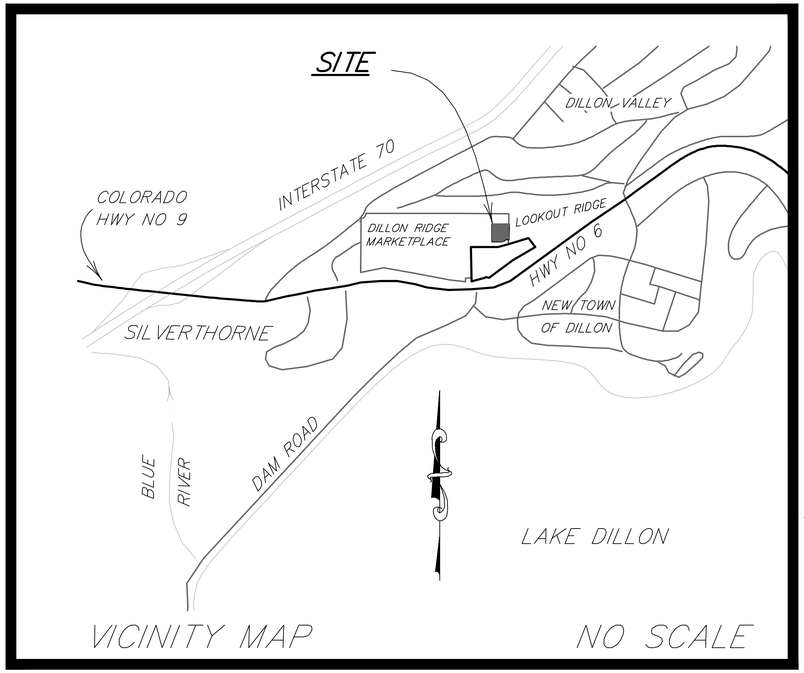
DILLON RIDGE VISTAS

BLOCK 6
DILLON RIDGE MARKETPLACE
TOWN OF DILLON, SUMMIT COUNTY, COLORADO
FINAL SITE PLAN AND PLAT DOCUMENTS

36 UNITS



VICINITY MAP NO SCALE

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FOR AND BEHALF OF TEN MILE ENGINEERING, INC.

4/7/17

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ROADWAY GENERAL NOTES:

1. EARTHWORK OPERATIONS SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT. TITLED GEOLOGIC SITE REVIEW AND GEOTECHNICAL INVESTIGATION FOR ANGLER MOUNTAIN

2. PAVING SHALL NOT START UNTIL SUBGRADE COMPACTING TESTS ARE TAKEN AND MEET THE REQUIREMENTS OF THE PLANS AND SPECS AND FINAL PAVEMENT DESIGN BY GETOCHINICAL REPORT AND/OR TOWN OF SILVERTHORNE STANDARDS, WHICHEVER ARE MORE STRINGENT. THE PAVEMENT SECTION SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT FOR THS PROJECT. THE MINIMUM DEPTH OF ASPHALT SHALL BE 4 INCHES ON TOWN ROADS AND 3 INCHES ON PRIVATE DRIVEWAYS.

3. THE CONTRACTOR SHALL SAW-CUT ALL EXISTING PAVEMENT WHERE MATCH LINES WITH EXISTING EDGE OF PAVEMENT OCCUR.

4. PORTLAND CEMENT CONCRETE SHALL MEET THE FOLLOWING REQUIREMENTS:
   A. COMPRESSIVE STRENGTH OF 4000 PSI AFTER 28 DAYS OF CURE TIME;
   B. AIR CONTENT OF 6.5% ± 1.5%;
   C. MAXIMUM SLUMP OF 3";
   D. "FIBER MESH" FIBERS SHALL BE ADDED TO CONCRETE FOR STRENGTH, AT A RATE OF 1.5 POUNDS OF FIBER PER CUBIC YARD OF CONCRETE.

5. ROADWAY RETAINING WALL VERTICAL AND HORIZONTAL INFORMATION HAVE BEEN ESTABLISHED AS PART OF THESE ROADWAY PLANS. STRUCTURAL, GEOTECHNICAL, AND DRAINAGE ENGINEERING FOR THE WALLS IS BY OTHERS (SEE SEPARATE DESIGN DOCUMENTS).

6. COMPACTION TESTING FOR THE BASE COURSE IN THE ROADWAY SHALL MEET 95% OF MODIFIED PROCTOR (ASTM D-1557) THE MATERIAL BEING WITHIN 2.0 PERCENT OF OPTIMUM MOISTURE. EACH LIFT OF ASPHALT SHALL MEET THE MINIMUM DENSITY OF 92-96 PERCENT MAXIMUM THEORETICAL DENSITY AS DETERMINED BY THE RICE DENSITY METHOD (ASTM D-2041). TESTS SHALL BE MADE AT A FREQUENCY OF EVERY 200 LINEAR FEET AND AT EVERY 12" COMPACTED LIFT OF FILL PLACED, AND FOR EVERY LIFT OF ASPHALT PLACED OR ROLLED. ASPHALT DENSITY TESTING SHALL BE PERFORMED ON EACH LIFT AT INTERVALS OF ONE TEST PER EVERY 250 LINEAR FEET PER LANE. TEST LOCATIONS ON EACH LIFT AND EACH LANE SHALL BE STAGGERED.

7. 6" VERTICAL CURB SHALL BE CURB AND GUTTER TYPE 2 (SECTION IIB) CDOT M-6091.

8. TYPE I DELINEATORS PER CDOT S-612-1.

9. DURING EARTHWORK OPERATION GEOTECHNICAL ENGINEER SHALL ASSESS ACTUAL SUB-SURFACE CONDITIONS AND REQUEST ADDITIONAL REQUIREMENTS IF NECESSARY. SUBJECT TO TOWN CONSULTANT REVIEW AND CONCURRENCE.

STORM SEWER GENERAL NOTES

1. LOCATION AND ELEVATION OF EXISTING STORM SEWER AND CULVERTS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO START OF CONSTRUCTION. ANY DIFFERENCES FROM DESIGN PLAN SHALL BE REPORTED TO DESIGN ENGINEER.

2. STORM SEWER SHALL BE SMOOTH WALLED HDPE (HIGH DENSITY POLYETHYLENE).

3. ALL CULVERTS SHALL HAVE END SECTIONS ON BOTH THE UPSTREAM AND DOWNSTREAM ENDS OF THE PIPE UNLESS OTHERWISE NOTED ON THE PLANS AND SHALL EXTEND 1 TO 3 FEET BEYOND EACH EDGE OF SHOULDERED PAVED DRIVE.

4. STORM SEWER BEDDING AND PIPE ZONE BACKFILL SHALL BE 3/4" TO 1" ROAD BASE OR TOWN OF DILLON APPROVED ALTERNATE.

5. PIPE LENGTHS FOR STORM SEWER ARE APPROXIMATE HORIZONTAL DISTANCES FROM END SECTION TO END SECTION. THEREFORE, DISTANCES SHOWN ON THE PLANS ARE APPROXIMATE ONLY AND COULD VARY. END SECTIONS ARE INCLUDED IN THE PIPE LENGTH SHOWN ON THE PLANS. FINAL LENGTH OF STORM SEWER SHALL BE SUFFICIENT TO PROVIDE THE ROAD SHOULDERS AND SIDE SLOPES TO NOT BE STEEPER THAN SHOWN ON THE TYPICAL ROAD SECTION.

6. REFER TO THE GEOTECHNICAL REPORT "PAVEMENT THICKNESS DESIGN RECOMMENDATIONS" AND THE STORM SEWER DETAILS ON SHEET DT01 FOR TRENCH STABILIZATION, BACKFILL PLACEMENT, COMPACTION, AND MOISTURE REQUIREMENTS. IN THE EVENT THAT SOFT FOUNDATION CONDITION IS ENCOUNTERED, THE AREA SHOULD BE OVER-EXCAVATED AND REPLACED WITH PIT-RUN AND THE APPROPRIATE NON-WOVEN GEO-TEXTILE MATERIAL.

7. INLETS SHALL BE TYPE C, CDOT M-604-10, TYPE D, CDOT M-604-11, OR TYPE R, CDOT M-604-12.

WATER GENERAL NOTES:

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE TOWN OF DILLON WATER SYSTEMS CRITERIA DATED DECEMBER 2005. WATER SYSTEM SPECIFICATIONS AND TESTING PROCEDURES SHALL BE IN CONFORMANCE WITH TOWN OF DILLON WATER ENGINEERING STANDARDS, AS OUTLINED HEREIN.

2. ALL WATER LINE IS TO BE EITHER CLASS 52 DUCTILE IRON PIPE OR C900 PVC PRESSURE WATER PIPE. ALL FITTINGS ARE TO BE DUCTILE IRON. ALL DUCTILE IRON IS TO BE WRAPPED WITH POLYETHYLENE ENCASEMENT IN ACCORDANCE WITH ANSI A21.5/A C105. IF C900 IS USED FOR FIRE HYDRANT LATERALS, STAINLESS STEEL OR CORTEN RODDING AND PVC APPROPRIATE MEGA-LUGS ARE REQUIRED FOR RESTRAINT.

3. SERVICE LINES SHALL BE 1" HDPE PURE-CORE SDR 9 CTS PIPE. SERVICE LINE MATERIAL SHALL BE CRESLINE HD CE BLUE TM, ALL SERVICE LINES SHALL HAVE A BACKFLOW PREVENTION DEVICE INSTALLED UPSTREAM OF THE WATER METER CONSISTING OF A DOUBLE CHECK VALVE ASSEMBLY SIMILAR OR EQUAL TO A WATTS REGULATOR NO.7.

4. MINIMUM COVER WITHIN STREETS IS 9.5 FEET AND 8.5 FEET IN UNPAVED LOCATIONS. SEE INSULATION DETAILS DEPTHS BELOW 8.5'.

5. VALVES SHALL BE RESILIENT SEAT NRS GATE VALVES AND SHALL OPEN-LEFT (MUELLER, US, WATEROUS OR CLOW BRAND RESILIENT WEDGE VALVES ONLY). CHECK WITH WATER SUPT. FOR VERIFICATION OF SPECIFIC MODEL NUMBERS.

6. VALVE BOXES SHALL BE OVAL BASE BOTTOM TYPE. CHECK WITH WATER SUPT. FOR VERIFICATION OF SPECIFIC MODEL NUMBERS.

7. ALL FIRE HYDRANTS SHALL BE WATEROUS "PACER" WITH 34-INCH MOUNTAIN STANDARD FLANGE MEETING THE FOLLOWING REQUIREMENTS:

NOZZLE	5-1/4 INCH
INLET	6 INCH FOR MECHANICAL JOINT
DEPTH OF BURY	9'-6" OR 8'-6" (AS REQUIRED TO MEET THE WATERLINE COVER)
OPERATING NUT1	1 INCH PENTAGON
OPEN	LEFT(CCW)
OUTLETS	TWO 2-1/2 INCH, ONE 5-1/4 INCH PUMPER NOZZLE (THREADS TO MATCH EXISTING)
THREADS	NATIONAL STANDARD
CAPS	CAP WITH PENTAGON NUT
COLOR	RED (ALL ABOVE GROUND PARTS)
THRUST RESTRAINT	BOTTOM THRUST BLOCK AND 2-3/4" TIE RODS FROM MAIN TEE TO HYDRANT BOTTOM.
ELEVATION OF NOZZLE	42" ± 3" OPERATING NUT ABOVE FINISHED GROUND SURFACE AT TRAFFIC FLANGE

ALL HYDRANTS TO BE SHOP PRIMED AND PAINTED RED WITH TWO BOLLARDS.

8. WATER METER KIT WILL BE PROVIDED BY TOWN. THE CHARGE FOR THE WATER METER KIT WILL BE PAID BY THE DEVELOPER AT THE TIME OF THE BUILDING PERMIT ISSUANCE. THE METER KIT WILL HAVE REMOTE READOUT.
9. AIR RELEASE VALVES (ARV'S) SHALL BE APCO MODEL NO. 143 C COMBINATION AIR/VACUUM VALVE OR APPROVED EQUAL.
10. MECHANICAL JOINT RESTRAINT DEVICES SHALL BE:

FOR DUCTILE IRON PIPE:	FOR C900 PVC PIPE:
MEGALUG 1700 SERIES	IBEE IRON INC. SERIES 1500
ROMAL ROM GRIP	
UNI-FLANGE 1400 SERIES	
STAR GRIP 3000 SERIES	
SIGMA-LOCK	

11. PIPE JOINT RESTRAINT DEVICES, TIE RODS AND THRUST BLOCKS SHALL BE INSTALLED PER DETAILS. ALL RESTRAINT RODS AND HARDWARE ARE TO BE STAINLESS STEEL OR CORTEN.

WATER GENERAL NOTES (CONTINUED):

12. CHLORINATION

ALL MAIN EXTENSIONS AND PRIVATE PIPE EXTENSIONS SHALL BE CHLORINATED IN ACCORDANCE WITH AWWA C651, AND THE LOCAL HEALTH AUTHORITY HAVING JURISDICTION, PRIOR TO ACCEPTANCE BY TOWN OF DILLON (TOD). THE CHLORINATING AGENT, AND METHOD OF APPLICATION, SHALL BE APPROVED BY THE TOD.

THE CHLORINATION OF THE FINISHED PIPELINE SHALL BE DONE PRIOR TO THE HYDROSTATIC TESTING. BEFORE FILLING THE PIPE WITH WATER, THE PIPE SHALL BE CLEAN AND FREE OF DEBRIS TO THE SATISFACTION OF THE TOWN. TOD WILL NOT PROVIDE LABOR OR MATERIAL FOR DISINFECTION TO APPLICANT'S INSTALLING MAINS UNDER PRIVATE CONTRACT.

CHLORINE TABLETS MAY BE USED FOR DISINFECTION IN 12-INCH AND SMALLER PIPE. SIXTEEN INCH AND LARGER PIPE REQUIRES A CHLORINE SLURRY FED INTO THE WATER USED IN FILLING THE PIPE. CHLORINE TABLETS SHALL BE ATTACHED TO THE INSIDE TOP OF THE PIPE WITH AN APPROVED ADHESIVE CERTIFIED TO NSF STANDARD 61 PRIOR TO THE PIPE INSTALLATION IN THE TRENCH. AN APPROVED ADHESIVE IS DOW CORNING 732 MULTI-PURPOSE SEALANT.

NUMBER OF HYPOCHLORITE TABLETS OF 5 GRAM STRENGTH
REQUIRED FOR A DOSE OF 50 MILLIGRAMS/LITER*

PIPE LENGTH (FEET)	PIPE DIAMETER (INCHES) 6	8	12
13 OR LESS	2	2	5
18	2	3	6
20	2	3	7

*BASED ON 3 3/4" GRAM AVAILABLE CHLORINE PER TABLET

AFTER THE PIPE IS FILLED WITH WATER AND CHLORINE, THE CHLORINATED WATER SHALL BE HELD IN CONTACT WITH THE PIPE FOR 24 HOURS. AT THE END OF THE 24 HOUR PERIOD, THE WATER IN THE PIPELINE SHALL BE TESTED BY THE LOCAL HEALTH AUTHORITY OR THEIR DESIGNATED REPRESENTATIVE TO INSURE A RESIDUAL CHLORINE CONTENT OF NOT LESS THAN 25 MILLIGRAMS PER LITER. THEN THE PIPELINE SHALL BE THOROUGHLY FLUSHED TO REMOVE THE HEAVILY CHLORINATED WATER. CARE SHALL BE TAKEN IN FLUSHING THE PIPELINE TO PREVENT PROPERTY DAMAGE AND DANGER TO THE PUBLIC.

SAMPLES OF WATER WILL BE COLLECTED FOR BACTERIOLOGICAL EXAMINATION AND RESIDUAL CHLORINE CONTENT TESTING BEFORE THE PIPE IS PUT INTO SERVICE. TESTING OF RESIDUAL CHLORINE AND SAMPLING WILL BE DONE BY THE LOCAL HEALTH AUTHORITY OR THEIR DESIGNATED REPRESENTATIVE.

13. HYDROSTATIC TESTING

NO HYDROSTATIC TESTS SHALL BE MADE ON ANY PORTION OF THE PIPELINE UNTIL FIELD PLACED CONCRETE HAS HAD ADEQUATE CURING TIME, DEFINED AS FOLLOWS:

CONCRETE SHALL BE CURED BY A METHOD RECOMMENDED BY ACI 308. WHEN THE DAILY MEAN AMBIENT TEMPERATURE IS ABOVE 40°F, THE FINISHED CONCRETE SHALL BE CURED CONTINUOUSLY FOR A MINIMUM OF 7 DAYS OR FOR THE TIME NECESSARY TO ATTAIN 70% OF THE SPECIFIED COMPRESSIVE STRENGTH, WHICHEVER PERIOD IS LESS. WHEN THE MEAN DAILY AMBIENT TEMPERATURE IS 40°F OR LOWER, THE FINISHED CONCRETE SHALL BE CONTINUALLY CURED AT A MINIMUM TEMPERATURE OF 55° F FOR THE PERIOD RECOMMENDED BY ACI 306 TO PREVENT DAMAGE FROM EARLY-AGE FREEZING AND PROVIDE THE SERVICE CATEGORY STRENGTHS REQUIRED FOR EACH PLACEMENT.

