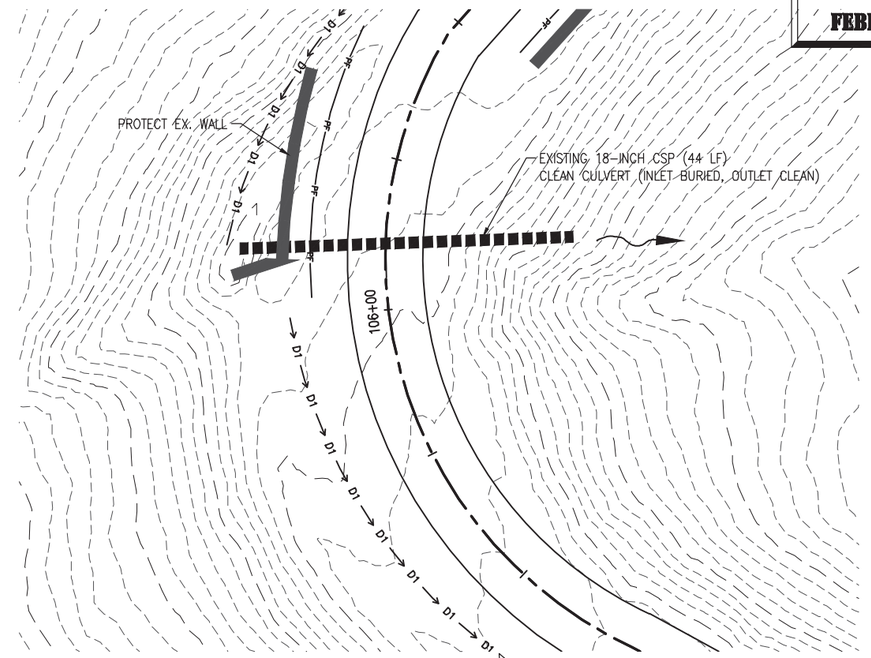
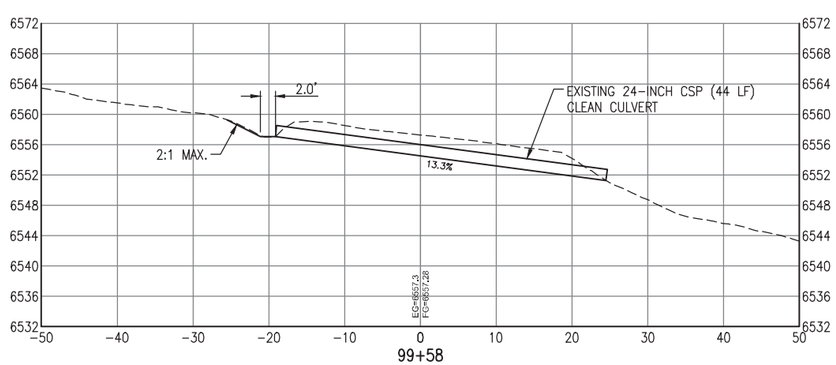
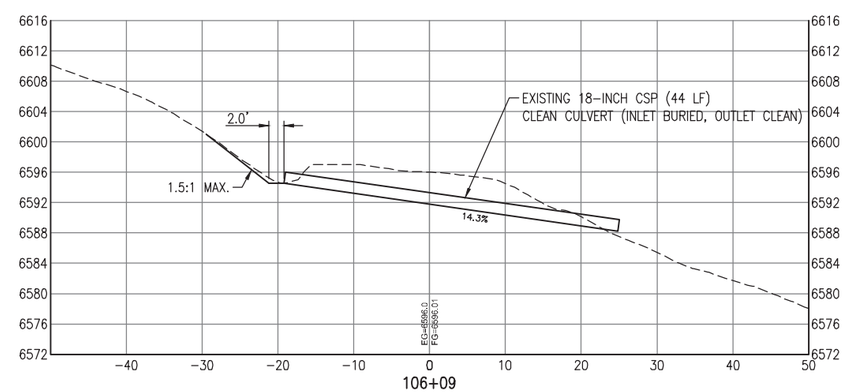


CULVERT #15





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Print Date:	Sheet Revisions			As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE		Project No./Code
File Name:	Date:	Comments	Init.	No Revisions:	CULVERT AND SLOPE PROTECTION DETAILS		CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:				Revised:	Designer: SJB	Structure Numbers	279 – 13134
Unit Information Unit Leader Initials				Void:	Detailer: LX		
					Sheet Subset: 8	Subset Sheets: 10	Sheet Number 52

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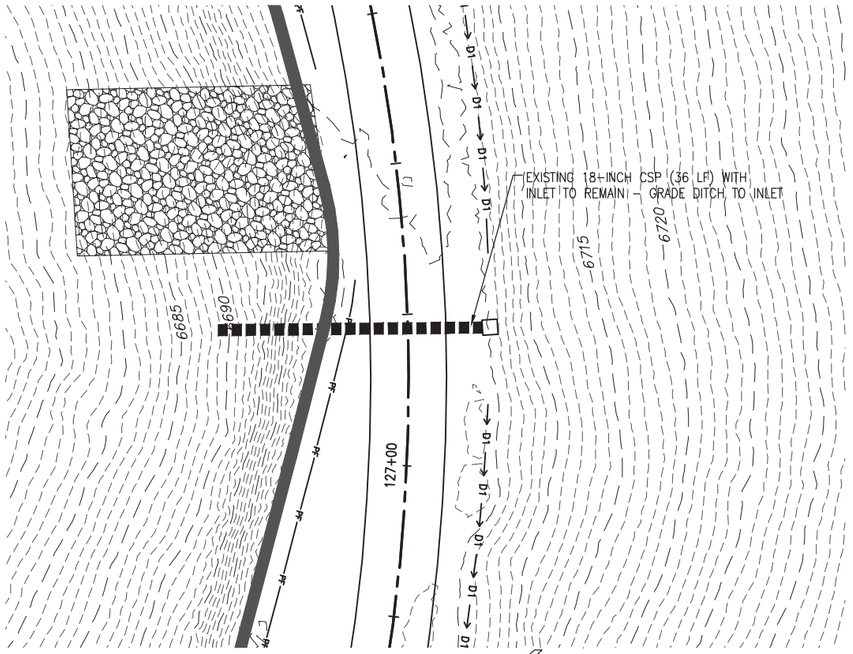