TOS SHALL BE NOTIFIED 24 HOURS IN ADVANCE OF TESTING. ALL TESTING SHALL BE MADE IN THE PRESENCE OF TOD.

ONLY THE FOLLOWING METHODS ARE ACCEPTABLE FOR SUPPLYING POTABLE WATER FOR HYDROSTATIC TESTING:

1. WATER MAY BE TAKEN FROM A NEARBY PRESSURIZED WATER SOURCE WHICH HAS BEEN PREVIOUSLY CHLORINATED, TESTED AND ACCEPTED, SUCH AS A FIRE HYDRANT.

2. WATER MAY BE DELIVERED TO THE SITE IN A CHLORINATED WATER TRUCK HAVING A MINIMUM CAPACITY OF 300 GALLONS. THE WATER TRUCK SHALL BE USED EXCLUSIVELY FOR THE TRANSPORTATION OF POTABLE WATER.

3. ANY PREVIOUSLY TESTED, CHLORINATED AND ACCEPTED WATER MAIN, WHICH IS PRESSURIZED AND IS TO SERVE THE NEW MAIN EXTENSION, MAY BE TAPPED ON THE PRESSURIZED SIDE OF THE CLOSED VALVE.

IN ANY EVENT, THE METHOD OF SUPPLYING WATER AS WELL AS THE SOURCE OF WATER FOR HYDROSTATIC TESTING MUST BE CERTIFIED AND APPROVED BY TOD. USE OF BARRELS, SANITARY OR OTHERWISE, TO SUPPLY WATER FOR HYDROSTATIC TESTING IS STRICTLY PROHIBITED.

TOD WILL FURNISH ONLY THE CALIBRATED METER BUT NOT THE PUMP FOR TESTING. THE PIPELINE SHALL BE PROPERLY BACKFILLED AND SHALL BE IN A STATE OF READINESS FOR TESTING. ALL BULKHEADS, PUMPS, TAPS, AND APPURTENANCES NECESSARY TO FILL THE PIPELINE AND MAINTAIN THE REQUIRED PRESSURE SHALL BE IN PLACE. THE PIPELINE SHALL BE FILLED WITH WATER AND THE TEST PRESSURE OF 150 POUNDS PER SQUARE INCH SHALL BE APPLIED TO THE PIPELINE BY MEANS OF A CONTINUOUSLY OPERATING PUMP, EQUIPPED WITH A BYPASS VALVE FOR REGULATING PRESSURE. WHEN FILLING THE PIPELINE, IT SHALL BE FILLED AT A RATE, WHICH WILL NOT CAUSE ANY SURGES, NOR WILL IT EXCEED THE RATE AT WHICH THE AIR CAN BE RELEASED.

ALL AIR IN THE LINE SHALL BE PROPERLY PURGED. WHERE BLOWOFFS OR HYDRANTS ARE NOT AVAILABLE OR ARE NOT EFFECTIVE IN PURGING AIR FROM THE LINE, TOD SHALL REQUIRE A TAP TO PURGE THE LINE. THE LOCATION AND SIZE OF TAP SHALL BE AT TOD'S DISCRETION.

WHILE THE TEST PRESSURE IS MAINTAINED, AN EXAMINATION SHALL BE MADE OF THE PIPELINE IN GENERAL, AND ANY LEAKS SHALL BE REPAIRED. ANY PIPE OR FITTING FOUND TO BE FAULTY SHALL BE REMOVED AND REPLACED. NO LEAKAGE IS ALLOWED THROUGH THE BONNET OF THE LINE VALVE. ANY VALVE LEAKING THROUGH THE BONNET SHALL BE REPAIRED IN PLACE OR REMOVED AND REPLACED. CUTTING AND REPLACING PAVEMENT, EXCAVATING, AND BACKFILLING MAY ALL BE NECESSARY PARTS OF LOCATING AND REPAIRING LEAKS DISCOVERED BY PRESSURE TESTING OF PIPE.

AFTER ALL VISIBLE LEAKS HAVE BEEN STOPPED, THE FULL TEST-PRESSURE SHALL BE MAINTAINED FOR 2 CONTINUOUS HOURS. ALLOWABLE LEAKAGE FOR EACH SECTION BETWEEN LINE VALVES SHALL NOT EXCEED THE FOLLOWING LEAKAGE RATES FOR 4-INCH THROUGH 20-INCH DISTRIBUTION AND TRANSMISSION MAINS:

PIPE SIZE (INCHES)	ALLOWABLE LEAKAGE PER 1,000 FEET OF PIPE (GALLONS PER HOUR) DIP
6	.55
8	.74
12	1.10

SHOULD TESTING SHOW A LEAKAGE RATE IN EXCESS OF THE RATES SHOWN, THE PIPELINE SHALL NOT BE ACCEPTED. THE PIPELINE SHALL BE REPAIRED, RECHLORINATED AS DESCRIBED IN NOTE 12, AND RETESTED UNTIL IT MEETS THE TEST REQUIREMENTS.

14. THE CONTRACTOR IS RESPONSIBLE FOR:

A. NOTIFYING ALL CUSTOMERS POSSIBLY AFFECTED BY OUTAGE OF WATER DURING CONSTRUCTION.

B. THE CONTRACTOR SHALL OBTAIN, AT HIS EXPENSE, ALL APPLICABLE LICENSES, PERMITS, BONDS, ETC. REQUIRED FOR THE MAIN INSTALLATION/SYSTEM MODIFICATION.

C. CONTACT TOWN OF DILLON FOR PRE-CONSTRUCTION MEETING AND INSPECTION, AT LEAST 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.

D. IN CASE OF AN EMERGENCY AFTER WORKING HOURS, CALL TOWN OF DILLON.

NOTE: BE ADVISED THAT OCCASIONALLY VALVES IN OUR SYSTEM MAY BE INOPERABLE. ON SUCH OCCASIONS IT MAY BECOME NECESSARY TO BACK UP AN ADDITIONAL BLOCK FOR THE SHUT OUT. IT WILL THEN BE NECESSARY TO MAKE THE ADDITIONAL NOTIFICATIONS TO GIVE THE AFFECTED CUSTOMERS THE MANDATORY 24 HOURS ADVANCE NOTICE. ALSO BE ADVISED THAT WHEN VALVE MAINTENANCE IS REQUIRED, A DELAY OF SEVERAL DAYS SHOULD BE EXPECTED.

15. WATER TRENCH BEDDING AND PIPE ZONE BACKFILL SHALL BE GRADED AS FOLLOWS:

SIEVE SIZE	TOTAL PASSING BY SIZE (% BY WEIGHT)
⅜" to 1½"	100
NO. 200	0-3

OR TOWN OF DILLON APPROVED CONTRACTOR ALTERNATE.

16. IRRIGATION VAULT TO BE CONSTRUCTED PER TOWN OF DILLON DETAIL.
17. ALL WATER LINE WORK SHALL BE INSPECTED BY THE DESIGN ENGINEER DURING CONSTRUCTION PER TOWN OF DILLON REQUIREMENTS
18. AS BUILT DRAWINGS SHALL BE PROVIDED PER TOWN OF DILLON REQUIREMENTS
19. CLAY CHECK DAMS MAY BE REQUIRED IF GROUNDWATER IS ENCOUNTERED.
20. WATERLINES ARE TO BE INSTALLED WITH A MINIMUM COVER OF 9 FT. ANY DEPTH LESS THAN 9 FT. MUST BE APPROVED THE TOWN OF DILLON PRIOR TO INSTALLATION. IF APPROVED, 4" OF INSULATION WILL BE REQUIRED. HI-100 HIGH DENSITY INSULATION WILL BE REQUIRED UNDER ALL ROADWAYS AND DRIVES.

SANITARY SEWER GENERAL NOTES:

1. ALL SANITARY SEWER CONSTRUCTION SHALL CONFORM TO TOWN OF DILLON SEWER SYSTEM CRITERIA DATED..

2. ALL SEWER MAINS AND SERVICES SHALL BE SDR 26 (UNLESS OTHERWISE NOTED).

3. ALL MANHOLE RIMS WITHIN THE 100-YEAR FLOOD PLAIN SHALL BE SET AT THE 100-YEAR FLOOD PLAIN ELEVATION AND SHALL HAVE GASKETTED BOLT DOWN LIDS.

4. MANHOLES SHALL BE WRAPPED WITH BITUTHENE.

5. SANITARY SEWER BEDDING AND PIPE ZONE BACKFILL SHALL BE 3/4" TO 1" SCREENED ROCK OR TOWN OF DILLON APPROVED ALTERNATE.

6. PIPELINE FLUSHING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIRING A CLEANING COMPANY THAT WILL HIGH-PRESSURE JET CLEAN THE LINES TO INSURE THAT SAND, ROCKS, OR OTHER FOREIGN MATERIAL ARE NOT LEFT IN ANY OF THE PIPELINES. WHEN FLUSHING, CARE SHOULD BE TAKEN TO PREVENT DAMAGE TO PROPERTY OR ROADWAYS OR EROSION OF SURROUNDING SOILS. FLUSHING WATER AND FLUSHED DEBRIS SHALL NOT BE ALLOWED TO ENTER THE EXISTING SEWER SYSTEM.

7. SEWER LINE ALIGNMENT, AND GRADE VERIFICATION. ONCE THE SEWER PIPELINES HAVE BEEN FLUSHED, THE SEWER PIPELINES SHALL BE INSPECTED BY MEANS OF CLOSED CIRCUIT TELEVISION (CCTV). DOCUMENTATION SHALL CONSIST OF A COLOR, DVD-FORMAT VIDEOTAPE, LOG SHEETS, AND A WRITTEN REPORT DETAILING THE CONDITION OF THE PIPELINE AND LATERAL CONNECTIONS/OPENINGS. THE REPORT SHALL NOTE THE TIME AND DATE OF VIDEO INSPECTION, STREET NAME, UPSTREAM AND DOWNSTREAM MANHOLE, DIRECTION OF VIEW, DIRECTION OF FLOW, SURFACE MATERIAL, PIPELINE LENGTH, PIPE SECTION LENGTH, PIPE SIZE, PIPE MATERIAL, LATERAL CONNECTIONS, VIDEO TAPE NUMBER, COUNTER NUMBER, AND A DETAILED LOGGING OF DEFECTS ENCOUNTERED. ANY REJECTED WORK SHALL BE REPAIRED, THEN RE-TELEVISED.

8. LEAKAGE. ALL PIPELINES SHALL BE TESTED FOR LEAKAGE BY MEANS OF AN AIR PRESSURE TEST. THE TEST SHALL BE PERFORMED AS FOLLOWS:

A. PREPARATION FOR TESTS: FLUSH AND CLEAN THE PIPELINE PRIOR TO TESTING IN ORDER TO WET THE PIPE SURFACES AND PRODUCE MORE CONSISTENT RESULTS. PLUG AND BRACE ALL OPENINGS IN THE PIPELINE AND THE UPPER CONNECTIONS. CHECK ALL PIPE PLUGS WITH A SOAP SOLUTION TO DETECT ANY AIR LEAKAGE. IF LEAKS ARE FOUND, RELEASE THE AIR PRESSURE, ELIMINATE THE LEAKS, AND START THE TEST PROCEDURE OVER AGAIN.

B. PROCEDURE OF TEST: ADD AIR UNTIL THE INTERNAL PRESSURE OF THE PIPELINE IS RAISED TO APPROXIMATELY 4.0 PSI, AT WHICH TIME THE FLOW OF AIR SHALL BE REDUCED AND THE PRESSURE MAINTAINED BETWEEN 3.5 AND 4.5 PSI FOR A SUFFICIENT TIME TO ALLOW THE AIR TEMPERATURE TO COME TO EQUILIBRIUM WITH THE TEMPERATURE OF THE PIPE.

C. AFTER THE TEMPERATURE HAS STABILIZED, PERMIT THE PRESSURE TO DROP TO 3.5 PSIG IN EXCESS OF THE GROUND WATER PRESSURE ABOVE THE TOP OF THE SEWER, AT WHICH TIME A STOP WATCH OR SWEEP SECOND HAND WATCH SHALL BE USED TO DETERMINE THE TIME LAPSE REQUIRED FOR THE AIR PRESSURE TO DROP TO 3.0 PSIG.

D. THE TIME ELAPSED SHALL NOT BE LESS THAN THE FOLLOWING:

PIPE SIZE (INCHES)	TIME (MINUTES)
6	5
8	5
10	6.5
12	7.5

E. BRACE ALL PLUGS SUFFICIENTLY TO PREVENT BLOWOUTS AND VENT THE PIPELINE COMPLETELY BEFORE ATTEMPTING TO REMOVE PLUGS.

F. PROVIDE PRESSURIZING EQUIPMENT WITH A RELIEF VALVE SET AT 5 PSI TO AVOID OVER-PRESSURIZING AND DAMAGING AN OTHERWISE ACCEPTABLE LINE.

9. MANHOLE VISUAL EXAMINATION. THE ENGINEER SHALL VISUALLY CHECK EACH MANHOLE, BOTH EXTERIOR AND INTERIOR, FOR FLAWS, CRACKS, HOLES, OR OTHER INADEQUACIES, WHICH MIGHT AFFECT THE OPERATION OR WATERTIGHT INTEGRITY OF THE MANHOLE. SHOULD ANY INADEQUACIES BE FOUND, THE CONTRACTOR, AT ITS OWN EXPENSE, SHALL MAKE ANY REPAIRS DEEMED NECESSARY BY THE ENGINEER. CONTRACTOR TO NOTIFY ENGINEER 48 HOURS PRIOR TO INSTALLATION OF MAN HOLES.

10. MANHOLE LEAKAGE TEST (VACUUM). ALL MANHOLES SHALL BE TESTED FOR LEAKAGE AND ALL TESTS SHALL BE WITNESSED BY THE ENGINEER. THE LEAKAGE TEST SHALL BE CONDUCTED PRIOR TO BACK-FILLING AROUND THE MANHOLE AND SHALL BE CARRIED OUT IN THE FOLLOWING MANNER:

A. MANHOLES SHALL BE VACUUM TESTED AFTER ASSEMBLY AND PRIOR TO BACKFILLING.

B. CARE SHALL BE TAKEN TO EFFECT A SEAL BETWEEN THE VACUUM BASE AND THE MANHOLE RIM. PIPE PLUGS SHALL BE SECURED TO PREVENT MOVEMENT WHILE THE VACUUM IS DRAWN.

C. A VACUUM OF 10 INCHES OF MERCURY SHALL BE DRAWN. THE TIME FOR THE VACUUM TO DROP TO 9 INCHES OF MERCURY SHALL BE RECORDED.

D. ACCEPTANCE SHALL BE DEFINED AS WHEN THE TIME TO DROP TO 9 INCHES MEETS OR EXCEEDS THE FOLLOWING:

DIA	TIME TO DROP 1" HG
4 FT.	120 SECONDS
5 FT.	120 SECONDS
6 FT.	120 SECONDS

E. IF THE MANHOLE FAILS THE TEST, MAKE NECESSARY REPAIRS. REPAIRS AND REPAIR PROCEDURES MUST BE ACCEPTABLE TO TOWN.

F. IF PREFORMED PLASTIC GASKETS ARE PULLED OUT DURING THE VACUUM TEST, THE MANHOLE SHALL BE DISASSEMBLED AND THE GASKETS SHALL BE REPLACED.

11. ALL SEWER LINE WORK SHALL BE INSPECTED BY THE DESIGN ENGINEER DURING CONSTRUCTION PER TOWN OF DILLON REQUIREMENTS
12. AS BUILT DRAWINGS SHALL BE PROVIDED PER TOWN OF DILLON REQUIREMENTS
13. CLAY CHECK DAMS MAY BE REQUIRED IF GROUNDWATER IS ENCOUNTERED.
14. ALL SEWER SERVICES ARE TO BE INSTALLED AT A MINIMUM 2% OR PROVIDE SERVICE SLOPE TABLE.
15. SEWER LINES ARE TO BE INSTALLED WITH A MINIMUM COVER OF 9 FT. – 6 IN. ANY DEPTH LESS THAN 9 FT., INSULATION WILL BE REQUIRED. HI-100 HIGH DENSITY INSULATION WILL BE REQUIRED UNDER ALL ROADWAYS AND DRIVES.

OVERALL GENERAL NOTES:

1. THE CONTRACTOR SHALL OBTAIN, AT HIS EXPENSE, ALL PERMITS WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK.

2. TRENCHES SHALL BE EXCAVATED AND THE PIPE EXPOSED FOR INSPECTION AT ANY LOCATION ON THE PROJECT IF SO ORDERED.

3. ALL STREET STATIONING IS ALONG THE CENTERLINE OF THE ROADWAY UNLESS OTHERWISE NOTED. FOR SEPARATE WATER & SANITARY SEWER PLANS THE STATIONING IS ALONG THE CENTERLINE OF THE PIPE.

4. THE PROFILE GRADE ON THE PLANS IS ALONG THE ROADWAY CENTERLINE UNLESS OTHERWISE NOTED.

5. THE CONTRACTOR SHALL HAVE ON HIS POSSESSION AT THE SITE A COPY OF THE APPROVED CONSTRUCTION PLANS.

6. LIMITS OF WORK: NO AREAS SHALL BE DISTURBED OUTSIDE OF THE TEMPORARY CONSTRUCTION EASEMENTS AND THE ROADWAY DISTURBANCE LIMITS.

7. ALL CONSTRUCTION SHALL CONFORM TO THE TOWN OF SILVERTHORNE STANDARDS AND SPECIFICATIONS AS APPLICABLE. ALL WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE DEVELOPER, TOWN OF SILVERTHORNE, OR THEIR REPRESENTATIVES. ONE OR ALL OF THE PARTIES HAS THE RIGHT TO REJECT MATERIALS AND WORKMANSHIP WHICH DO NOT CONFORM TO SPECIFICATIONS.

8. THE CONTRACTOR SHALL NOTIFY THE TOWN OF SILVERTHORNE AND THE PUBLIC UTILITY COMPANIES PRIOR TO PROCEEDING WITH ANY EXCAVATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ANY EXISTING UTILITY (INCLUDING DEPTHS) WHICH MAY CONFLICT WITH THE PROPOSED CONSTRUCTION. ALL EXISTING UTILITIES SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR. DAMAGED UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE. ALL ITEMS SHOWN ON THE PLANS AS EXISTING ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE ACTUAL LOCATIONS MAY VARY FROM THE PLANS, ESPECIALLY IN THE CASE OF UNDERGROUND UTILITIES. WHENEVER THE CONTRACTOR DISCOVERS A DISCREPANCY IN LOCATIONS, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY. ALL WORK PERFORMED IN THE AREA OF THE PUBLIC UTILITIES SHALL BE PERFORMED ACCORDING TO THE REQUIREMENTS OF THESE AGENCIES.

9. CONTRACTOR SHALL GIVE 48 HOURS NOTICE TO TOWN PERSONNEL TO PERFORM REQUIRED INSPECTIONS AND PRIOR TO ANY CONSTRUCTION ON THIS SITE. CONTACT TOWN OF DILLON PERSONNEL.

10. ALL EXCAVATION SHALL COMPLY WITH OSHA SAFETY REGULATIONS.

11. MATERIALS SHALL BE INSPECTED AND ACCEPTED BY THE TOWN'S INSPECTOR UPON DELIVERY AND WHERE POSSIBLE, PRIOR TO INSTALLATION.

STANDARD EROSION AND SEDIMENT CONTROL NOTES:

1. The contractor must notify Town of Dillon at least 48 hours prior to starting construction.
2. All grading, erosion, and sediment control must conform with approved plans. Revisions to disturbance areas, slopes, and/or erosion and sediment control measures are not permitted without prior approval from the Town of Dillon.
3. The landowner is responsible for obtaining a permit for Storm water Discharges Associated with Construction Activity from the Colorado Department of Public Health and Environment, at least 10 days prior to the start of construction activities for land disturbance areas of one acre or greater. The permit must be kept current throughout the construction duration.
4. Erosion control measures must be installed prior to grading activities.
5. All temporary and permanent soil erosion and sediment control practices must be maintained and repaired as needed to assure continued performance of their intended function. For example, erosion control blankets, straw bale dikes or silt fences may require periodic replacement. Sediment traps and basins will require periodic sediment removal.
6. All topsoil, where physically practicable, must be salvaged and not topsoil shall be removed from the site except as set forth in the approved plans. Topsoil and overburden must be segregated and stockpiled separately. Topsoil and overburden must be redistributed within the graded area after rough grading to provide a suitable base for areas, which must be seeded and planted. Runoff from the stockpiled area must be controlled to prevent erosion and resultant sedimentation of receiving water.
7. The landowner and/or contractor must immediately take all necessary steps to control increased sediment discharge.
8. The landowner and/or contractor is responsible for clean up and removal of all sediment and debris from all drainage infrastructure and other public facilities.
9. The landowner and/or contractor must take reasonable precautions to ensure that vehicles don not track or spill earth materials on to streets/roads and must immediately remove such material if this occurs.
10. The landowner and/or contractor is responsible for controlling waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste, as applicable. In addition, spill prevention and containment BMP's for construction materials, waste and fuel must be provided, as applicable.
11. If it is necessary to move material in excess of 300 cubic yards and/or 10,000 square feet of land disturbance area to or from another unincorporated Town of Dillon site, a grading permit is necessary for the off-site property. If the material is moved to a property located within another jurisdiction, evidence is required that the local government has approved the grading operation.
12. The storm water volume capacity of detention ponds must be restored and storm sewer lines will be cleaned upon completion of the project.
13. Soil stabilization measures must be applied within 30 days to the disturbed areas that may not be at final grade, but will be left dormant for longer than 60 days.
14. Fugitive dust emissions resulting from grading activities and/or wind shall be controlled using the best available control technology, as defined by the Colorado Department of Public Health and Environment, at the time of grading.
15. The erosion and sediment control plan may be modified by the Town of Dillon, or its authorized representative, as field conditions warrant.

DISTURBED AREA SEEDING NOTES:

1. All areas to be seeded will be properly prepared to provide a friable soil surface in the upper 6 inches, minimum.
2. Areas to be seeded will be drill seeded with the appropriate mix (Table 2 or 3) at the rates specified. Seed may be broadcast or hydroseeded on steep slopes. The specified seeding rate will be doubled for broadcast seeding or increased by 50 percent for hydroseeding.
3. seeded areas will be mulched at a rate of at least two tons per acre of certified, weed-free straw mulch, or one ton per acre of wood cellulose, if hydromulching is completed. Hydromulching will be completed as a separate step after seeding.
4. Straw mulch will be secured by use of m-binder tackifier at a rate of 3 pounds/1,000 square feet on slopes flatter than 2:1. Mulch will be secured with netting on slopes steeper than 3:1.

SEED MIX TYPE I

COMMON NAME	SCIENTIFIC NAME	% MIX	POUNDS PLS/ACRE
IDAHO FESCUE	FESTUCA IDAHOENSIS	20	3.9
ALPINE BLUEGRASS	POA ALPINA	20	1.7
WESTERN WHEATGRASS	PASCOPYRUM SMITHII	20	15.8
JUNE GRASS	KOELERIA CRISTATA	15	0.6
ARIZONA FESCUE	FESTUCA ARIZONICA	20	3.2
WHITE YARROW	ACHILLEA MILLEFOLIUM	5	0.2
TOTAL			25.4

1. Mix should be drill seeded, except on steep slopes where broadcast or hydroseeding are acceptable at 200 and 150 percent of rate shown, respectively.
2. The following wildflowers may also be seeded in certain areas.
   - –Blanket Flower 0.8 Pounds PLS/Acre
   - –Lupine 4.4 Pounds PLS/Acre
   - –Firecracker Penstemon 0.2 Pounds PLS/Acre
   - –California Poppy 0.4 Pounds PLS/Acre
3. Divide Pounds PLS/Acre by 43.5 to obtain Pounds PLS/1,000 SQ. Ft.

SEED MIX TYPE II

COMMON NAME	SCIENTIFIC NAME	% MIX	POUNDS PLS/ACRE
WESTERN WHEATGRASS	PASCOPYRUM SMITHII	20	15.8
REDTOP	AGROSTIS ALBA	15	0.3
TUFTED HAIRGRASS	DESCHAMPSIA CAESPITOSA	15	0.5
IDAHO FESCUE	FESTUCA IDAHOENSIS	30	5.8
ALPINE BLUEGRASS	POA ALPINA	20	1.7
TOTAL			24.1

1. Mix should be drill seeded, except on steep slopes where broadcast or hydroseeding are acceptable at 200 and 150 percent of rate shown, respectively.
2. Divide Pounds PLS/Acre by 43.5 to obtain Pounds PLS/1,000 SQ Ft.

33789

No.	Revision/Issue	Date	Description
1	FINAL SITE PLAN/PLAT	4/7/17	TOS FINAL SITE PLAN & PLAT SUBMITTAL

TEN MILE
ENGINEERING, INC.
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DILLON RIDGE VISTAS
BLOCK 6 DILLON RIDGE MARKETPLACE
TOWN OF DILLON, COLORADO
GENERAL NOTES

Project
DILLON RIDGE VISTAS

Date
4/7/17

Sheet
2

Scale
NTS

N

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

0 10 20 40
SCALE: 1" = 20'
ORIGINAL GRAPHIC SCALE

LEGEND

- SANITARY MANHOLE
- RIPRAP
- STORM INLET
- STORM FES
- STORM MANHOLE
- WATER FIRE HYDRANT
- WATER MANHOLE
- WATER VALVE
- WATER STOPBOX
- ELECTRIC BREAKER BOX
- ELECTRIC METER
- ELECTRIC MKR
- ELECTRIC PEDESTAL
- LIGHT POLE
- ELECTRIC VAULT
- TELEPHONE PEDESTAL
- FIBER OPTIC MKR
- FIBER OPTICS PEDESTAL
- GAS MKR POST
- IRRIGATION CONTROL BOX
- IRRIGATION VALVE
- VENT PIPE
- BUSH EVERGREEN
- BUSH DECIDUOUS
- TREE CONIFER
- TREE DECIDUOUS
- HANDICAP RAMP
- TRAFFIC CONTROL CABINET
- TRAFFIC CONTROL VAULT
- TRAFFIC SIGNAL
- DELINEATOR
- SIGN
- ELECTRIC UNDERGROUND
- TELEPHONE LINE UNDERGROUND
- FIBER OPTIC UNDERGROUND
- CABLE TV UNDERGROUND
- GAS LINE UNDERGROUND
- STORM REINFORCED CONCRETE PIPE
- WATER LINE UNDERGROUND
- SANITARY UNDERGROUND
- FENCE
- LANDSCAPE EDGE
- TREELINE
- CROWN ROAD
- EDGE ASPHALT
- EDGE CONCRETE
- TRAIL
- CHASE
- PAN FLOWLINE
- LINEMARKING WHITE STRIPE SOLID
- LINEMARKING YELLOW STRIPE SOLID
- GUARD RAIL
- SPEED BUMP
- STEPS
- STRUCTURE
- HANDRAIL
- WALL
- CONCRETE
- ASPHALT PAVEMENT

PROPOSED WALL–TYP
PROPOSED 3' CONCRETE PAN
PROPOSED DUMPSTER ENCLOSURE
PROPOSED HANDICAPPED RAMP
PROPOSED HANDICAPPED PARKING–TYP
PROPOSED FIRE HYDRANT
PERMANENT FIRE APPARATUS ACCESS LANE
PROPOSED 6' CONCRETE PAN
PROPOSED LIGHT–TYP
EXISTING CURB AND GUTTER
PROPOSED 1' CURB & GUTTER
PROPOSED DRAINAGE CULVERT–TYP
PERMANENT FIRE APPARATUS ACCESS LANE
PROPOSED BOULDER WALL
PROPOSED DRAINAGE INLET
PROPOSED DRAINAGE MANHOLE
EXISTING DRAINAGE INLET
PROPOSED 20' PUBLIC WATER EASEMENT
PROPOSED CONCRETE SIDEWALK
PROPOSED 20' PUBLIC WATER EASEMENT
PROPOSED LIGHT–TYP
PROPOSED CONCRETE SIDEWALK
PROPOSED HANDICAPPED RAMP
EXISTING 15" DRAINAGE CULVERT
PROPOSED 1' CURB & GUTTER
PROPOSED HANDICAPPED RAMP
PERMANENT FIRE APPARATUS ACCESS LANE
PROPOSED 6' CONCRETE PAN
RELOCATED EXISTING FIRE HYDRANT
PROPOSED BOULDER WALL
PROPOSED FENCE SEE LANDSCAPE PLANS FOR ACTUAL ALIGNMENT
PROPOSED WALL–TYP
PROPOSED HANDICAPPED RAMP

BLDG 1
12 units
FF=41.5

BLDG 2
12 units
FF=41.8

BLDG 3
12 units
FF=41.5

BUILDING 9
BUILDING 10
Patio
Deck

DILLON RIDGE ROAD

SMOOTH WIRE FENCE
WIRE FENCE
END FENCE
15' UTILITY EASEMENT
20' UTILITY EASEMENT
30' UTILITY AND PRIVATE ACCESS EASEMENT
10' UTILITY, SIDEWALK, PUBLIC ACCESS & SNOW STORAGE EASEMENT
10' PUBLIC ACCESS EASEMENT
12.5' UTILITY EA
CURB & GUTTER (TYP.)
ASPHALT PARKING
RIDGE MARKETPLACE
REPLAT B
RIDGE RD.
LOOKOUT
22.1'
15.3'
20'
CONC. INLET
STORM MH
SEWER MANHOLE
PROPERTY LINE IS AT FLOWLINE CURB & GUTTER
PROPERTY LINE IS AT

COLORADO REGISTERED
JOSEPH E. MAGLIOCCO
33789
PROFESSIONAL ENGINEER

No.	Revision/Issue	Date	Description
3	Revised per fire dept	7/9/17	Revised per fire dept. comments
2	Revised per TOD	6/24/17	Revised Handicapped Spaces
1	Revised per TOD	6/6/17	Revised per TOD Commments

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DILLON RIDGE VISTAS
BLOCK 6 DILLON RIDGE MARKETPLACE
TOWN OF DILLON, COLORADO

SITE AND EASEMENT PLAN

Project: DILLON RIDGE VISTAS
Date: 4/7/17
Scale: 1"=20'
Sheet: 3

N

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

0 10 20 40
SCALE: 1" = 20'
ORIGINAL GRAPHIC SCALE

SILT FENCE–TYP
4' ORANGE CONSTRUCTION FENCE
VEHICLE TRACKING CONTROL
CONSTRUCTION TRAILOR
CONSTRUCTION STAGING AREA
CONCRETE WASHOUT AREA
SILT FENCE–TYP
4' ORANGE CONSTRUCTION FENCE
VEHICLE TRACKING CONTROL
SILT FENCE–TYP
4' ORANGE CONSTRUCTION FENCE
SILT FENCE–TYP
4' ORANGE CONSTRUCTION FENCE

BLDG 1
12 units
FF=41.5

BLDG 2
12 units
FF=41.8

BLDG 3
12 units
FF=41.5

CONSTRUCTION TRAILER

SF CF VTC CSA CWA H

DILLON RIDGE ROAD
LOOKOUT RIDGE DRIVE
DILLON RIDGE MARKETPLACE
REPLAT B
BLOCK 5
PHASE IV
LOOKOUT RIDGE TOWNHOMES
SKYLINE CINEMA 8
ASPHALT PARKING (THEATER)
CURB & GUTTER (TYP.)
SMOOTH WIRE FENCE
WIRE FENCE
END FENCE
15' UTILITY EASEMENT
20' UTILITY EASEMENT
12.5' UTILITY EASEMENT
30' UTILITY AND PRIVATE ACCESS EASEMENT
10' UTILITY, SIDEWALK, PUBLIC ACCESS & SNOW STORAGE EASEMENT
5' UTILITY AND SNOW STORAGE EASEMENT
FIRE HYDRANT EASEMENT
ASPHALT DRIVEWAY
Patio
Deck
BUILDING 9
BUILDING 10
STOP SIGN
CONC. INLET
NO OUTLET SIGN
CONC. WALK
CONC. PAN
PROPERTY LINE IS AT

COLORADO REGISTERED
JASON E. MADDOX
33789
PROFESSIONAL ENGINEER

No.	Revision/Issue	Date	Description
1	Revised per TOD	6/6/17	Revised per TOD Comments

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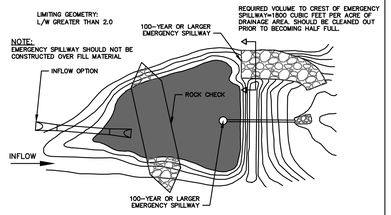
DILLON RIDGE VISTAS
BLOCK 6 DILLON RIDGE MARKETPLACE
TOWN OF DILLON, COLORADO

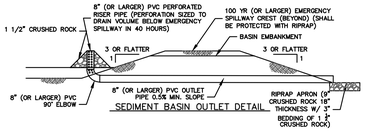
EROSION CONTROL AND CONSTRUCTION MANAGEMENT PLAN

Project: DILLON RIDGE VISTAS
Date: 4/7/17
Scale: 1"=20'
Sheet: 4

TEMPORARY SEDIMENT BASIN (SB)

N.T.S.