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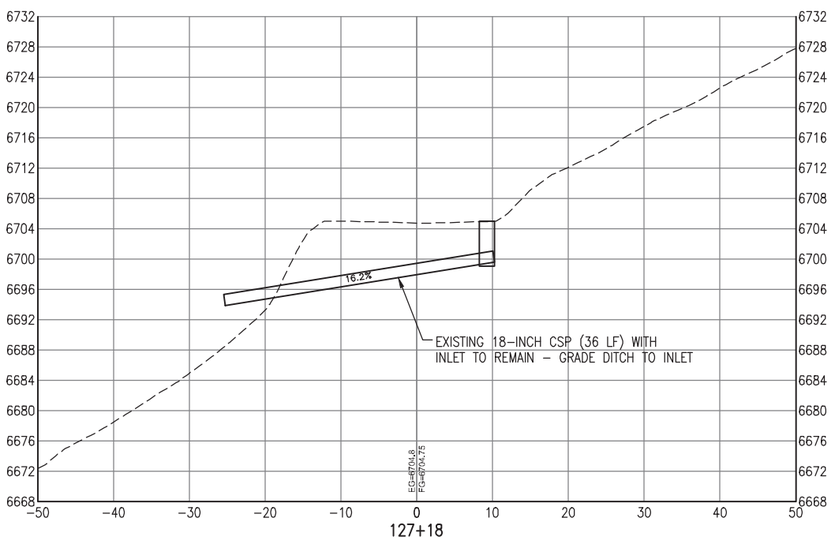
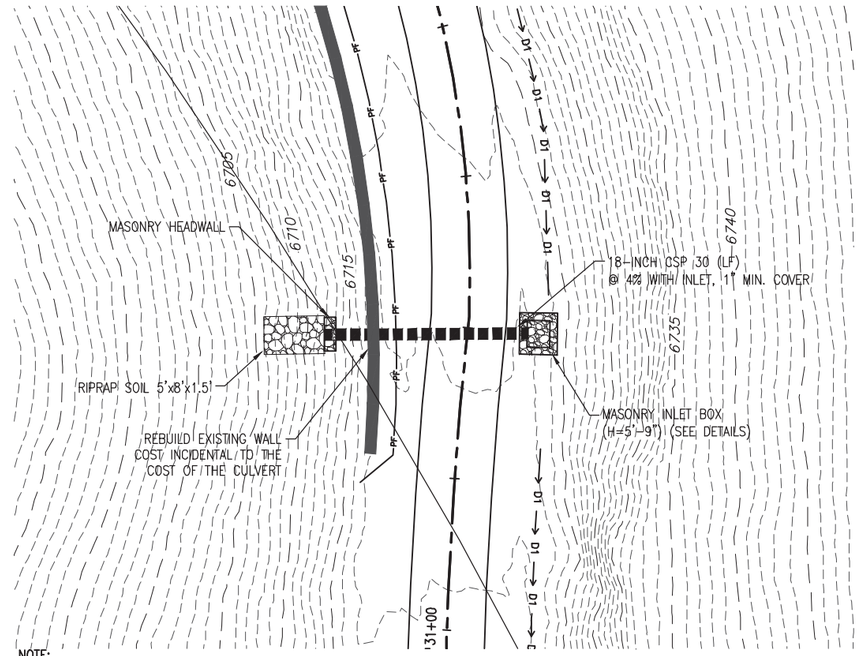
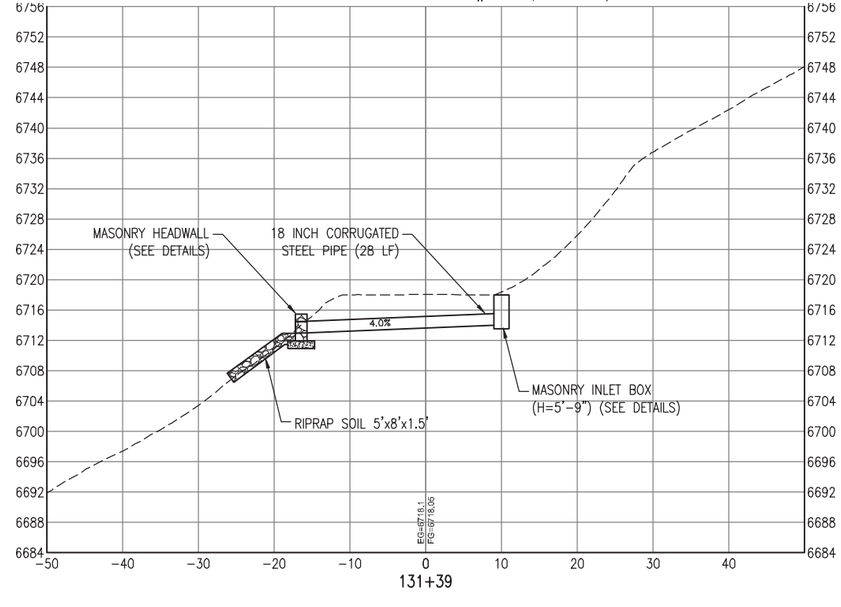




NOTE:
SEE GENERAL CONDITIONS 614

CULVERT #17



0 10 20
SCALE: 1" = 20'

Print Date:	Sheet Revisions			As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE		Project No./Code
File Name:	Date:	Comments	Init.	No Revisions:	CULVERT AND SLOPE PROTECTION DETAILS		CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:				Revised:	Designer: SJB	Structure Numbers	279 – 13134
Unit Information Unit Leader Initials				Void:	Detailer: LX		
					Sheet Subset: 9	Subset Sheets: 10	Sheet Number 53

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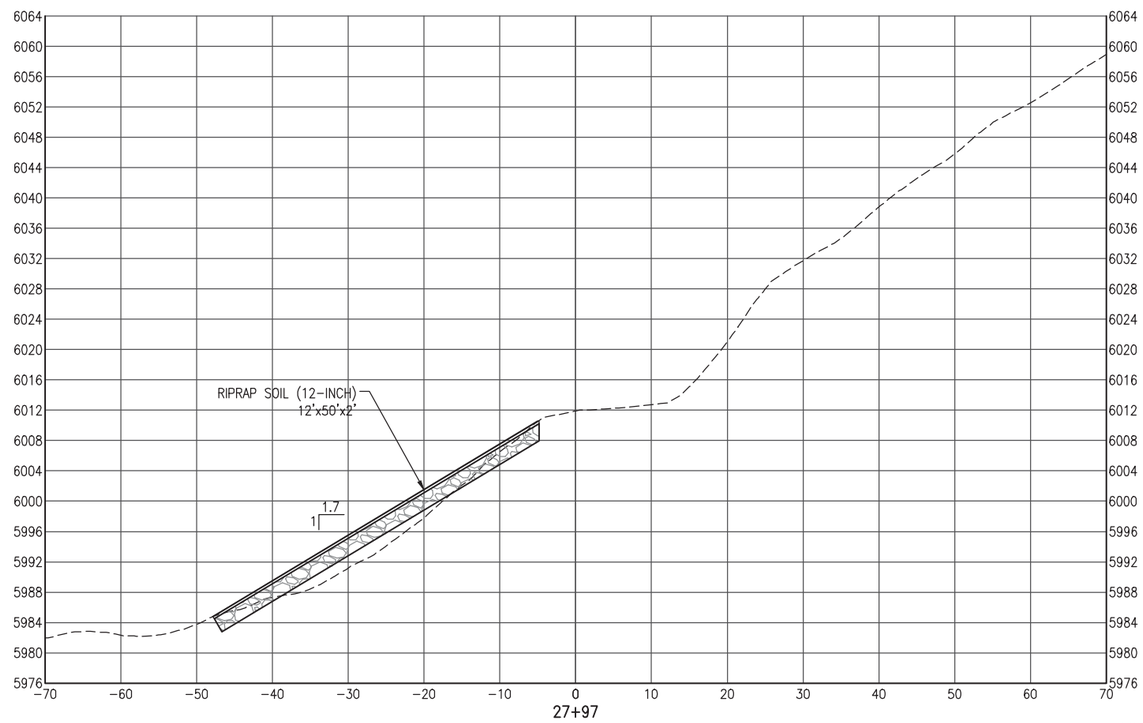
G:\7.2 Clients\279 – CI Boulder OSMP\13134 – COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (47-53) Culverts Plan & Section.dwg Feb 24, 2016 – 8:58am



NOTE: GRADES ARE APPROXIMATE.