SEDIMENT BASIN OUTLET DETAIL

DETAIL BASED ON VIRGINIA SOIL AND WATER CONSERVATION COMMISSION, 1985

ROUGH-CUT STREET CONTROL (RCS)

DEFINITION

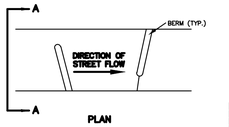
A TEMPORARY SEDIMENT BARRIER PLACED ON ALTERNATE SIDES OF A ROUGH CUT STREET.

PURPOSES

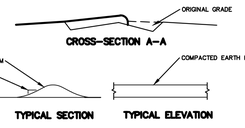
TO DIVERT SEDIMENT-LADEN RUNOFF FROM ROUGH-CUT STREETS AND SLOW THE VELOCITY OF STORM RUNOFF.

NOTE:

1. ALTERNATE MATERIALS SUCH AS CURB COCKS OR SILT FENCES MAY BE USED WHERE LARGE FLOWS ARE NOT EXPECTED.
2. REQUIRED FOR AND SPACING OF VELOCITY REDUCERS FOR STREETS WITH GRADES OF LESS THAN 4% SHALL BE AS EROSION CONTROL PLAN.



W	X
20' – 30'	5'
31' – 40'	7'
41' – 50'	9'
51' – 60'	10.5'
61' – 70'	12'



DETAIL BASED THOSE PROVIDED BY ORANGE COUNTY, CALIFORNIA DEPARTMENT OF ENVIRONMENTAL QUALITY, 1981

TEMPORARY SEDIMENT BASIN (SB)

N.T.S.

DEFINITION

AT TEMPORARY BASIN WITH A CONTROLLED STORMWATER RELEASE STRUCTURE, FORMED BY EXCAVATION OR CONSTRUCTION OF AN EMBANKMENT OF COMPACTED SOIL REQUIRED FOR ALL DRAINAGE AREAS GREATER THAN 1 ACRE.

PURPOSES

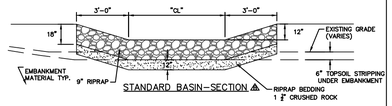
TO DETAIN SEDIMENT-LADEN RUNOFF FROM DISTRIBUTED AREAS TO ALLOW THE MAJORITY OF THE SEDIMENT TO SETTLE OUT.

SEDIMENT BASIN INSTALLATION NOTES

1. SEDIMENT BASINS INDICATED ON PLAN SHALL BE INSTALLED PRIOR TO ANY OTHER LAND-DISTURBING ACTIVITY.
2. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL AND ROCKS OR CONCRETE GREATER THAN 3 INCHES AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE.
3. EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY WITHIN 2 PERCENTAGE POINTS OF OPTIMUM DENSITY IN ACCORDANCE WITH ASTM D698.
4. PIPE SCH 40 OR GREATER SHALL BE USED.

SEDIMENT BASIN MAINTENANCE NOTES

1. SEDIMENT ACCUMULATED IN SEDIMENT BASIN SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS WITHIN 2.0 FEET OF THE CREST OF THE SPILLWAY.
2. SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRADE COVER IS APPROVED BY THE LOCAL JURISDICTION.
3. IF SEDIMENT BASINS ARE REMOVED, THE DISTURBED AREA SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.



STANDARD BASIN-SECTION

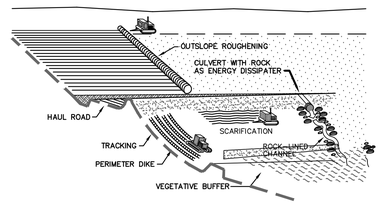
DETAIL BASED ON VIRGINIA SOIL AND WATER CONSERVATION COMMISSION, 1985

DEFINITION

PROVIDE A ROUGH SOIL SURFACE WITH HORIZONTAL DEPRESSIONS CREATED BY OPERATING A TILLAGE OR OTHER SUITABLE IMPLEMENT ON THE CONTOUR, OR BY LEAVING SLOPES IN A ROUGHENED CONDITION BY NOT FINE-GRADING THEM.

PURPOSES

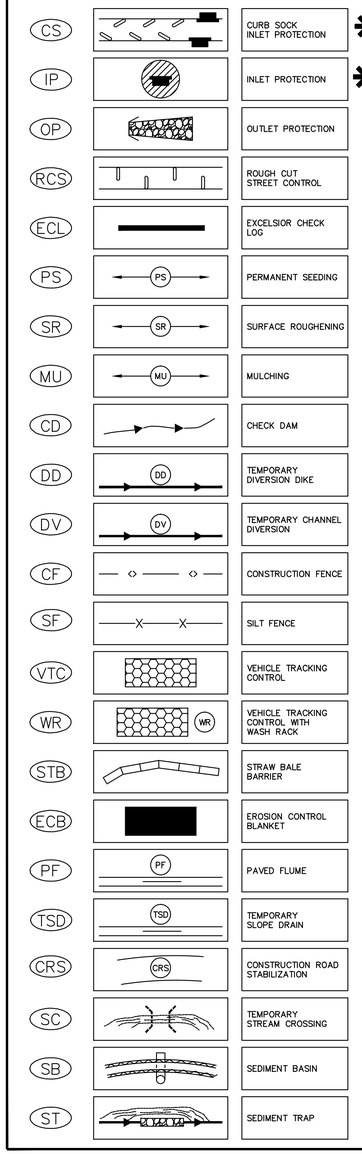
1. TO AID IN SEED BED PREPARATION AND ESTABLISHMENT OF VEGETATIVE COVER.
2. TO REDUCE RUNOFF VELOCITY AND INCREASE INFILTRATION.
3. TO REDUCE RUNOFF AND WIND EROSION AND PROVIDE FOR SEDIMENT TRAPPING.



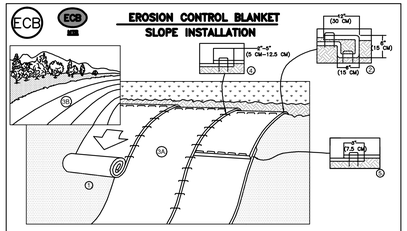
SR SURFACE ROUGHENING (SR)

N.T.S.

LEGEND OF EROSION CONTROL PRACTICES — PHASE II MEASURES



EROSION CONTROL BLANKET SLOPE INSTALLATION (ECB)



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.

2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/ STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE BLANKET.

3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM , STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.

4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" – 5" (5 CM – 12.5 CM) OVERLAP DEPENDING ON BLANKET TYPE.

5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE BLANKET WIDTH. NOTE: *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

REV. 1/2004

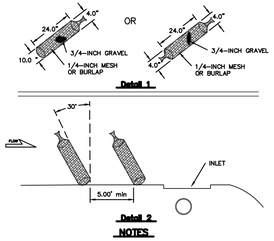
CURB SOCK – INLET PROTECTION (CS)

DEFINITION

A TEMPORARY SEDIMENT BARRIER PLACED ON ALTERNATE SIDES OF A STREET.

PURPOSES

1. TO DIVERT SEDIMENT LADEN RUNOFF FROM STREETS AND SLOW THE VELOCITY OF STORM RUNOFF.



NOTES

1. SOCKS WILL BE USED UPGRADIENT OF INLET PERPENDICULAR TO AND FLUSH WITH CURB.
2. NO LESS THAN TWO 10-INCH DIAMETER SOCKS MUST BE USED IN SEQUENCE, SPACED NO MORE THAN FIVE FEET APART, UPGRADIENT OF INLET. NO LESS THAN SIX SOCKS SHALL BE USED IF THE 4-INCH SOCK SIZE IS CHOSEN.
3. INCLINE AT 30 DEGREES FROM PERPENDICULAR, OPPOSITE THE DIRECTION OF FLOW (SEE DETAIL 2).
4. EROSION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES AS DIRECTED BY THE LOCAL JURISDICTION.

DETAILS BASED ON THOSE PROVIDED BY THE CITY OF LAKEWOOD, COLORADO

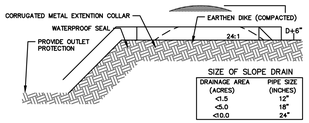
TEMPORARY SLOPE DRAIN (TSD)

DEFINITION

A FLEXIBLE TUBE OR CONDUIT EXTENDING FROM THE TOP TO THE BOTTOM OF A CUT OR FILL SLOPE.

PURPOSES

TO TEMPORARILY CONDUCT CONCENTRATED STORMWATER RUNOFF SAFELY DOWN THE FACE OF A CUT OR FILL SLOPE WITHOUT CAUSING EROSION PROBLEMS ON OR BELOW THE SLOPE.



SIZE OF SLOPE DRAIN	
DRAINAGE AREA (ACRES)	PIPE SIZE (INCHES)
<1.5	12"
<5.0	18"
<10.0	24"

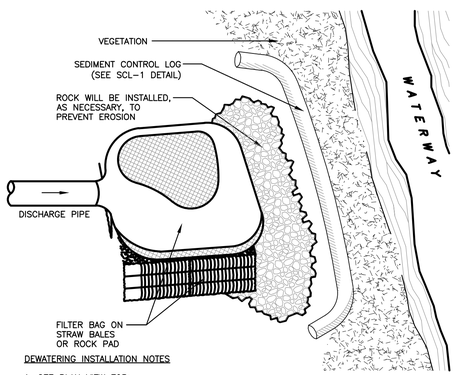
DETAIL BASED ON VIRGINIA SOIL AND WATER CONSERVATION COMMISSION, 1985

NOTES

1. ADDITIONAL PRACTICES TO BE EMPLOYED AS NECESSARY TO MEET WATER QUALITY OBJECTIVES AND SUIT THE CURRENT WEATHER, SITE CONDITIONS, AND UNFORESEEN NEEDS.
2. CONTRACTOR RESPONSIBLE FOR ENSURING ALL PRACTICABLE SEDIMENT AND EROSION CONTROL SOLUTIONS ARE EMPLOYED TO MEET WATER QUALITY OBJECTIVES.

EROSION CONTROL NARRATIVE - PHASE 1 AND PHASE 2

1. The intent of the Phase 1 erosion and sediment control plan is to fulfill water quality objectives during the roadway rough grading phase of the project. During this phase, it is anticipated that the maximum amount of disturbed area will be created. In order of occurrence, the following measures should be implemented.
2. A silt fence should be installed as shown on the plan.
3. Diversion dikes should be constructed as shown on the plan to redirect runoff water to stabilized outflow points. These diversion dikes shall be kept in the second phase, as the construction dictates, as part of finished grading for the lots. The dikes break up the slope length and reduce the potential for rill and gully erosion within the property boundary. At the downstream end of each of the diversion dikes, a silt trap should be installed and relocated as construction dictatates, to capture sediments eroded from the partitioned areas.
4. Immediately after road grading is completed, temporary seeding with mulch cover is recommended for all the exposed slopes to stabilize the disturbed areas. Permanent seeding with a temporary mulch cover should be applied to the large areas as designated.
5. Once the Phase 1 rough grading and earth moving is completed, Phase 2 will commence. Phase 2 includes fine grading, home construction, utility construction and street construction. Erosion and control practices outlined include inlet protection and sandbags upstream of inlets, (curb socks).
6. It is extremely important that each of the measures be maintained on a regular basis and inspected by a qualified erosion-control specialist to achieve the required water quality control.
7. Should the utility and street construction not begin within 90 days of completion of the rough grading work, the contractor shall install Rough-Cut Street control in the street areas. It is suggested that during the 90 day period and during construction, division dikes should be used in lieu of the Rough-Cut Street control in the same general location and shape as the (RCS) shown on the plans.



DEWATERING INSTALLATION NOTES

1. SEE PLAN VIEW FOR;
   - -LOCATION OF DEWATERING EQUIPMENT.
   - -TYPE OF DEWATERING OPERATION (DW-1 TO DW-4).
2. THE OWNER OR CONTRACTOR SHALL OBTAIN A CONSTRUCTION DISCHARGE (DEWATERING) PERMIT FROM THE STATE PRIOR TO ANY DEWATERING OPERATIONS DISCHARGING FROM THE SITE. ALL DEWATERING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE PERMIT.
3. THE OWNER OR OPERATOR SHALL PROVIDE, OPERATE, AND MAINTAIN DEWATERING SYSTEMS OF SUFFICIENT SIZE AND CAPACITY TO PERMIT EXCAVATION AND SUBSEQUENT CONSTRUCTION IN DRY CONDITIONS AND TO LOWER AND MAINTAIN THE GROUNDWATER LEVEL A MINIMUM OF 2-FEET BELOW THE LOWEST POINT OF EXCAVATION AND CONTINUOUSLY MAINTAIN EXCAVATIONS FREE OF WATER UNTIL BACK-FILLED TO FINAL GRADE.

DEWATERING INSTALLATION NOTES

4. DEWATERING OPERATIONS SHALL USE ONE OR MORE OF THE DEWATERING SUMPS SHOWN ABOVE, WELL POINTS, OR OTHER MEANS APPROVED BY THE LOCAL JURISDICTION TO REDUCE THE PUMPING OF SEDIMENT, AND SHALL PROVIDE A TEMPORARY SEDIMENT BASIN OR FILTRATION BMP TO REDUCE SEDIMENT TO ALLOWABLE LEVELS PRIOR TO RELEASE OFF SITE OR TO A RECEIVING WATER. A SEDIMENT BASIN MAY BE USED IN LIEU OF SUMP DISCHARGE SETTLING BASIN SHOWN ABOVE IF A 4-FOOT-SQUARE RIPRAP PAD IS PLACED AT THE DISCHARGE POINT AND THE DISCHARGE END OF THE LINE IS STAKED IN PLACE TO PREVENT MOVEMENT OF THE LINE.
5. DEWATERING OPERATIONS MAY REQUIRE A LOCAL PERMIT IN ADDITION TO STATE REQUIREMENTS.

DEWATERING MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
4. DEWATERING BMPs ARE REQUIRED IN ADDITION TO ALL OTHER PERMIT REQUIREMENTS.
5. TEMPORARY SETTLING BASINS SHALL BE REMOVED WHEN NO LONGER NEEDED FOR DEWATERING OPERATIONS. ANY DISTURBED AREA SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

DW-4. DEWATERING FILTER BAG

No.	Revision/Issue	Date
1	FINAL SITE PLAN/PLAT	4/7/17
	TOS FINAL SITE PLAN & PLAT SUBMITTAL	

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Professional Civil Engineers
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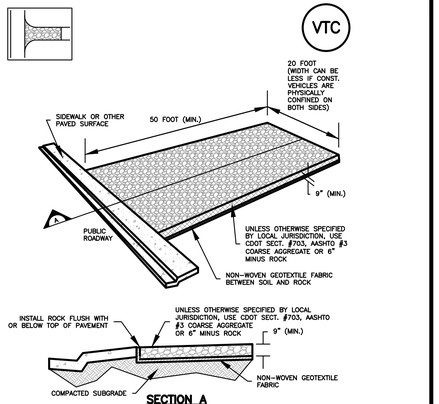
DILLON RIDGE VISTAS

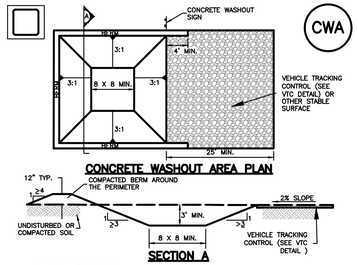
BLOCK 6 DILLON RIDGE MARKETPLACE

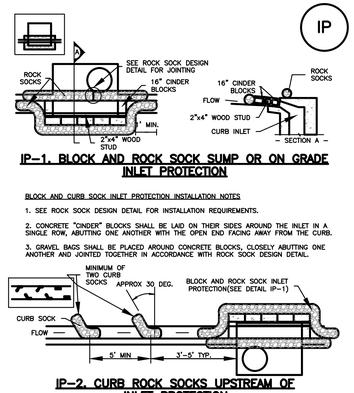
TOWN OF DILLON, COLORADO

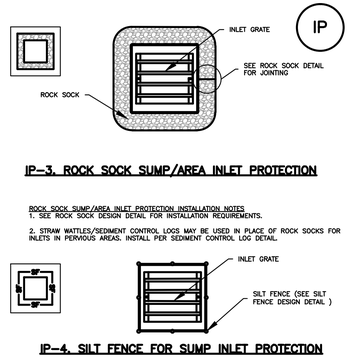
EROSION CONTROL DETAILS

Project: DILLON RIDGE VISTAS
Date: 4/7/17
Scale: NTS
Sheet: 5









VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

CWA INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   -CWA INSTALLATION LOCATION.