0 10 20
SCALE: 1" = 20'

Print Date: Feb 24, 2016	Sheet Revisions			As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE		Project No./Code
File Name:	Date:	Comments	Init.	No Revisions:	CULVERT AND SLOPE PROTECTION DETAILS		CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:				Revised:	Designer: SJB	Structure Numbers	279 – 13134
Unit Information Unit Leader Initials				Void:	Detailer: LX		
					Sheet Subset: 10	Subset Sheets: 15	Sheet Number 54

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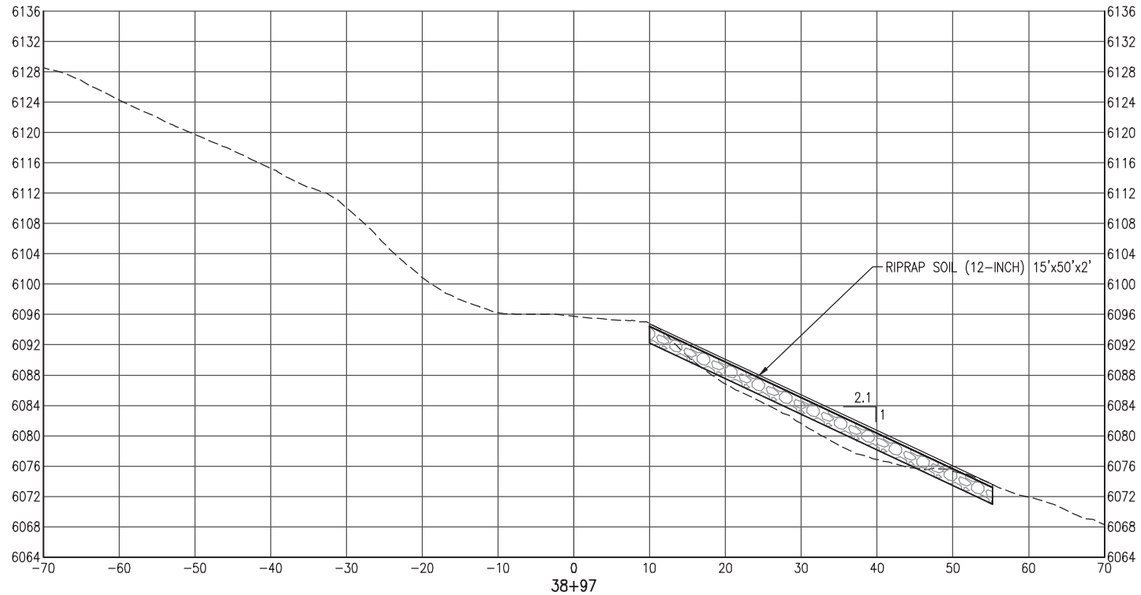
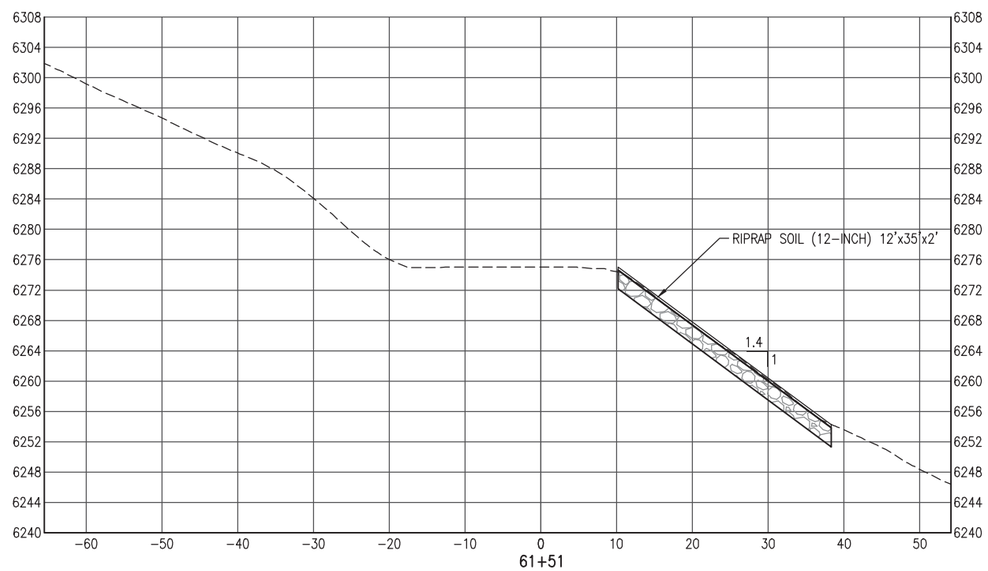
G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (54-58) Riprap Sections.dwg Feb 24, 2016 - 8:58am





NOTE: GRADES ARE APPROXIMATE.

0 10 20
SCALE: 1" = 20'

Print Date: Feb 24, 2016		Sheet Revisions			As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE	Project No./Code
File Name:		Date:	Comments	Init.	No Revisions:	CULVERT AND SLOPE PROTECTION DETAILS	CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:					Revised:	Designer: SJB / Structure Numbers	279 – 13134
Unit Information Unit Leader Initials					Void:	Detailer: LX / Sheet Subset: 11 / Subset Sheets: 15	Sheet Number 55

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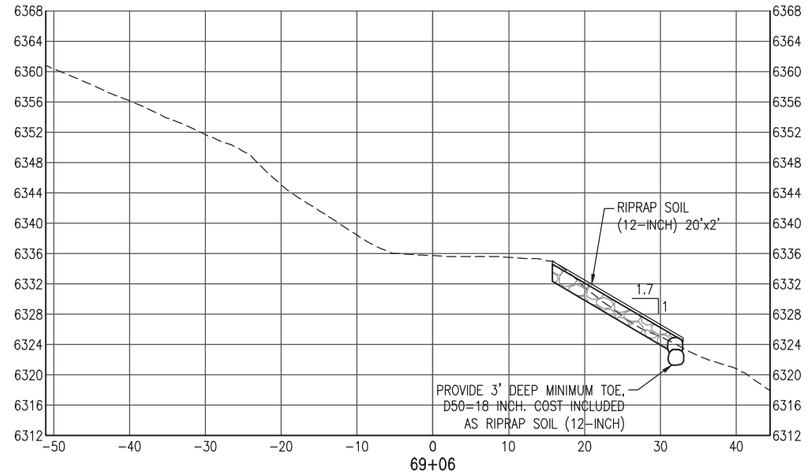
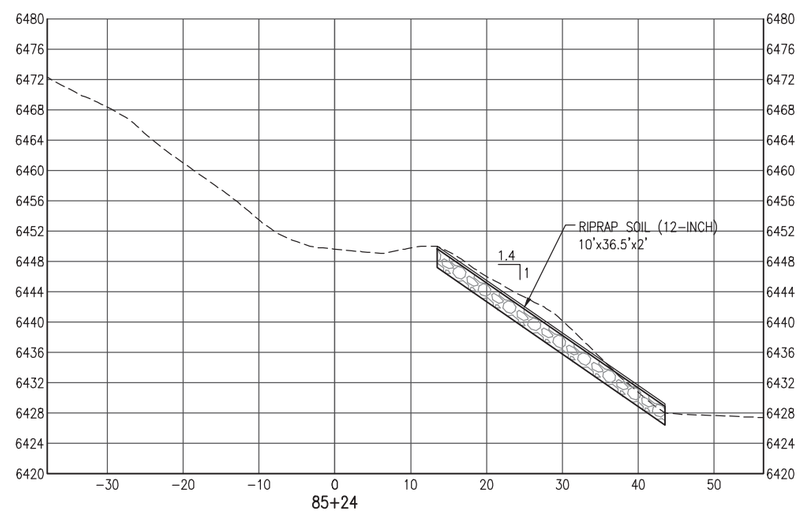
G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (54-58) Riprap Sections.dwg Feb 24, 2016 - 8:59am





NOTE: GRADES ARE APPROXIMATE.

0 10 20
SCALE: 1" = 20'

Print Date: Feb 24, 2016		Sheet Revisions			As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE	Project No./Code
File Name:		Date:	Comments	Init.	No Revisions:	CULVERT AND SLOPE PROTECTION DETAILS	CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:					Revised:	Designer: SJB / Structure Numbers	279 – 13134
Unit Information Unit Leader Initials					Void:	Detailer: LX / Sheet Subset: 13 / Subset Sheets: 15	Sheet Number 56

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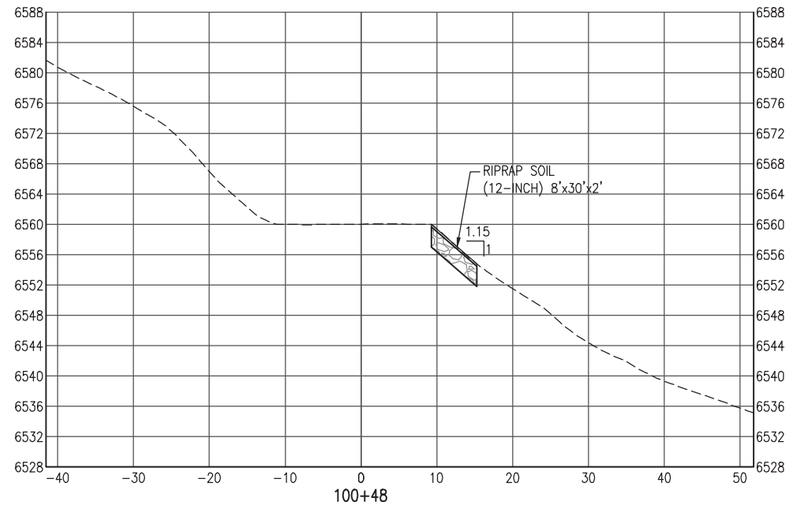
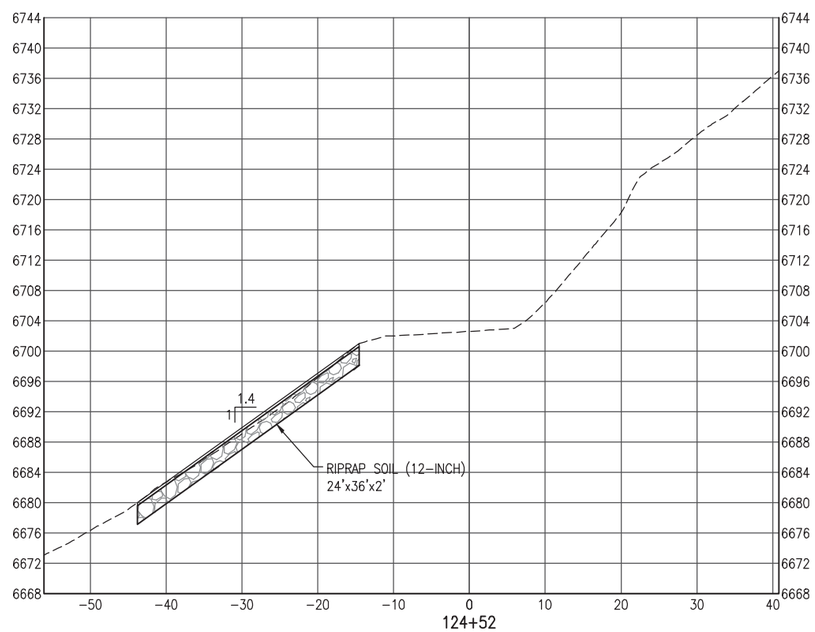
G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (54-58) Riprap Sections.dwg Feb 24, 2016 - 8:59am





NOTE: GRADES ARE APPROXIMATE.

0 10 20
SCALE: 1" = 20'

Print Date: Feb 24, 2016	Sheet Revisions			As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE CULVERT AND SLOPE PROTECTION DETAILS	Project No./Code
File Name:	Date:	Comments	Init.	No Revisions:		CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:				Revised:	Designer: SJB / Structure Numbers	279 – 13134
Unit Information Unit Leader Initials				Void:	Detailer: LX / Sheet Subset: 14 / Subset Sheets: 15	Sheet Number 57