2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.

3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.

4. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.

5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.

6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.

7. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.

8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

CWA MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.

5. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.

6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.

7. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

CWA-1. CONCRETE WASHOUT AREA

IP-1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION

BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.

3. GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.

IP-2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.

2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.

3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.

4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.

IP-3. ROCK SOCK SUMP/AREA INLET PROTECTION

ROCK SOCK SUMP/AREA INLET PROTECTION INSTALLATION NOTES
1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.

IP-4. SILT FENCE FOR SUMP INLET PROTECTION

SILT FENCE INLET PROTECTION INSTALLATION NOTES

1. SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF 3 FEET.

3. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF SILT FENCE FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.

GENERAL INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   -LOCATION OF INLET PROTECTION.
   -TYPE OF INLET PROTECTION (IP.1, IP.2, IP.3, IP.4, IP.5, IP.6)

2. INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/RUNOFF EVENT IS FORECAST, INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT.

3. MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

INLET PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR ¼ OF THE HEIGHT FOR STRAW BALES.

5. INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED, UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.

6. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

NOTE: SOME MUNICIPALITIES DISCOURAGE OR PROHIBIT THE USE OF STRAW BALES FOR INLET PROTECTION. CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET PROTECTION IS ACCEPTABLE.

ANY GAP AT JOINT SHALL BE FILLED WITH AN ADEQUATE AMOUNT OF 1½" (MINUS) CRUSHED ROCK AND WRAPPED WITH ADDITIONAL WIRE MESH SECURED TO ENDS OF ROCK REINFORCED SOCK. AS AN ALTERNATIVE TO FILLING JOINTS BETWEEN ADJOINING ROCK SOCKS WITH CRUSHED ROCK AND ADDITIONAL WIRE WRAPPING, ROCK SOCKS CAN BE OVERLAPPED (TYPICALLY 12-INCH OVERLAP) TO AVOID GAPS.

GRADATION TABLE

SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
	NO. 4
2"	100
1½"	90 - 100
1"	20 - 55
¾"	0 - 15
⅜"	0 - 5

MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.

ROCK SOCK INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   -LOCATION(S) OF ROCK SOCKS.

2. CRUSHED ROCK SHALL BE 1½" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (1½" MINUS).

3. WIRE MESH SHALL BE FABRICATED OF 10 GAGE POULTRY MESH, OR EQUIVALENT, WITH A MAXIMUM OPENING OF ½", RECOMMENDED MINIMUM ROLL WIDTH OF 48"

4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.

5. SOME MUNICIPALITIES MAY ALLOW THE USE OF FILTER FABRIC AS AN ALTERNATIVE TO WIRE MESH FOR THE ROCK ENCLOSURE.

ROCK SOCK MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, OR DAMAGED BEYOND REPAIR.

5. SEDIMENT ACCUMULATED UPSTREAM OF ROCK SOCKS SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY ½ OF THE HEIGHT OF THE ROCK SOCK.

6. ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

7. WHEN ROCK SOCKS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF ROCK SOCK INSTALLATION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY OTHER SIMILAR PROPRIETARY PRODUCTS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY PROTECTION PRODUCTS; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

RS-1. ROCK SOCK PERIMETER CONTROL

ECB-1. PIPE OUTLET TO DRAINAGEWAY

ECB-2. SMALL DITCH OR DRAINAGEWAY

ECB-3. OUTSIDE OF DRAINAGEWAY

STAKING PATTERNS BY ECB TYPE

EROSION CONTROL BLANKET INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   -LOCATION OF ECB.
   -TYPE OF ECB (STRAW, STRAW-COCONUT, COCONUT, OR EXCELSIOR).
   -AREA, A, IN SQUARE YARDS OF EACH TYPE OF ECB.

2. 100% NATURAL AND BIODEGRADABLE MATERIALS ARE PREFERRED FOR RECPs, ALTHOUGH SOME JURISDICTIONS MAY ALLOW OTHER MATERIALS IN SOME APPLICATIONS.

3. IN AREAS WHERE ECBs ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO ECB INSTALLATION AND THE ECB SHALL BE IN FULL CONTACT WITH SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.

4. PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.

5. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL ECBs EXCEPT STRAW WHICH MAY USE AN OVERLAPPING JOINT.

6. INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE-HALF ROLL LENGTH FOR COCONUT AND EXCELSIOR ECBs.

7. OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER FOR ECBs ON SLOPES.

8. MATERIAL SPECIFICATIONS OF ECBs SHALL CONFORM TO TABLE ECB-1.

9. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING ECBS SHALL BE RESEEDED AND MULCHED.

10. DETAILS ON DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION WILL GOVERN IF DIFFERENT FROM THOSE SHOWN HERE.

TABLE ECB-1. ECB MATERIAL SPECIFICATIONS

TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	RECOMMENDED NETTING**
STRAW*	-	100%	-	DOUBLE/ NATURAL
STRAW-COCONUT	30% MIN	70% MAX	-	DOUBLE/ NATURAL
COCONUT	100%	-	-	DOUBLE/ NATURAL
EXCELSIOR	-	-	100%	DOUBLE/ NATURAL

*STRAW ECBs MAY ONLY BE USED OUTSIDE OF STREAMS AND DRAINAGE CHANNEL.
**ALTERNATE NETTING MAY BE ACCEPTABLE IN SOME JURISDICTIONS

EROSION CONTROL BLANKET MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ECBs SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE, UNLESS REQUESTED TO BE REMOVED BY THE LOCAL JURISDICTION.

5. ANY ECB PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW THE GEOTEXTILE THAT HAVE ERODED TO CREATED A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE ECB REINSTALLED.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

STAKING PATTERNS BY SLOPE OR CHANNEL TYPE

STOCKPILE PROTECTION PLAN

SECTION A

STOCKPILE PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   -LOCATION OF STOCKPILES.
   -TYPE OF STOCKPILE PROTECTION.

2. INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPERVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.

3. STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS, OR SOIL BINDERS. SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDED AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30-60 DAYS).

4. FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNGRADIENT CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

STOCKPILE PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

STOCKPILE PROTECTION MAINTENANCE NOTES

4. IF PERIMETER PROTECTION MUST BE MOVED TO ACCESS SOIL STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORKDAY.

5. STOCKPILE PERIMETER CONTROLS CAN BE REMOVED ONCE ALL THE MATERIAL FROM THE STOCKPILE HAS BEEN USED.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

SP-1. STOCKPILE PROTECTION

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   -LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).
   -TYPE OF CONSTRUCTION ENTRANCE(S)/EXITS(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).

2. CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.

3. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.

4. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

5. A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.

6. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.

5. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

STABILIZED STAGING AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   -LOCATION OF STAGING AREA(S).
   -CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.

2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.

3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.

4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.

5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.

6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

SSA-1. STABILIZED STAGING AREA

JOSEPH E. MAGLICIC 33789

No.	Revision/Issue	Date	Description
1	FINAL SITE PLAN/PLAT	4/7/17	TOS FINAL SITE PLAN & PLAT SUBMITTAL

TEN MILE
ENGINEERING, INC.
Professional Civil Engineers
Po Box 1785
Frisco, CO 80443
970.485.5773
tenmileengineer@aol.com

DILLON RIDGE VISTAS
BLOCK 6 DILLON RIDGE MARKETPLACE
TOWN OF DILLON, COLORADO

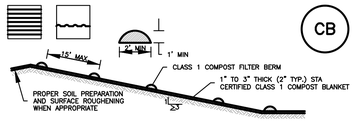
EROSION CONTROL DETAILS

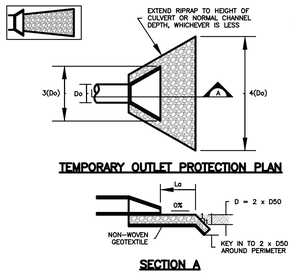
Project
DILLON RIDGE VISTAS

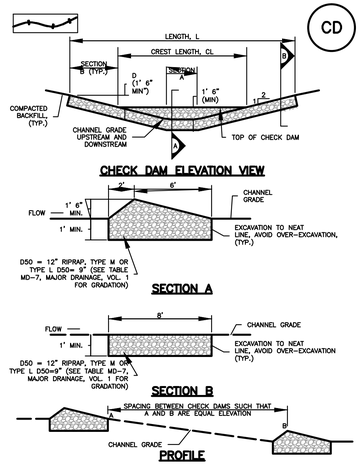
Date
4/7/17

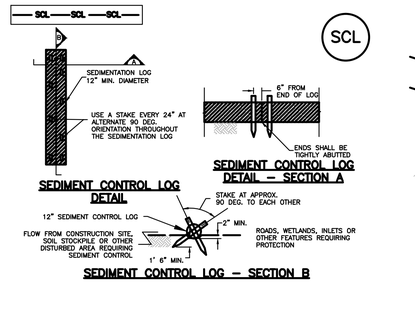
Sheet
6

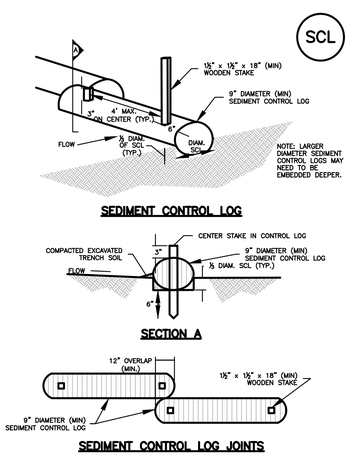
Scale
NTS

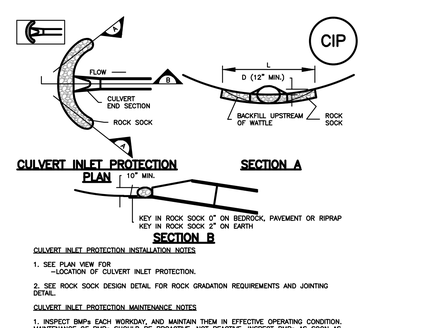


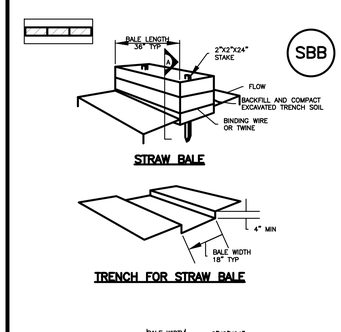


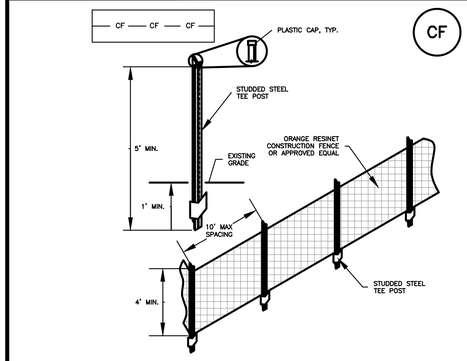


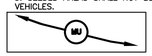












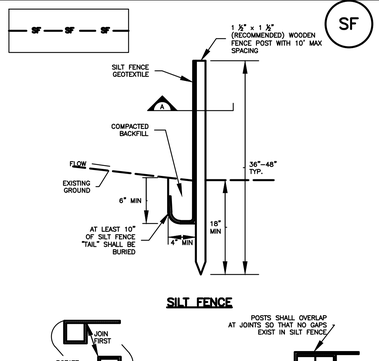


TABLE CB-1. CLASS 1 COMPOST	
PARAMETERS	CHARACTERISTIC
MINIMUM STABILITY INDICATOR	STABLE TO VERY STABLE
SOLUBLE SALTS	MAXIMUM 5 mmhos/cm
PH	6.0 – 8.0
AG INDEX	> 10
MATURITY INDICATOR EXPRESSED AS PERCENTAGE OF GERMINATION/VIGOR	80+/80+
MATURITY INDICATOR EXPRESSED AS AMMONIA N/ NITRATE N RATIO	< 4
MATURITY INDEX AS CARBON TO NITROGEN RATIO	20:1
TESTED FOR CLOPYRALID	YES/NEGATIVE RESULT
MOISTURE CONTENT	30–60%
ORGANIC MATTER CONTENT	25–45% OF DRY WEIGHT
PARTICLE SIZE DISTRIBUTION	3" (75mm) 100% PASSING
PRIMARY, SECONDARY NUTRIENTS; TRACE ELEMENTS	MUST BE REPORTED
TESTING AND TEST REPORT SUBMITTAL REQUIREMENTS	STA + CLOPYRALID
ORGANIC MATTER PER CUBIC YARD	MUST REPORT
CHEMICAL CONTAMINANTS	COMPLY WITH US EPA CLASS A STANDARD, 40 CFR 503.1 TABLES 1 & 3 LEVELS
MINIMUM MANUFACTURING/PRODUCTION REQUIREMENT	FULLY PERMITTED UNDER COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, HAZARDOUS MATERIALS AND WASTE MANAGEMENT DIVISION
RISK FACTOR RELATING TO PLANT GERMINATION AND HEALTH	LOW

COMPOST FILTER BERM AND COMPOST BLANKET INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   - –LOCATION OF COMPOST FILTER BERM(S).
   - –LENGTH OF COMPOST FILTER BERM(S).

2. COMPOST BERMS AND BLANKETS MAY BE USED IN PLACE OF STRAW MULCH OR GEOTEXTILE FABRIC IN AREAS WHERE ACCESS TO LANDSCAPING IS DIFFICULT DUE TO LANDSCAPING OR OTHER OBJECTS OR IN AREAS WHERE A SMOOTH TURF GRASS FINISH IS DESIRED.

3. FILTER BERMS SHALL RUN PARALLEL TO THE CONTOUR.

4. FILTER BERMS SHALL BE A MINIMUM OF 1 FEET HIGH AND 2 FEET WIDE.

5. FILTER BERMS SHALL BE APPLIED BY PNEUMATIC BLOWER OR BY HAND.

6. FILTER BERMS SHALL ONLY BE UTILIZED IN AREAS WHERE SHEET FLOW CONDITIONS PREVAIL AND NOT IN AREAS OF CONCENTRATED FLOW.

7. COMPOST BLANKETS SHALL BE APPLIED AT A DEPTH OF 1 –3 INCHES (TYPICALLY 2 INCHES). FOR AREAS WITH EXISTING VEGETATION THAT ARE TO BE SUPPLEMENTED BY COMPOST, A THIN 0.5–INCH LAYER MAY BE USED.

8. SEEDING SHALL BE PERFORMED PRIOR TO THE APPLICATION OF COMPOST. ALTERNATIVELY, SEED MAY BE COMBINED WITH COMPOST AND BLOWN WITH THE PNEUMATIC BLOWER.

9. WHEN TURF GRASS FINISH IS NOT DESIRED, SURFACE ROUGHENING ON SLOPES SHALL TAKE PLACE PRIOR TO COMPOST APPLICATION.

10. COMPOST SHALL BE A CLASS 1 COMPOST AS DEFINED BY TABLE CB–1.

COMPOST FILTER BERM MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. COMPOST BERMS AND BLANKETS SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RILLING IN THE COMPOST SURFACE OCCURS.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

CB–1. COMPOST BLANKET AND COMPOST FILTER BERM

TABLE OP–1. TEMPORARY OUTLET PROTECTION SIZING TABLE			
PIPE DIAMETER, Do (INCHES)	DISCHARGE, Q (CFS)	APRON LENGTH, La (FT)	RIPRAP D50 DIAMETER MIN (INCHES)
8	2.5 5	5 10	4 6
12	5 10	10 13	4 6
18	10 20 30 40	10 16 23 26	6 9 12 16
24	30 40 50 60	16 26 26 30	9 9 12 16

TEMPORARY OUTLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   - –LOCATION OF OUTLET PROTECTION.
   - –DIMENSIONS OF OUTLET PROTECTION.

2. DETAIL IS INTENDED FOR PIPES WITH SLOPE ≤ 10%. ADDITIONAL EVALUATION OF RIPRAP SIZING AND OUTLET PROTECTION DIMENSIONS REQUIRED FOR STEEPER SLOPES.