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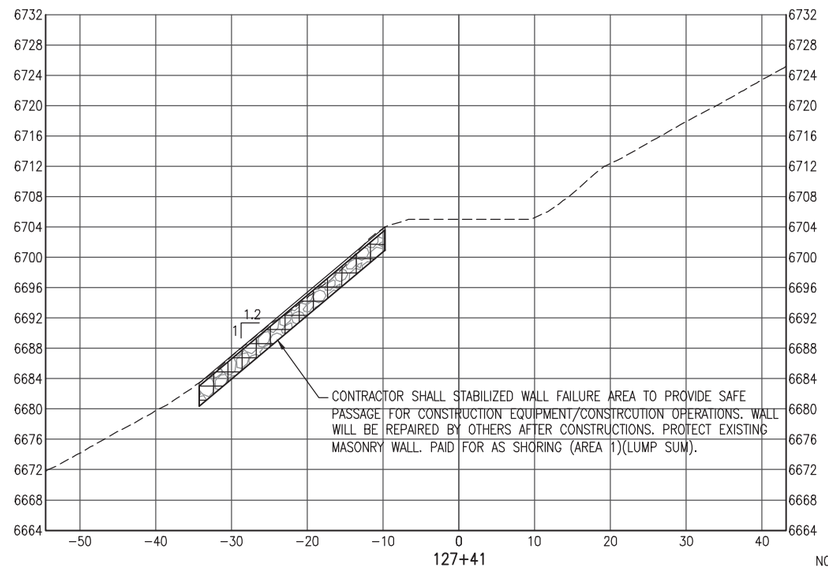
G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (54-58) Riprap Sections.dwg Feb 24, 2016 - 8:59am



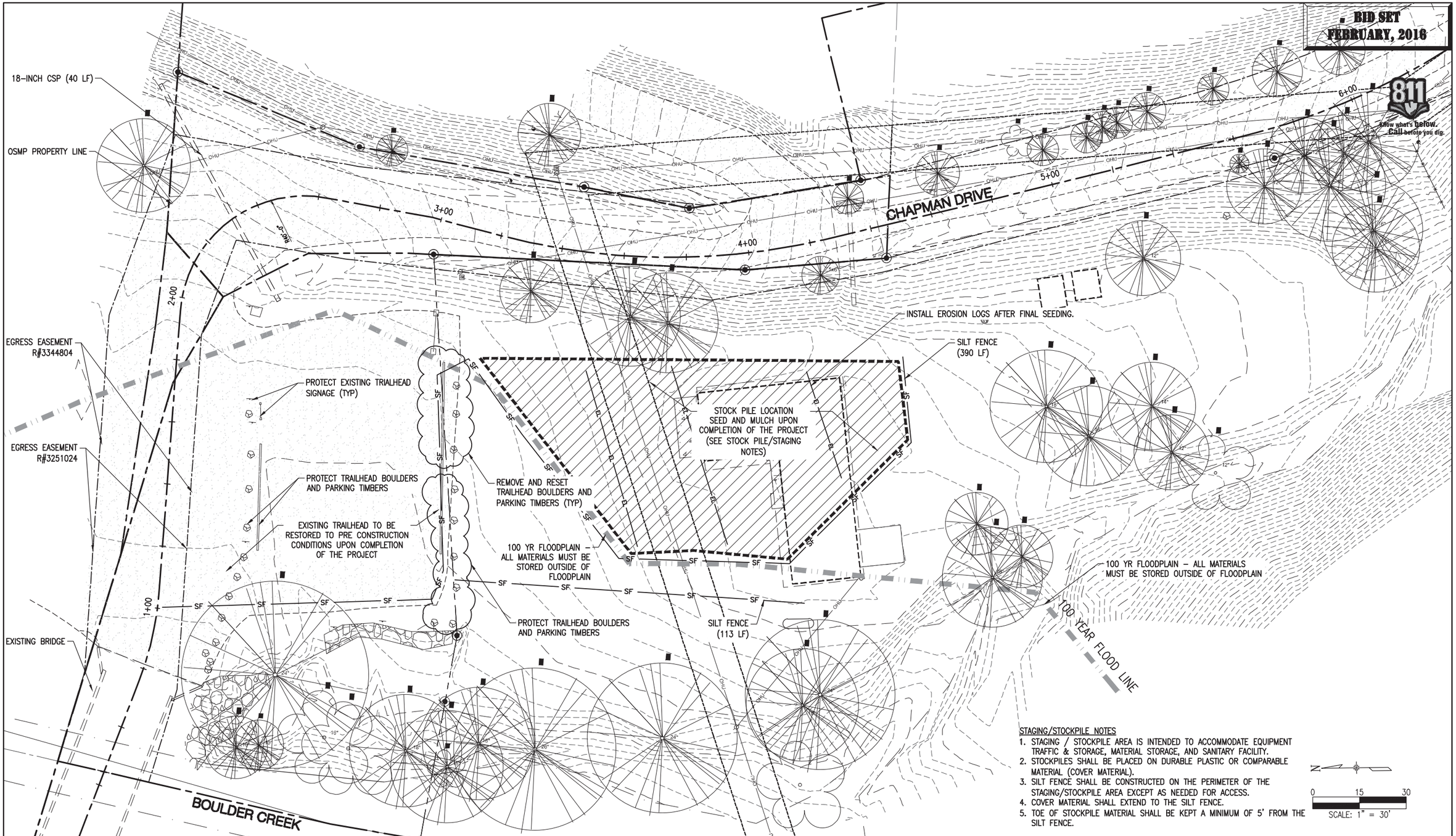
NOTES:
1. SEE GENERAL CONDITIONS 614
2. GRADES ARE APPROXIMATE.

0 10 20
SCALE: 1" = 20'

Print Date: Feb 24, 2016		Sheet Revisions				As Constructed	COB–OSMP FLOOD DAMAGE REPAIR AND MITIGATION–CHAPMAN DRIVE CULVERT AND SLOPE PROTECTION DETAILS	Project No./Code
File Name:		Date:	Comments	Init.	Loris and Associates, Inc. 100 Superior Plaza Way, Suite 220 Superior, Colorado 80027 303.444.2073 www.LorisandAssociates.com	No Revisions:	Designer: SJB / Structure Numbers	CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:					CITY OF BOULDER Open Space & Mountain Parks	Revised:	Detailer: LX	279 – 13134
Unit Information Unit Leader Initials						Void:	Sheet Subset: 15 / Subset Sheets: 15	Sheet Number 58

G:\7.2 Clients\279 – CI Boulder OSMP\13134 – COB–OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (54–58) Riprap Sections.dwg Feb 24, 2016 – 8:59am

BID SET
FEBRUARY, 2016



STAGING/STOCKPILE NOTES

1. STAGING / STOCKPILE AREA IS INTENDED TO ACCOMMODATE EQUIPMENT TRAFFIC & STORAGE, MATERIAL STORAGE, AND SANITARY FACILITY.
2. STOCKPILES SHALL BE PLACED ON DURABLE PLASTIC OR COMPARABLE MATERIAL (COVER MATERIAL).
3. SILT FENCE SHALL BE CONSTRUCTED ON THE PERIMETER OF THE STAGING/STOCKPILE AREA EXCEPT AS NEEDED FOR ACCESS.
4. COVER MATERIAL SHALL EXTEND TO THE SILT FENCE.
5. TOE OF STOCKPILE MATERIAL SHALL BE KEPT A MINIMUM OF 5' FROM THE SILT FENCE.

N

0 15 30
SCALE: 1" = 30'

Print Date: Feb 24, 2016	Sheet Revisions		
File Name:	Date:	Comments	Init.
Horiz. Scale: 1"=20' Vert. Scale:			
Unit Information Unit Leader Initials			

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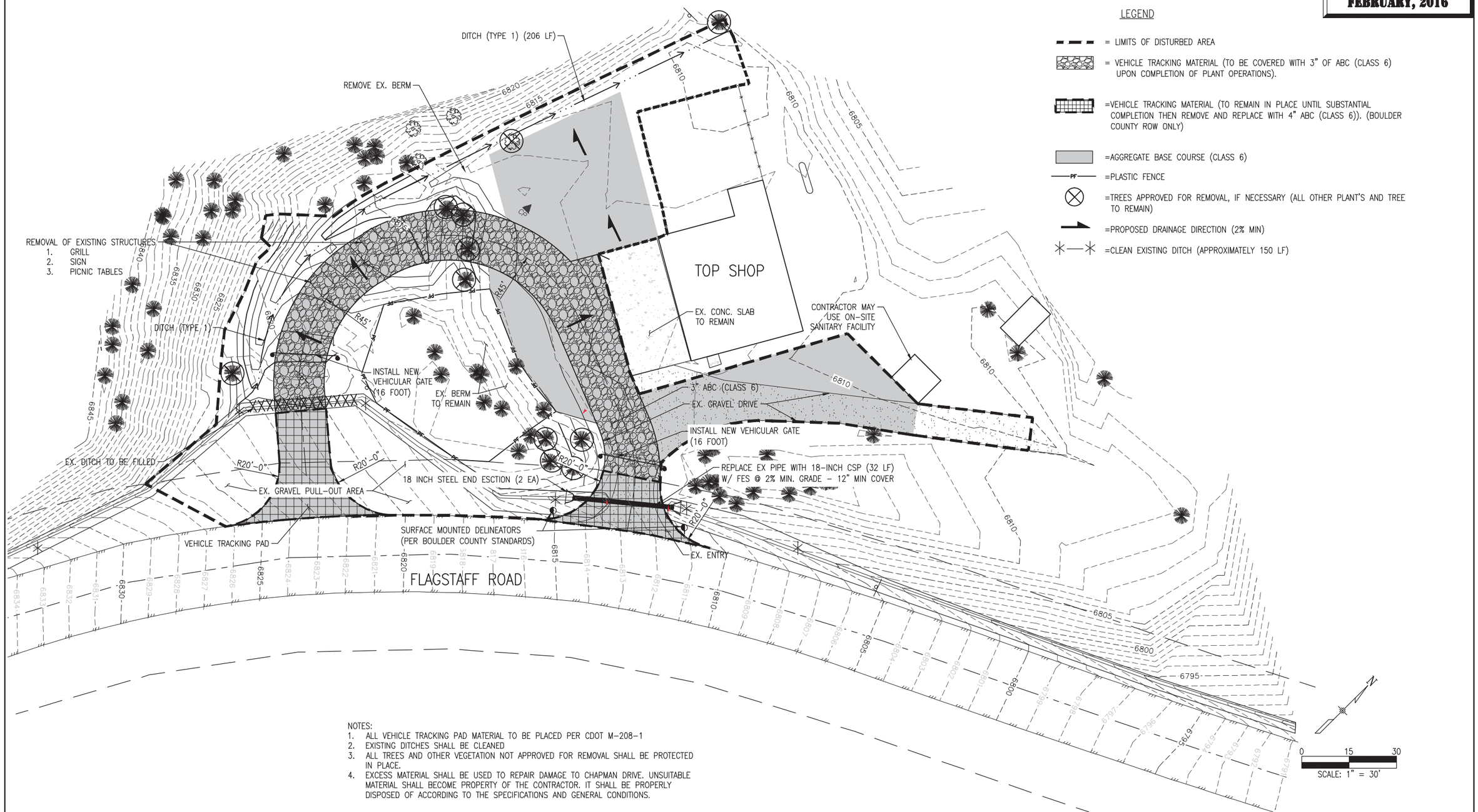
As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION–CHAPMAN DRIVE CHAPMAN DRIVE TRAILHEAD SITE PLAN		Project No./Code
No Revisions:			CHAPMAN DRIVE
Revised:	Designer: SJB	Structure Numbers	279 – 13134
Void:	Detailer: CWM		
	Sheet Subset: 1	Subset Sheets: 2	Sheet Number 59

G:\7.2 Clients\279 – 01 Boulder OSMP\13134 – COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (59) Trail Head Plan and Details.dwg Feb 24, 2016 – 8:59am

BID SET
FEBRUARY, 2016



NOTES:
1. ALL VEHICLE TRACKING PAD MATERIAL TO BE PLACED PER CDOT M-208-1
2. EXISTING DITCHES SHALL BE CLEANED
3. ALL TREES AND OTHER VEGETATION NOT APPROVED FOR REMOVAL SHALL BE PROTECTED IN PLACE.
4. EXCESS MATERIAL SHALL BE USED TO REPAIR DAMAGE TO CHAPMAN DRIVE. UNSUITABLE MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR. IT SHALL BE PROPERLY DISPOSED OF ACCORDING TO THE SPECIFICATIONS AND GENERAL CONDITIONS.

Print Date: Feb 24, 2016	Sheet Revisions		
File Name:	Date:	Comments	Init.
Horiz. Scale: Vert. Scale:			
Unit Information Unit Leader Initials			