3. TEMPORARY OUTLET PROTECTION INFORMATION IS FOR OUTLETS INTENDED TO BE UTILIZED LESS THAN 2 YEARS.

TEMPORARY OUTLET PROTECTION INSPECTION AND MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

OP–1. TEMPORARY OUTLET PROTECTION

CHECK DAM INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - –LOCATION OF CHECK DAMS.
   - –CHECK DAM TYPE (CHECK DAM OR REINFORCED CHECK DAM).
   - –LENGTH (L), CREST LENGTH (CL), AND DEPTH (D).

2. CHECK DAMS INDICATED ON INITIAL SWMP SHALL BE INSTALLED AFTER CONSTRUCTION FENCE, BUT PRIOR TO ANY UPSTREAM LAND DISTURBING ACTIVITIES.

3. RIPRAP UTILIZED FOR CHECK DAMS SHOULD BE OF APPROPRIATE SIZE FOR THE APPLICATION. TYPICAL TYPES OF RIPRAP USED FOR CHECK DAMS ARE TYPE M (D50 12") OR TYPE L (D50 9").

4. RIPRAP PAD SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF 1'.

5. THE ENDS OF THE CHECK DAM SHALL BE A MINIMUM OF 1' 6" HIGHER THAN THE CENTER OF THE CHECK DAM.

CHECK DAM MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED UPSTREAM OF THE CHECK DAMS SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS WITHIN ½ OF THE HEIGHT OF THE CREST.

5. CHECK DAMS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

6. WHEN CHECK DAMS ARE REMOVED, EXCAVATIONS SHALL BE FILLED WITH SUITABLE COMPACTED BACKFILL. DISTURBED AREA SHALL BE SEEDED AND MULCHED AND COVERED WITH GEOTEXTILE OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

CD–1. CHECK DAM

SEDIMENT CONTROL LOG INSTALLATION NOTES

1. SEE PLAN VIEW FOR LOCATION AND LENGTH OF SEDIMENT CONTROL LOGS.

2. SEDIMENT CONTROL LOGS THAT ACT AS A PERIMETER CONTROL SHALL BE INSTALLED PRIOR TO ANY UPGRADIENT LAND–DISTURBING ACTIVITIES.

3. SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BE FREE OF ANY NOXIOUS WEED SEEDS OR DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR.

4. SEDIMENT CONTROL LOGS MAY BE USED AS SMALL CHECK DAMS IN DITCHES AND SWALES. HOWEVER, THEY SHOULD NOT BE USED IN PERENNIAL STREAMS OR HIGH VELOCITY DRAINAGE WAYS.

5. IT IS RECOMMENDED THAT SEDIMENT CONTROL LOGS BE TRENCHED INTO THE GROUND TO A DEPTH OF APPROXIMATELY ⅓ OF THE DIAMETER OF THE LOG. IF TRENCHING TO THIS DEPTH IS NOT FEASIBLE AND/OR DESIRABLE (SHORT TERM INSTALLATION WITH DESIRE NOT TO DAMAGE LANDSCAPE) A LESSER TRENCHING DEPTH MAY BE ACCEPTABLE WITH MORE ROBUST STAKING

6. THE UPHILL SIDE OF THE SEDIMENT CONTROL LOG SHALL BE BACKFILLED WITH SOIL THAT IS FREE OF ROCKS AND DEBRIS. THE SOIL SHALL BE TIGHTLY COMPACTED INTO THE SHAPE OF A RIGHT TRIANGLE USING A SHOVEL OR WEIGHTED LAWN ROLLER.

7. FOLLOW MANUFACTURERS' GUIDANCE FOR STAKING. IF MANUFACTURERS' INSTRUCTIONS DO NOT SPECIFY SPACING, STAKES SHALL BE PLACED ON 4' CENTERS AND EMBEDDED A MINIMUM OF 6" INTO THE GROUND. 3" OF THE STAKE SHALL PROTRUDE FROM THE TOP OF THE LOG. STAKES THAT ARE BROKEN PRIOR TO INSTALLATION SHALL BE REPLACED.

SEDIMENT CONTROL LOG MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED UPSTREAM OF SEDIMENT CONTROL LOG SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY ½ OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.

5. SEDIMENT CONTROL LOG SHALL BE REMOVED AT THE END OF CONSTRUCTION. IF DISTURBED AREAS EXIST AFTER REMOVAL, THEY SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

SCL–1. SEDIMENT CONTROL LOG

CULVERT INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   - –LOCATION OF CULVERT INLET PROTECTION.

2. SEE ROCK SOCK DESIGN DETAIL FOR ROCK GRADATION REQUIREMENTS AND JOINTING DETAIL.

CULVERT INLET PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED UPSTREAM OF THE CULVERT SHALL BE REMOVED WHEN THE SEDIMENT DEPTH IS ½ THE HEIGHT OF THE ROCK SOCK.

5. CULVERT INLET PROTECTION SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

CIP–1. CULVERT INLET PROTECTION

STRAW BALE INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - –LOCATION(S) OF STRAW BALES.

2. STRAW BALES SHALL CONSIST OF CERTIFIED WEED FREE STRAW OR HAY. LOCAL JURISDICTIONS MAY REQUIRE PROOF THAT BALES ARE WEED FREE.

3. STRAW BALES SHALL CONSIST OF APPROXIMATELY 5 CUBIC FEET OF STRAW OR HAY AND WEIGH NOT LESS THAN 35 POUNDS.

4. WHEN STRAW BALES ARE USED IN SERIES AS A BARRIER, THE END OF EACH BALE SHALL BE TIGHTLY ABUTTING ONE ANOTHER.

5. STRAW BALE DIMENSIONS SHALL BE APPROXIMATELY 36"X18"X18".

6. A UNIFORM ANCHOR TRENCH SHALL BE EXCAVATED TO A DEPTH OF 4". STRAW BALES SHALL BE PLACED SO THAT BINDING TWINE IS ENCOMPASSING THE VERTICAL SIDES OF THE BALE(S). ALL EXCAVATED SOIL SHALL BE PLACED ON THE UPHILL SIDE OF THE STRAW BALE(S) AND COMPACTED.

7. TWO (2) WOODEN STAKES SHALL BE USED TO HOLD EACH BALE IN PLACE. WOODEN STAKES SHALL BE 2"X2"X24". WOODEN STAKES SHALL BE DRIVEN 6" INTO THE GROUND.

STRAW BALE MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. STRAW BALES SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, ROTTEN, OR DAMAGED BEYOND REPAIR.

5. SEDIMENT ACCUMULATED UPSTREAM OF STRAW BALE BARRIER SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY ¼ OF THE HEIGHT OF THE STRAW BALE BARRIER.

6. STRAW BALES ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

7. WHEN STRAW BALES ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

SBB–1. STRAW BALE

CONSTRUCTION FENCE INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - –LOCATION OF CONSTRUCTION FENCE.

2. CONSTRUCTION FENCE SHOWN SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

3. CONSTRUCTION FENCE SHALL BE COMPOSED OF ORANGE, CONTRACTOR–GRADE MATERIAL THAT IS AT LEAST 4' HIGH. METAL POSTS SHOULD HAVE A PLASTIC CAP FOR SAFETY.

4. STUDDED STEEL TEE POSTS SHALL BE UTILIZED TO SUPPORT THE CONSTRUCTION FENCE. MAXIMUM SPACING FOR STEEL TEE POSTS SHALL BE 10'.

5. CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.

CONSTRUCTION FENCE MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. CONSTRUCTION FENCE SHALL BE REPAIRED OR REPLACED WHEN THERE ARE SIGNS OF DAMAGE SUCH AS RIPS OR SAGS. CONSTRUCTION FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

6. WHEN CONSTRUCTION FENCES ARE REMOVED, ALL DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE FENCE SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

CF–1. PLASTIC MESH CONSTRUCTION FENCE

TEMPORARY SEEDING MAINTENANCE NOTES

1. THE SWMP MANAGER SHALL INSPECT RECENTLY SEEDED AREAS WEEKLY TO INSURE EVEN GROWTH.

2. AREAS WHERE GROWTH IS NOT OCCURING SHALL BE RE–SEEDED AS SOON AS POSSIBLE AND RE–MULCHED IF NECESSARY.

3. SEEDED AREAS SHALL NOT BE DRIVEN OVER WITH CONSTRUCTION EQUIPMENT OR VEHICLES.

MU

MULCHING INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   - –LOCATION OF MUCLCHING

2. MULCHING SHALL BE COMPLETED WITHIN 21 DAYS OF INITIAL DISTURBANCE OR WITHIN 7 DAYS AFTER GRADING IS SUBSTANTIALLY COMPLETE.

3. MATERIAL USED FOR MULCH SHALL BE CERTIFIED CLEAN, WEED– AND SEED–FREE LONG STEMMED FIELD OR MARSH HAY, OR STRAW OF OATS, BARLEY, WHEAT, RYE, OR TRITICALE CERTIFIED BY THE COLORADO DEPARTMENT OF AGRICULTURE WEED FREE FORAGE CERTIFICATION PROGRAM.

4. HYDRAULIC MULCHING MATERIAL SHALL CONSIST OF VIRGIN WOOD FIBE MANUFACTURED FROM CLEAN WHOLE WOOD CHIPS. WOOD CHIPS CANNOT CONTAIN ANY GROWTH OR GERMINATION INHIBITORS OR BE PRODUCED FROM RECYCLED MATERIAL.

5. MULCH IS TO BE ANCHORED EITHER BY CRIMPING, USING NETTING, OR WITH A NON–TOXIC TACKIFIER.

6. HYDRAULIC MULCHING AND TACKIFIERS ARE NOT TO BE USED IN AN AREA THAT DRAINS DIRECTLY INTO FREE SURFACE WATER SUCH AS A LAKE, STREAM OR RIVER.

MULCHING MAINTENANCE NOTES

1. THE SWMP MANAGER SHALL INSPECT RECENTLY MULCHED AREAS TO INSURE MULCH HAS BEEN EVENLY DISTRIBUTED AND PROPERLY ANCHORED.

2. AREAS WHERE MULCH HAS BEEN REMOVED SHALL BE RE–MULCHED IMMEDIATLEY AND RE–SEEDED IF NECESSARY.

3. MULCHED AREAS ARE NOT TO BE DRIVEN OVER WITH CONSTRUCTION EQUIPMENT OR VEHICLES.

SILT FENCE INSTALLATION NOTES

1. SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2–5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.

2. A UNIFORM 6" X 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.

3. COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.

4. SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.

5. SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.

6. AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J–HOOK." THE "J–HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' – 20').

7. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".

5. REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.

6. SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.

7. WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

SF–1. SILT FENCE

JOSEPH E. MAGLICIC 33789

No.	Revision/Issue	Date	Description
1	FINAL SITE PLAN/PLAT	4/7/17	TOS FINAL SITE PLAN & PLAT SUBMITTAL

TEN MILE
ENGINEERING, INC.
Professional Civil Engineers
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DILLON RIDGE VISTAS
BLOCK 6 DILLON RIDGE MARKETPLACE
TOWN OF DILLON, COLORADO

EROSION CONTROL DETAILS

Project
DILLON RIDGE VISTAS

Date
4/7/17

Sheet
7

Scale
NTS

N

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

0 10 20 40
SCALE: 1" = 20'
ORIGINAL GRAPHIC SCALE

3" ASPHALT
6" CLASS 6 ROAD BASE

PAVEMENT SECTION SHALL BE
3" ASPHALT ON 6" OF ROAD BASE
SEE GEOTECHNICAL RECOMMENDATIONS
FOR COMPACTION REQUIREMENTS
SECTION TO BE FIELD VERIFIED BY
GEOTECHINICAL ENGINEER

TYPICAL PAVEMENT SECTION
NO SCALE

BLDG 1
12 units
FF=41.5

BLDG 2
12 units
FF=41.8

BLDG 3
12 units
FF=41.5

TOW=9057.5
GND=9051.5
TOW=9059.5
GND=9059.0
TOW=9052.0
GND=9051.5
TOW=9050.0
GND=9043.5
TOW=9048.0
GND=9043.0
TOW=9045.0
GND=9044.0
TOW=9066.0
GND=9059.0
TOW=9057.5
GND=9051.5
TOW=9059.5
GND=9059.0
TOW=9052.0
GND=9051.5
TOW=9045.0
GND=9043.0
TOW=9050.0
GND=9043.0
TOW=9050.0
GND=9044.0
TOW=9050.0
GND=9043.0
TOW=9050.0
GND=9043.0
TOW=9036.2
GND=9035.0
TOW=9035.5
GND=9033.5
TOW=9035.0
GND=9033.0
TOW=9034.5
GND=9032.5
TOW=9034.0
GND=9033.0
TOW=9046.5
GND=9041.5
TOW=9046.0
GND=9041.5
TOW=9043.0
GND=9041.5
TOW=9042.0
GND=9040.5
TOW=9041.0
GND=9040.0
TOW=9044.0
GND=9040.5

DILLON RIDGE MARKETPLACE
REPLAT B
BLOCK 5
SKYLINE CINEMA 8
PHASE IV
LOOKOUT RIDGE TOWNHOMES
DILLON RIDGE ROAD
LOOKOUT RIDGE DRIVE
ASPHALT PARKING (THEATER)
CURB & GUTTER (TYP.)
15' UTILITY EASEMENT
20' UTILITY EASEMENT
12.5' UTILITY EASEMENT
30' UTILITY AND PRIVATE ACCESS EASEMENT
10' UTILITY, SIDEWALK, PUBLIC ACCESS & SNOW STORAGE EASEMENT
5' UTILITY AND SNOW STORAGE EASEMENT
SMOOTH WIRE FENCE
WIRE FENCE
END FENCE
Patio
Deck
BUILDING 9
BUILDING 10
STOP SIGN
NO OUTLET SIGN
CONC. INLET
CONC. WALK
CONC. PAN
ASPHALT ROAD
FIRE HYDRANT
PROPERTY LINE IS AT

COLORADO REGISTERED
JOSEPH E. MAGLIOCCO
33789
PROFESSIONAL ENGINEER

No.	Revision/Issue	Date	Description
1	Revised per TOD	6/6/17	Revised per TOD Comments

TEN MILE ENGINEERING, INC.
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DILLON RIDGE VISTAS
BLOCK 6 DILLON RIDGE MARKETPLACE
TOWN OF DILLON, COLORADO