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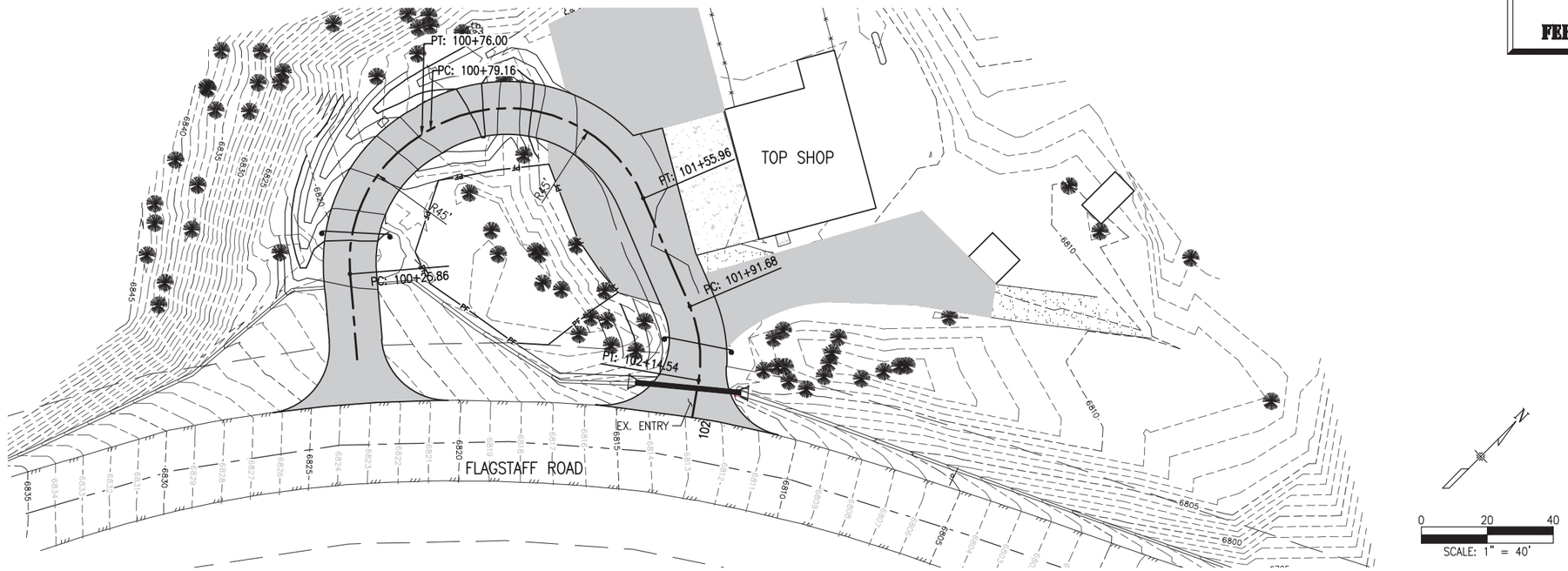
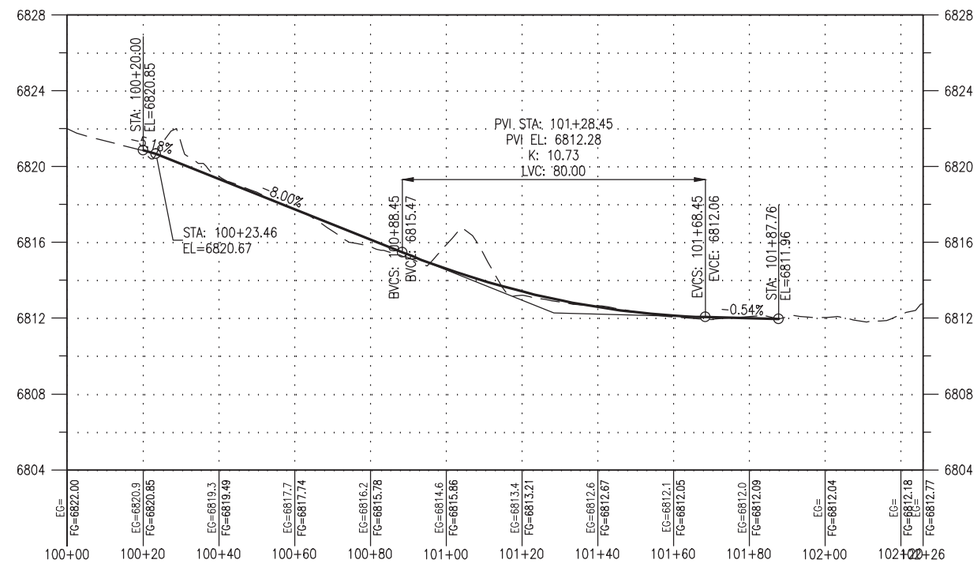
As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE TOP SHOP SITE PLAN		Project No./Code
No Revisions:			CHAPMAN DRIVE
Revised:	Designer: SJB	Structure Numbers	279 - 13134
Void:	Detailer: LX		
	Sheet Subset: 1	Subset Sheets: 3	Sheet Number 60

G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (60) Top Shop Overall.dwg Feb 24, 2016 - 9:00am

BID SET
FEBRUARY, 2016





Print Date: Feb 24, 2016	Sheet Revisions			As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION–CHAPMAN DRIVE		Project No./Code
File Name:	Date:	Comments	Init.	No Revisions:	TOP SHOP PLAN & PROFILE		CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:				Revised:	Designer: SJB	Structure Numbers	279 – 13134
Unit Information Unit Leader Initials				Void:	Detailer: LX		
					Sheet Subset: 2	Subset Sheets: 3	Sheet Number 61

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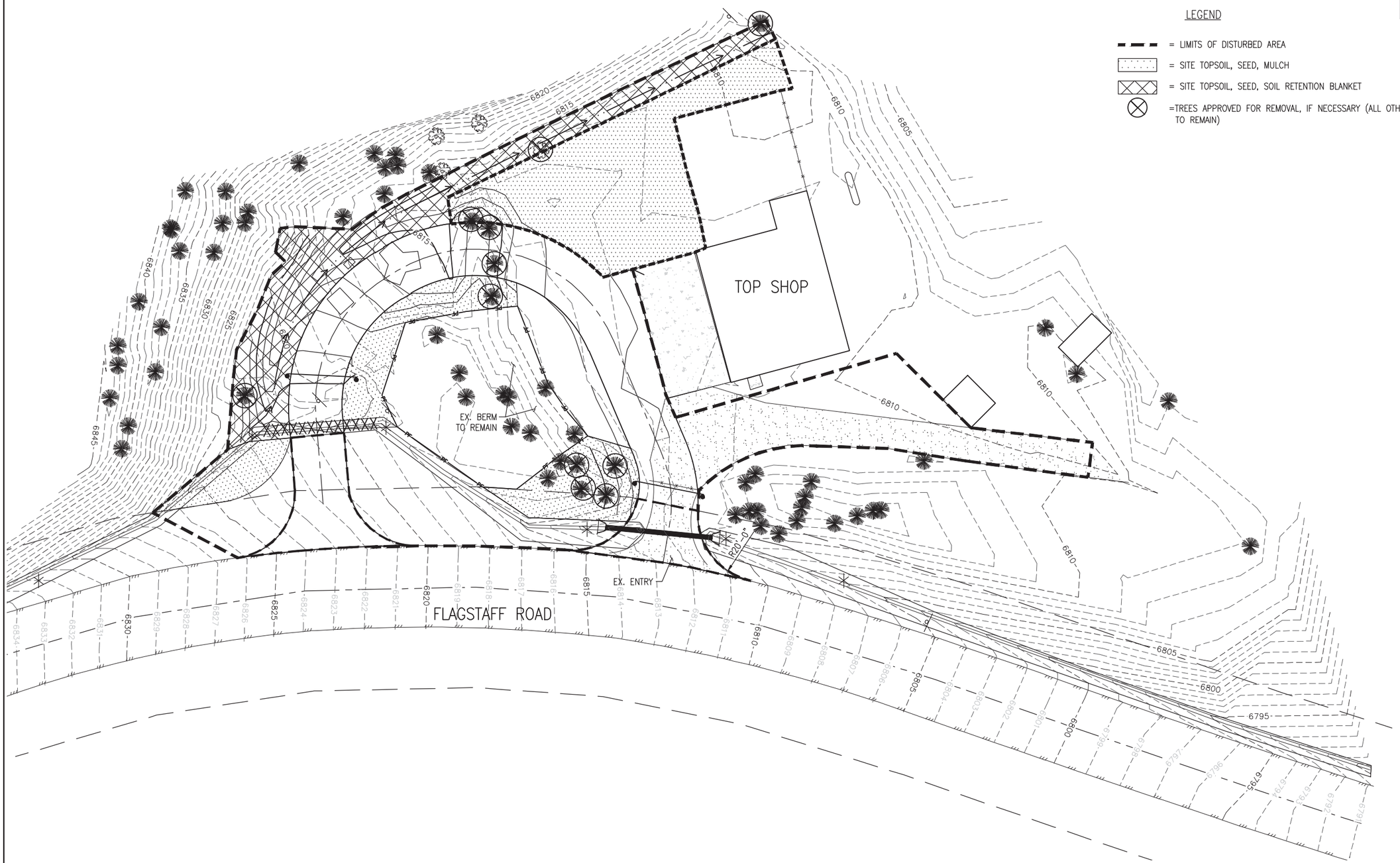
G:\7.2 Clients\279 – CI Boulder OSMP\13134 – COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (61) Top Shop Plan and Profile.dwg Feb 24, 2016 – 9:00am

BID SET
FEBRUARY, 2016

LEGEND

- = LIMITS OF DISTURBED AREA
- = SITE TOPSOIL, SEED, MULCH
- = SITE TOPSOIL, SEED, SOIL RETENTION BLANKET
- =TREES APPROVED FOR REMOVAL, IF NECESSARY (ALL OTHER PLANT'S AND TREE TO REMAIN)



Print Date: Feb 24, 2016	Sheet Revisions			As Constructed	COB–OSMP FLOOD DAMAGE REPAIR AND MITIGATION–CHAPMAN DRIVE TOP SHOP SITE PLAN	Project No./Code
File Name:	Date:	Comments	Init.	No Revisions:		CHAPMAN DRIVE
Horiz. Scale: Vert. Scale:				Revised:	Designer: SJB / Structure Numbers	279 – 13134
Unit Information Unit Leader Initials				Void:	Detailer: LX / Sheet Subset: 3 / Subset Sheets: 3	Sheet Number 62

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G:\7.2 Clients\279 – CI Boulder OSMP\13134 – COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (62) Top Shop Seeding.dwg Feb 24, 2016 – 9:00am

BID SET
FEBRUARY, 2016

Know what's **below.**
Call before you dig.

Print Date: Feb 24, 2016	Sheet Revisions		
File Name:	Date:	Comments	Init.
Horiz. Scale: Vert. Scale:			
Unit Information Unit Leader Initials			

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As Constructed	COB–OSMP FLOOD DAMAGE REPAIR AND MITIGATION–CHAPMAN DRIVE ADVANCED SIGNAGE		Project No./Code
No Revisions:			CHAPMAN DRIVE
Revised:	Designer: SJB	Structure Numbers	279 – 13134
Void:	Detailer: CWM		
	Sheet Subset: 1	Subset Sheets: 2	Sheet Number 63

G:\7.2 Clients\279 – CI Boulder OSMP\13134 – COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (63-64) Advanced Sign.dwg Feb 24, 2016 – 9:01am

BID SET
FEBRUARY, 2016

Know what's **below.**
Call before you dig.

TABULATION OF SIGNS

ITEM NO.															630
SIGN NO.	LOCATION	DURATION OF INSTALLATION	SIGN CODE	LEGEND	SIGN PANEL SIZE			BACK-GROUND COLOR	TIMBER SIGN POST 4 X 4 INCH	BARRICADE TYPE 1	BARRICADE TYPE 2	SIGN PANEL CLASS	SIGN PANEL SIZE A	SIGN PANEL SIZE B	SIGN PANEL SIZE C
					W (IN)	H (IN)	A (SF)		LF	EA**	EA**		EA	EA	EA
1		DURING CONSTR.	SPECIAL	TRAIL CLOSED	36	36	9	WHITE	-			A	1	-	-
2		DURING CONSTR.	SPECIAL	TRAIL CLOSED	24	12	2	WHITE	-	1		A	1	-	-
3		DURING CONSTR.	R11-2	ROAD CLOSED	48	30	10	WHITE		1		B	-	1	-
4		DURING CONSTR.									1		-	-	-
5		PERMANENT	R5-1	DO NOT ENTER	30	30	6.25	WHITE	10			A	1	-	-
6		DURING CONSTR.	SPECIAL	TRAILHEAD CLOSED	48	30	10	WHITE		1		B	-	1	-
7		DURING CONSTR.	SPECIAL	BUSINESS ACCESS	36	36	9	WHITE				A	1	-	-
8		DURING CONSTR.	SPECIAL	CHAPMAN TRAIL CLOSED	36	36	9	WHITE				A	1	-	-
9		DURING CONSTR.	SPECIAL	TRAIL CLOSED	36	36	9	WHITE				A	1	-	-
10		DURING CONSTR.	SPECIAL	TRAIL CLOSED	36	36	9	WHITE				A	1	-	-
11		DURING CONSTR.	SPECIAL	CHAPMAN TRAIL CLOSED	36	36	9	WHITE				A	1	-	-
12		DURING CONSTR.	SPECIAL	CHAPMAN TRAIL CLOSED AHEAD	48	30	10	WHITE				B	-	1	-
13		DURING CONSTR.	SPECIAL	CHAPMAN TRAILHEAD CLOSED AHEAD	48	30	10	WHITE				B	-	1	-
14		DURING CONSTR.	SPECIAL	CHAPMAN TRAILHEAD CLOSED	48	30	10	WHITE				A	1	-	-
15		DURING CONSTR.	W20-1	ROAD WORK AHEAD	36	36	9	ORANGE				A	1	-	-
16													-	-	-
17													-	-	-
18													-	-	-
									-				-	-	-
TOTAL									10	3	1		10	4	0

NOTE: *SIGNS, SIGN POSTS AND BARRICADES SHALL BE IN ACCORDANCE WITH CDOT STANDARD SPEC 630.02
**BARRICADE TYPE 1 AND 2 PER MUTCD SECTION 6F.68 AND FIGURE 6F-7

G:\7.2 Clients\279 - CI Boulder OSMP\13134 - COB-OSMP Flood Damage Mitigation\50 DWG\Chapman Drive\13134 (63-64) Advanced Sign.dwg Feb 24, 2016 - 9:01am

Print Date: Feb 24, 2016	Sheet Revisions			As Constructed	COB-OSMP FLOOD DAMAGE REPAIR AND MITIGATION-CHAPMAN DRIVE
File Name:	Date:	Comments	Init.	No Revisions:	ADVANCED SIGNAGE TABULATIONS
Horiz. Scale: Vert. Scale:				Revised:	Designer: SJB / Structure Numbers
Unit Information Unit Leader Initials				Void:	Detailer: CWM
					Sheet Subset: 2 / Subset Sheets: 2

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Project No./Code
CHAPMAN DRIVE
279 - 13134
Sheet Number 64