OVERALL GRADING PLAN

Project: DILLON RIDGE VISTAS
Date: 4/7/17
Scale: 1"=20'
Sheet: 8

N
CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.
0 10 20 40
SCALE: 1" = 20'
ORIGINAL GRAPHIC SCALE
LEGEND
SANITARY MANHOLE
RIPRAP
STORM INLET
STORM FES
STORM MANHOLE
WATER FIRE HYDRANT
WATER MANHOLE
WATER VALVE
WATER STOPBOX
ELECTRIC BREAKER BOX
ELECTRIC METER
ELECTRIC MKR
ELECTRIC PEDESTAL
LIGHT POLE
ELECTRIC VAULT
TELEPHONE PEDESTAL
FIBER OPTIC MKR
FIBER OPTICS PEDESTAL
GAS MKR POST
IRRIGATION CONTROL BOX
IRRIGATION VALVE
VENT PIPE
BUSH EVERGREEN
BUSH DECIDUOUS
TREE CONIFER
TREE DECIDUOUS
HANDICAP RAMP
TRAFFIC CONTROL CABINET
TRAFFIC CONTROL VAULT
TRAFFIC SIGNAL
DELINEATOR
SIGN
ELECTRIC UNDERGROUND
TELEPHONE LINE UNDERGROUND
FIBER OPTIC UNDERGROUND
CABLE TV UNDERGROUND
GAS LINE UNDERGROUND
STORM REINFORCED CONCRETE PIPE
WATER LINE UNDERGROUND
SANITARY UNDERGROUND
FENCE
LANDSCAPE EDGE
TREELINE
CROWN ROAD
EDGE ASPHALT
EDGE CONCRETE
TRAIL
CHASE
PAN FLOWLINE
LINEMARKING WHITE STRIPE SOLID
LINEMARKING YELLOW STRIPE SOLID
GUARD RAIL
SPEED BUMP
STEPS
STRUCTURE
HANDRAIL
WALL
CONCRETE
ASPHALT PAVEMENT
SMOOTH WIRE FENCE
WIRE FENCE
END FENCE
15' UTILITY EASEMENT
CURB & GUTTER (TYP.)
ASPHALT PARKING (THEATER)
BLDG 1
12 units
FF=41.5
BLSG 2
12 units
FF=41.8
BLDG 3
12 units
FF=41.5
BUILDING 9
Patio
Deck
LOOKOUT
20' UTILITY EASEMENT
20' PUBLIC ACCESS EASEMENT
12.5' UTILITY EASEMENT
DILLON RIDGE MARKETPLACE REPLAT B
ASPHALT DRIVEWAY
30' UTILITY & PRIVATE ACCESS EASEMENT
15' STORM SEWER EASEMENT
10' UTILITY, SIDEWALK, PUBLIC ACCESS & SNOW STORAGE EASEMENT
DILLON RIDGE ROAD
ASPHALT ROAD
CONC. WALK
CONC. INLET
PROPERTY LINE IS AT FLOWLINE CURB & GUTTER
PROPERTY LINE IS AT
14 LF OF 15" HDPE SMOOTH WALLED PIPE @ 4.3%
55 LF OF 15" HDPE SMOOTH WALLED PIPE @ 3.6%
133 LF OF 15" HDPE SMOOTH WALLED PIPE @ 3.5%
30 LF OF 15" HDPE SMOOTH WALLED PIPE @ 5.3%
48 LF OF 15" HDPE SMOOTH WALLED PIPE @ 2.1%
10 LF OF 15" HDPE SMOOTH WALLED PIPE. ACTUAL SLOPE TO BE FIELD VERIFIED
PROPOSED NYLOPLAST DRAINAGE INLET W/ 18" GRATE RIM=9040.9 INV. OUT=9036.9
PROPOSED DRAINAGE MANHOLE RIM=9041.1 INV. OUT=9036.1 INV. IN=9036.3
PROPOSED NYLOPLAST DRAINAGE INLET W/ 18" GRATE RIM=9039.7 INV. OUT=9033.9 INV. IN=9034.1(N&S)
PROPOSED NYLOPLAST DRAINAGE INLET W/ 18" GRATE RIM=9039.0 INV. OUT=9035.7
PROPOSED DRAINAGE INLET RIM=9035.3 INV. OUT=9029.0 INV. IN=9029.2
PROPOSED DRAINAGE INLET RIM=9034.4 INV. OUT=9028.0 INV. IN=9028.2
PROPOSED DRAINAGE MANHOLE CONNECT TO EXISTING CULVERT RIM=9032.2 INV. OUT(W)=MATCH EXIST 15" INV. IN(E)=EXISTING +0.1'
EXISTING DRAINAGE INLET RIM=9028.1 INV. OUT(W)=9020.0 15" RCP INV. IN(E)=CONFIRM IN FIELD
EXISTING 15" DRAINAGE CULVERT
COLORADO REGISTERED PROFESSIONAL ENGINEER 33789
1 Revised per TOD Comments 6/6/17
No. Revision/Issue Date Description
TEN MILE ENGINEERING, INC.
Professional Civil Engineers
Po Box 1785
Frisco, CO 80443
970.485.5773
tenmileengineer@aol.com
DILLON RIDGE VISTAS
BLOCK 6 DILLON RIDGE MARKETPLACE
TOWN OF DILLON, COLORADO
DRAINAGE PLAN
Project DILLON RIDGE VISTAS
Date 4/7/17
Sheet 9
Scale 1"=20'

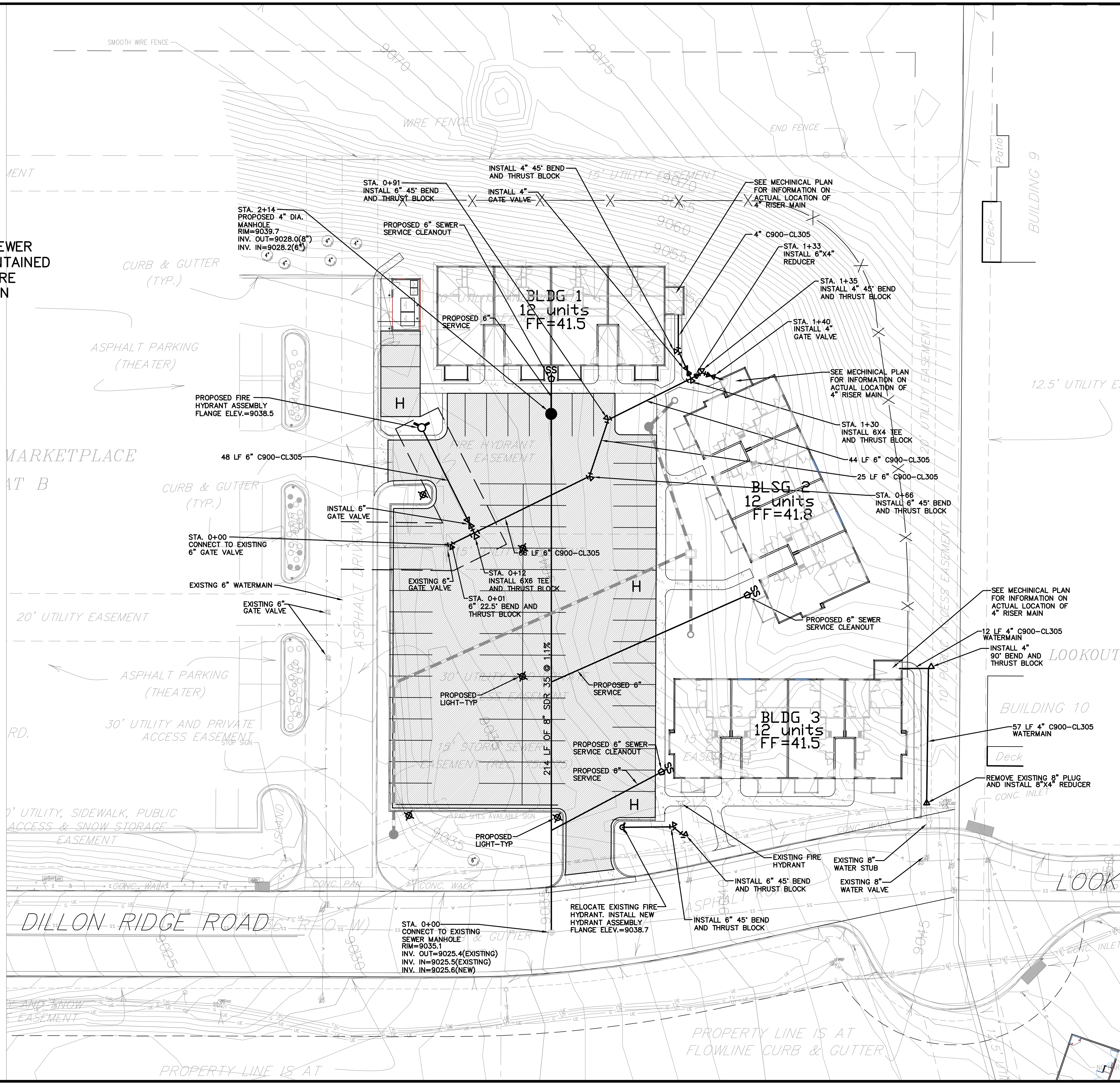
CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

SCALE: 1" = 20'
ORIGINAL GRAPHIC SCALE

NOTE: ALL WATER, SANITATARY SEWER AND STORM SEWER SHOWN ON THE PLANS ARE PRIVATE AND TO BR MAINTAINED BY THE PROPERTY OWNER WITH EXCEPTION OF THE FIRE HYDRANT LATERAL AND FIRE HYDRANT LOCATED WITHIN THE 20' UTILITY EASEMENT

LEGEND

SANITARY MANHOLE
RIPRAP
STORM INLET
STORM FES
STORM MANHOLE
WATER FIRE HYDRANT
WATER MANHOLE
WATER VALVE
WATER STOPBOX
ELECTRIC BREAKER BOX
ELECTRIC METER
ELECTRIC MKR
ELECTRIC PEDESTAL
LIGHT POLE
ELECTRIC VAULT
TELEPHONE PEDESTAL
FIBER OPTIC MKR
FIBER OPTICS PEDESTAL
GAS MKR POST
IRRIGATION CONTROL BOX
IRRIGATION VALVE
VENT PIPE
BUSH EVERGREEN
BUSH DECIDUOUS
TREE CONIFER
TREE DECIDUOUS
HANDICAP RAMP
TRAFFIC CONTROL CABINET
TRAFFIC CONTROL VAULT
TRAFFIC SIGNAL
DELINEATOR
SIGN
ELECTRIC UNDERGROUND
TELEPHONE LINE UNDERGROUND
FIBER OPTIC UNDERGROUND
CABLE TV UNDERGROUND
GAS LINE UNDERGROUND
STORM REINFORCED CONCRETE PIPE
WATER LINE UNDERGROUND
SANITARY UNDERGROUND
FENCE
LANDSCAPE EDGE
TREELINE
CROWN ROAD
EDGE ASPHALT
EDGE CONCRETE
TRAIL
CHASE
PAN FLOWLINE
LINEMARKING WHITE STRIPE SOLID
LINEMARKING YELLOW STRIPE SOLID
GUARD RAIL
SPEED BUMP
STEPS
STRUCTURE
HANDRAIL
WALL
CONCRETE
ASPHALT PAVEMENT



COLORADO REGISTERED PROFESSIONAL ENGINEER 33789

No.	Revision/Issue	Date	Description
2	Revised per fire Dept	7/9/17	Revised per fire dept comments
1	Revised per TOD	6/6/17	Revised per TOD Comments

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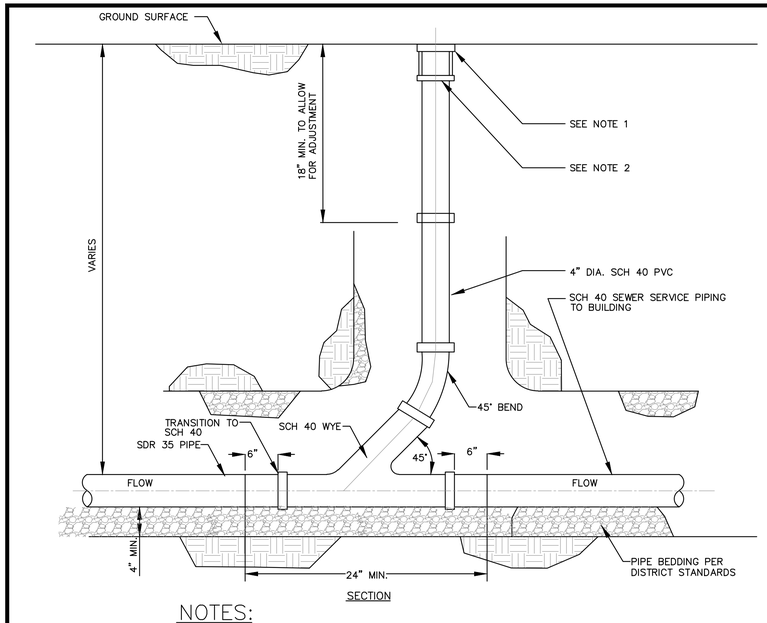
DILLON RIDGE VISTAS
BLOCK 6 DILLON RIDGE MARKETPLACE
TOWN OF DILLON, COLORADO

OVERALL UTILITY PLAN

Project: DILLON RIDGE VISTAS
Date: 4/7/17
Scale: 1"=20'
Sheet: 10

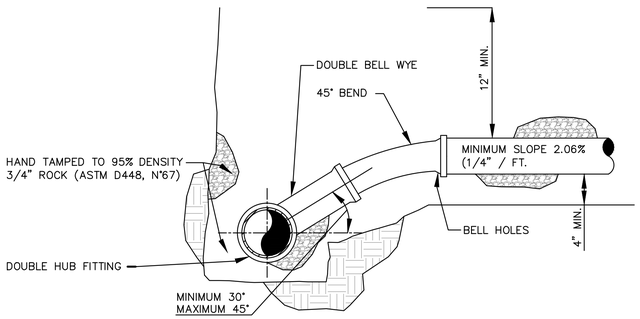


SECTION

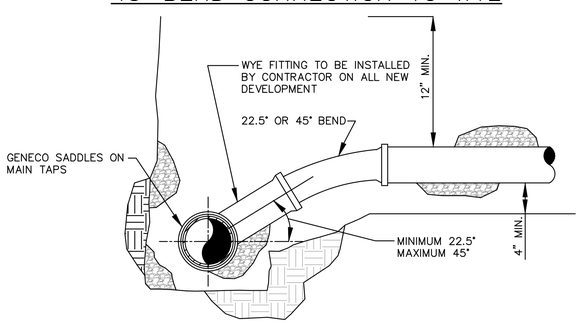
NOTES:

1 – TYLER SERIES 6855 SLIP TYPE VALVE BOX TOP SECTION WITH LOCKING LID MARKED "SEWER".
2 – 4" PVC SCH 40 BY THREADED ADAPTOR WITH THREADED PLUG.
3 – CLEAN OUT FITTINGS AND PIPING TO BE SCH 40.
4 – CLEAN OUT REQUIRED 5' OUTSIDE / AWAY FROM BUILDING.
5 – CLEAN OUT REQUIRED AT EVERY 100' SPACING IN SERVICE LINE BEFORE MAIN.
6 – CONTRACTOR TO COORDINATE WITH SEWER AND BUILDING DEPARTMENT FOR ADDITIONAL REQUIREMENTS AND CODES.
7 – ALL SCH 40 FITTINGS SHALL BE GLUED.

TYP. SEWER SERVICE CLEAN OUT



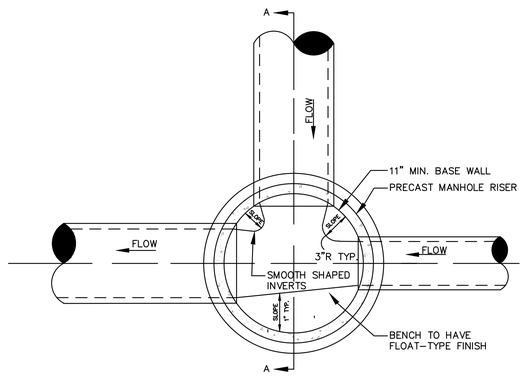
45° BEND CONNECTION TO WYE



45° BEND CONNECTION TO TAPPING SADDLE

NOTES:

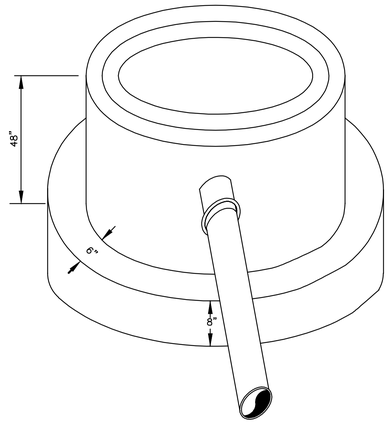
1 – SEWER SERVICE TO BE ASTM 3034, SDR26 PVC PIPE.
2 – ALL SERVICE LINES SHALL BE INSPECTED BY TOWN PERSONNEL DURING INSTALLATION AND APPROVED BEFORE BACKFILLED.



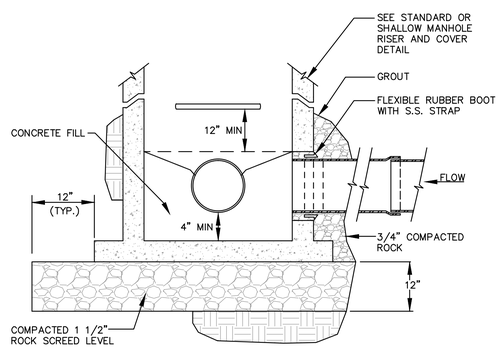
NOTES:

1 – CONCRETE BASE AND/OR INTERIOR CONCRETE FILL SHALL BE MINIMUM 4000 PSI CONCRETE.

2 – SEE CAST–IN–PLACE OR PRE CAST CONCRETE MANHOLE BASE FOR SECTIONS A–A AND B–B.



PRECAST CONCRETE MANHOLE BASE



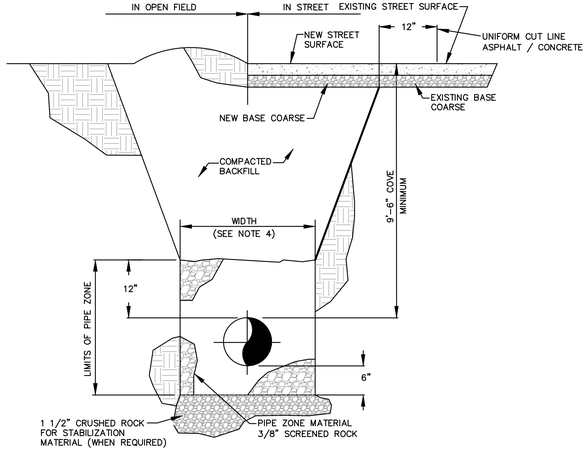
SECTION A–A

NOTES:

1 – PRECAST CONCRETE SHALL MEET OR EXCEED STRENGTH OF 4000 PSI.

2 – APPLY LATEX BONDING AGENT TO PRECAST BASE SECTION BEFORE PLACING CONCRETE FILL BASE AND INVERTS.

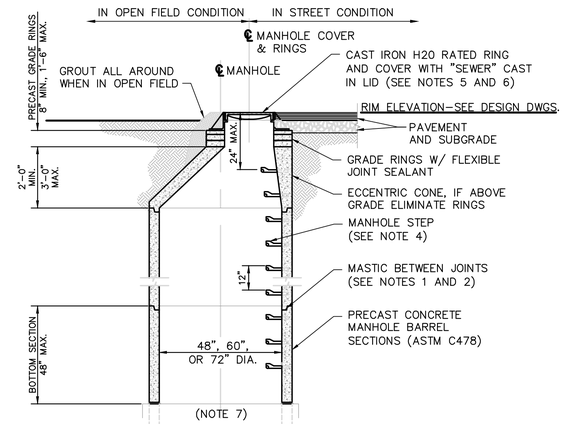
MANHOLE BASE INTERIOR



TYPICAL SEWER/WATER TRENCH SECTION

NOTES:

1 – ASPHALT PATCH SHALL BE A MINIMUM OF 3" ASPHALT ON 6" ROAD BASE OR, SHALL MATCH EXISTING PAVEMENT SECTION, WHICHEVER IS GREATER.
2 – TRENCH WALLS TO BE SUPPORTED AS REQUIRED BY O.S.H.A.
3 – MINIMUM COVER TO BE BELOW STREET FINISH GRADE OR GROUND SURFACE.
4 – MINIMUM TRENCH WIDTH = PIPE O.D. + 12"
MAXIMUM TRENCH WIDTH = PIPE O.D. + 40"
MAXIMUM TRENCH WIDTH IF TRENCH BOX REQUIRED = 60"
5 – UTILITY TRENCH BACKFILL BENEATH PAVED AREAS SHOULD BE PLACES IN 8" HORIZONTAL LIFTS AND COMPACTED TO AT LEAST 95% OF MAXIMUM STANDARD PROCTOR (ASTM D–698) DRY DENSITY AT A MOISTURE CONTENT WITHIN 3% OF OPTIMUM. WATER SEEPAGE SHOULD BE EXPECTED IN DEEPER EXCAVATIONS AND DEWATERING WILL BE REQUIRED TO KEEP TRENCH AND BACKFILL DRY AT ALL TIMES.



NOTES:

1. ALL JOINTS TO BE DOUBLE BAND RUB–R–NEK.
2. ALL JOINTS SHALL BE DOUBLE SEALED WITH FLEXIBLE PLASTIC JOINT SEALING MATERIAL TO EXTRUDE INTO MANHOLE AND BE TRIMMED OFF AT FACE OF CONCRETE BELOW WATER TABLE.
3. ALL MANHOLES PLACED IN "OPEN SPACE" OR FIELDS SHALL BE INSTALLED WITH A RING AND COVER THAT IS 6" ABOVE FINAL GRADE WITH A COLLAR OF CONCRETE. A MARKER POST SHALL BE INSTALLED NEAR BY. SEE MARKER POST DETAIL.
4. STEPS INSTALLED OVER DOWNSTREAM INVERT OF MANHOLE AND SHALL BE COPOLYMER COATED PLASTIC 1/2" GRADE 60 STEEL REINFORCED, SIMILAR TO PS2–PF MANUFACTURED BY MA INDUSTRIES.
5. 60" OR LARGER MANHOLES REQUIRE A 30" OPENING.
6. ALL RING AND COVERS TO BE CASTINGS, INC. J–1161 FOR 24" OPENINGS OR J–1361 FOR 30" OPENINGS.
7. SEE EITHER CAST IN PLACE OR PRECAST MANHOLE BASE DETAIL.
8. AVOID 12" HIGH BARREL SECTIONS IF POSSIBLE.
9. WRAP ALL BARREL SECTIONS AND CONE WITH BITUTHANE WRAP – 6" OVERLAP REQUIRED.

MANHOLE SECTION W/ ECCENTRIC CONE

COLORADO REGISTERED JOSEPH E. MAGLIONE 33789 PROFESSIONAL ENGINEER

No.	Revision/Issue	Date	Description
1	FINAL SITE PLAN/PLAT	4/7/17	TOD FINAL SITE PLAN & PLAT SUBMITTAL

TEN MILE ENGINEERING, INC.
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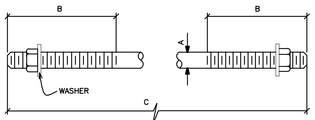
DILLON RIDGE VISTAS
BLOCK 6 DILLON RIDGE MARKETPLACE
TOWN OF DILLON, COLORADO

SEWER DETAILS

Project: DILLON RIDGE VISTAS
Date: 4/7/17
Scale: NTS
Sheet: 11

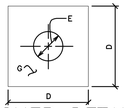
RESTRAINING RODS

SIZE OF PIPE	6"	8"	12"
90°	5/8"	3/4"	1"
45°	1/2"	1/2"	5/8"
22 1/2°	1/2"	1/2"	1/2"
11 1/4°	1/2"	1/2"	1/2"



TIE ROD DETAILS

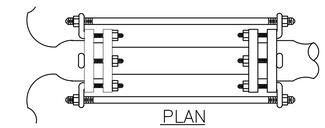
NOTE:
1.) SEE TIED JOINTS, ROD DIMENSIONS SHEET.
2.) SEE CLAMP DETAILS AND DIMENSIONS FOR PROPER PLACEMENT OF WASHERS.
3.) ALL RODS AND BOLTS SHALL BE CORTEN OR STAINLESS STEEL



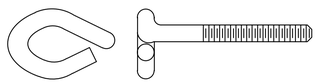
WASHER DETAIL

TIE RODS				WASHERS		
A	B	C		D	E	G
ROD DIAMETER	THREAD LENGTH	ROD LENGTH	GRADE	WIDTH	HOLE DIAMETER	THICKNESS
3/4",1"	6"	1' TO 11' & 20'	MS	5"	1/8"Larger than Rod Ø	1/2"
3/4",1-1/2"	ALL THREAD	1' TO 11' & 20'	HS	6"	1/8"Larger than Rod Ø	5/8"

TIE ROD AND WASHER DETAILS



PLAN



DETAIL DIMENSIONS

ALLOWABLE PIPE DIAMETER INCHES	BOLT SIZE	NO . OF BOLTS REQUIRED
4	3/4"	2
6	3/4"	2
8	3/4"	2
10	3/4"	4
12	3/4"	6

NOTES:
1 – THE BOLT SHALL BE MANUFACTURED OF "COR-TEN" OR APPROVED EQUAL.
2 – THE BOLT MAY BE HEAT TREATED.

SECONDARY JOINT RESTRAINT DETAIL

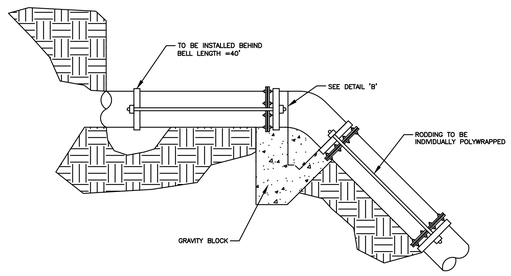
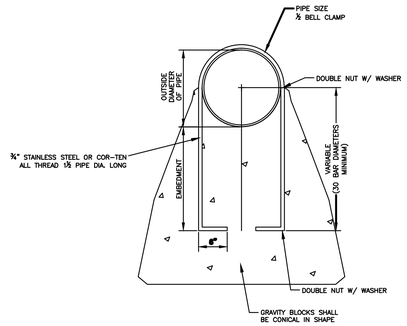


TABLE 1

SIZE OF PIPE	8"	12"
45°	5/8"	7/8"
22 1/2°	1/2"	5/8"
11 1/4°	1/2"	1/2"

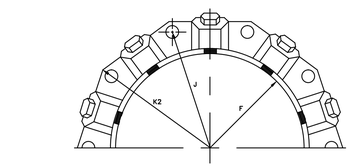


VERTICAL THRUST BLOCK DETAIL

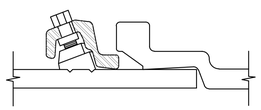
GRAVITY BLOCKS
MINIMUM VOLUME (IN CUBIC FEET)

SIZE OF PIPE	BENDS			TEE OR DEAD END
	11 ¼°	22 ½°	45°	
8"	20.0	40.0	74.0	NA
12"	46.0	90.0	166.0	NA

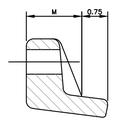
NOTES:
1 – MEGA-LUG RESTRAINT MAY BE USED IN PLACE OF RODS AND CLAMPS.
2 – RODDING SHALL BE PER TABLE 1. RODDING AND NUTS TO BE STAINLESS STEEL OR COR-TEN.
3 – ALL PIPES AND RODS SHALL BE WRAPPED IN POLYETHYLENE.
4 – VERTICAL 90° BENDS ARE NOT ALLOWED.
5 – ALL JOINTS SHALL BE RESTRAINED BETWEEN THE FITTINGS.



MECHANICAL JOINT RESTRAINT



WEDGE DETAIL

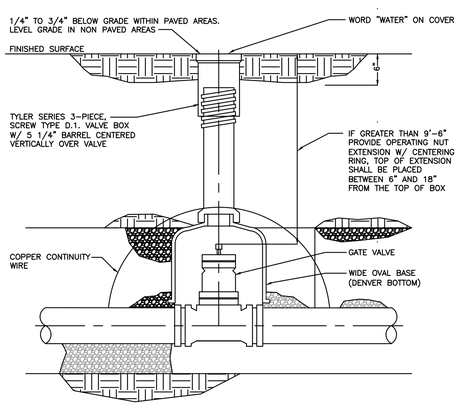


BOLT HOLE DETAIL

DIMENSIONS

	NOMINAL PIPE SIZE	NO OF BOLTS	NO OF WEDGES	K2 INCHES	J INCHES	F INCHES	M INCHES	
D –	6"	6	3	11.12	9.50	7.00	0.88	D I
	8"	6	4	13.37	11.75	9.15	1.00	
	10"	8	6	15.62	14.00	11.20	1.00	
	12"	8	8	17.88	16.25	13.30	1.25	
	16"	12	12	22.50	21.00	17.54	1.56	
	20"	14	14	27.00	25.50	21.74	1.69	

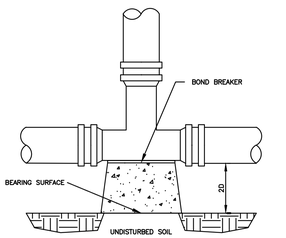
JOINT RESTRAINT DETAIL



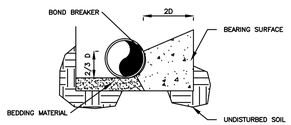
NOTES
1. GATE VALVES SHALL OPEN CCW AND BE RESILIENT SEAT.
2. FITTINGS SHALL BE WRAPPED WITH 8 MIL. MINIMUM THICKNESS POLYETHYLENE SHEETING. ALL VALVES AND FITTINGS SHALL BE EPOXY COATED.
3. VALVE BOX TOP SHALL BE SET 1/4" TO 3/4" BELOW FINAL ASPHALT PAVEMENT GRADE. SHALL BE INSTALLED AT GRADE IN NON-PAVED AREAS.
4. PROVIDE MARKER POST WHERE NECESSARY. AS DETERMINED BY WATER DEPARTMENT.
5. SEE TYPICAL WATER TRENCH DETAIL.
6. VALVE BOX AND ROD SHALL BE INSTALLED VERTICALLY AND SHALL NOT BE TILTED IN ANY DIRECTION.(WHERE REQUIRED FOR VALVES DEEPER THEN 10')
7. VALVE BOX EXTENSION TO BE PROVIDED FOR ALL VALVES DEEPER THAN 10FT.

VALVE AND VALVE BOX DETAIL

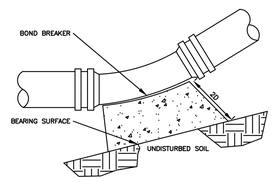
N.T.S.



TEE



TYPICAL CROSS SECTION



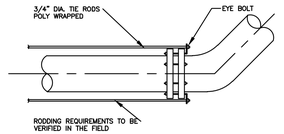
BEND

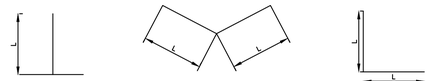
MINIMUM BEARING SURFACE AREA
(IN SQUARE FEET)

SIZE OF PIPE	BENDS				TEE OR DEAD END
	11 ¼°	22 ½°	45°	90°	
4"	0.5	1.0	1.5	2.5	2.0
6"	1.0	1.5	3.0	5.5	4.0
8"	1.5	2.5	5.0	9.0	6.5
12"	3.0	5.5	10.5	19.5	14.0
16"	5.0	9.5	18.5	34.0	24.0

NOTES:
1 – D = PIPE DIAMETER
2 – DO NOT COVER FITTING BOLTS WITH CONCRETE.
3 – ALL FITTINGS ARE TO BE WRAPPED IN POLYETHYLENE SHEETING.
4 – PROVIDE MINIMUM 2500 PSI CONCRETE.
5 – SIZES SHOWN FOR 1,500 PSF SOIL BEARING PRESSURE AND AN INTERNAL TEST PRESSURE OF 150 PSI.

THRUST BLOCK DETAIL





TEE BEND 90°

ROD DIAMETER, GRADE AND LENGTH OF TIED PIPE

PIPE SIZE	4"			6"			8"			12"			16" AND LARGER		
FITTING	D	L	G	D	L	G	D	L	G	D	L	G	D	L	G
TEE BRANCH ONLY	3/4"	30'	M.S.	3/4"	45'	M.S.	3/4"	60'	M.S.	3/4"	86'	M.S.	SPECIAL DESIGN BY PROJECT PROFESSIONAL ENGINEER		
PLUG OR 90° BEND	3/4"	30'	M.S.	3/4"	45'	M.S.	3/4"	60'	M.S.	3/4"	86'	M.S.			
45° BEND	3/4"	9'	M.S.	3/4"	13'	M.S.	3/4"	18'	M.S.	3/4"	25'	M.S.			
22-1/2° BEND	3/4"	1'	M.S.	3/4"	4'	M.S.	3/4"	5'	M.S.	3/4"	7'	M.S.			
11-1/4° BEND							3/4"	1'	M.S.	3/4"	2'	M.S.			
ALL VERTICAL BENDS	TOTALLY RESTRAINED L=40'														

NOTES:
1 – LENGTH OF RESTRAINED PIPE MEASURED EACH WAY FROM BENDS OR FITTINGS.
2 – LENGTH REFERS TO THE AMOUNT OF PIPE WHICH MUST BE TIED TOGETHER, AND IS NOT NECESSARILY THE LENGTH OF THE RODS.
3 – CLAMPS AND RODS SHALL BE EXTENDED TO NEXT PIPE.
4 – D = DIAMETER, L = LENGTH, G = STEEL GRADE.
5 – MINIMUM 9.5' OF GROUND COVER IS REQUIRED.
6 – BASED ON 150 P.S.I. INTERNAL PRESSURE.
7 – ALL RESTRAINT RODS AND HARDWARE ARE TO BE STAINLESS STEEL OR COR-TEN.
8 – NUTS SHALL BE A.S.T.M., STANDARD DESIGNATION A-307, GRADE A OR B, HEXAGON HEAVY SERIES.
9 – LENGTH OF TIED PIPE CHART IS ALSO FOR THE LENGTH OF PIPE RESTRAINING GLANDS AND BELL RESTRAINTS.
10 – MJ RESTRAINING GLANDS SHALL BE SIMILAR AND EQUIVALENT TO EBBA IRON SERIES 1100 OR UNI-FLANGE 1400 SERIES FOR DIP AND EBBA IRON SERIES 2000 PV OR UNI-FLANGE SERIES 1500 FOR PVC. BELL JOINT RESTRAINTS SHALL BE SIMILAR AND EQUIVALENT TO EBBA IRON SERIES 1700 OR UNI-FLANGE SERIES 1390 FOR DIP AND EBBA 1600 OR UNIFLANGE SERIES 1390 FOR PVC.

TYPICAL RESTRAINED JOINT

COLORADO REGISTERED JOSEPH E. MAGLIONE 33789 PROFESSIONAL ENGINEER

No.	Revision/Issue	Date	Description
1	FINAL SITE PLAN/PLAT	4/7/17	TOD FINAL SITE PLAN & PLAT SUBMITTAL

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DILLON RIDGE VISTAS
BLOCK 6 DILLON RIDGE MARKETPLACE
TOWN OF DILLON, COLORADO

WATER DETAILS

Project: DILLON RIDGE VISTAS
Date: 4/7/17
Scale: NTS
Sheet: 12