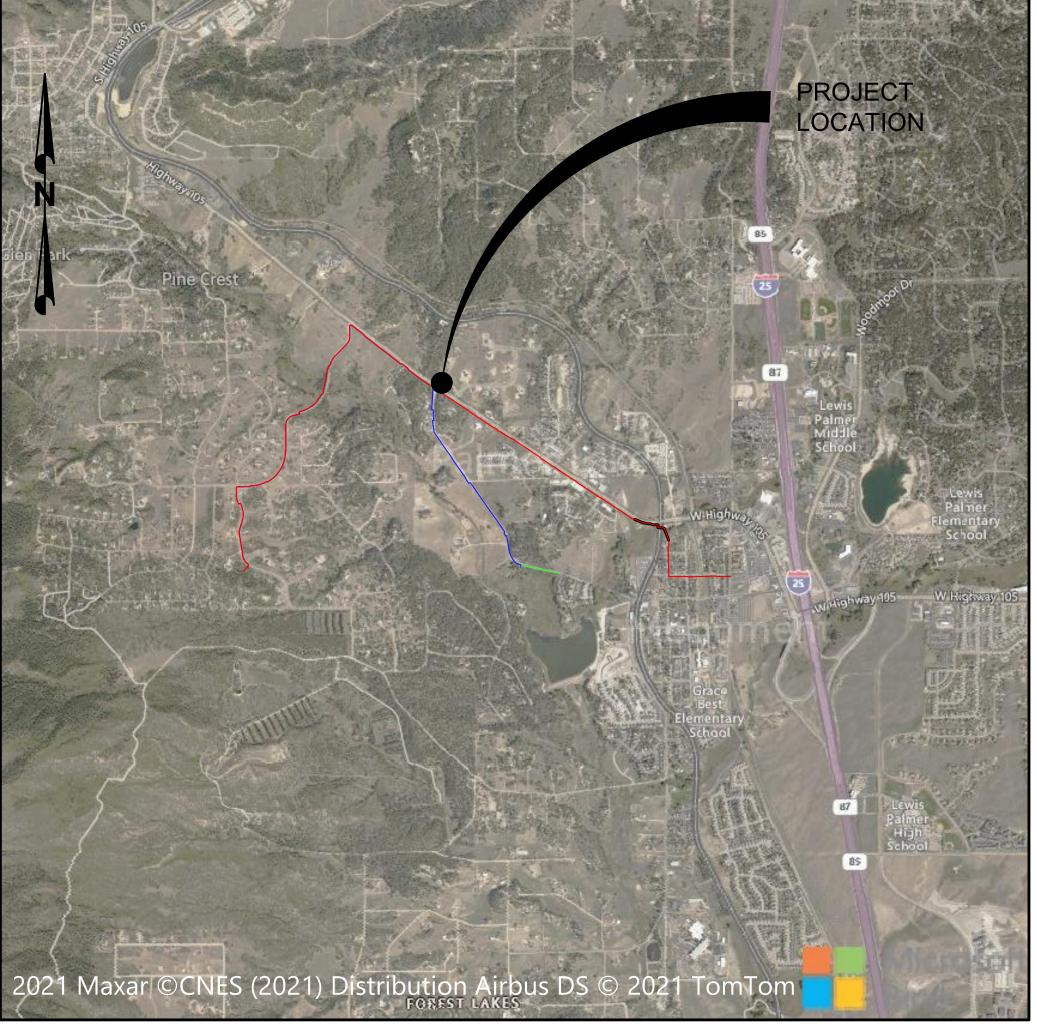
# MONUMENT WATERLINE

GRADING AND EROSION CONTROL PLANS

MONUMENT, CO



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FA PROJECT NO. 04-20-0153 PCD FILE NO. PPR-21-030 FEBRUARY, 2022

## **GENERAL CONSTRUCTION NOTES:**

- 1. INSTALLATION OF ALL GRADING, EROSION CONTROL BMP'S SHALL BE PERFORMED IN ACCORDANCE WITH THE URBAN STORM DRAINAGE CRITERIA MANUAL VOLUME 3, CHAPTER 7. CONTRACTOR SHALL MAKE NO
- 2. ANY UNPAVED AREA THAT IS DISTURBED DURING CONSTRUCTION SHALL BE **RESEEDED**

#### EL PASO COUNTY:

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/ OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/ OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA, AND ENGINEERING CRITERIA MANUAL AS AMENDED

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION IS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTORS DISCRETION.

56 INVERNESS DRIVE EAST #112, ENGLEWOOD, CO 80112 PH: 720.232.6644





PROJECT AREA

ENGINEER'S STATEMENT:

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS., I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MAY PART IN PREPARING THIS PLAN.

///MES ADAMS, PE #38375

4/8/22 DATE

PROJECT LOCATION MAP

OWNER'S STATEMENT:

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING

JENNIFER IRVINE, P.E. COUNTY ENGINEER / ECM ADMINISTRATOR DATE

**VICINITY MAP** 

2021 Maxar ©CNES (2021) Distribution Airbus DS © 2021 Tom Tom

DEVIATIONS FROM THIS MANUAL DURING CONSTRUCTION.

S. CALE

QA BY

DESIGNED DESIGNED BY

APPROVED APPROVED BY

**ATTENTION** 

LINE IS 2 INCHES

AT FULL SIZE

DRAWN

BY DATE

REVISIONS

orsgren Associates Inc.

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#### ALT ALTERNATE **HDWL HEADWALL APPROXIMATELY** HORIZ **HORIZONTAL BDRY BOUNDARY** HWY **HIGHWAY HYDRANT** BKFL **BACKFILL** HYD ID **BENCH MARK INSIDE DIAMETER** BOT **BOTTOM INVERT ELEVATION BEARING** INVERT BTWN **BETWEEN** LENGTH CALC CALCULATED LINEAR FEET CB **CATCH BASIN** LIN LINEAR/LINEAL LT LEFT COUNTERCLOCKWISE CEN CENTER MATI MATERIAL CFS MAX **CUBIC FEET PER SECOND MAXIMUM** MKR CENTERLINE/CONTROL LINE **MARKER** CIP CAST IRON PIPE **MANHOLE** CMP CORRUGATED METAL PIPE MI MILE CONCRETE **MISCELLANEOUS** CPP CORRUGATED PLASTIC PIPE MON MONUMENT CU CUBIC NORTH **CLOCKWISE** N/A NO ACCESS or NOT APPLICABLE **DEGREE** NTS NOT TO SCALE DET DETAIL No Ø, DIA DIAMETER OBLI<sup>-</sup> DIP DUCTILE IRON PIPE OD DWG DRAWING 0-0 ELEV **ELEVATION** ORIG ELEC **ELECTRIC/ELECTRICAL** PVMT EXC **EXCAVATION** PC **EQUIP EQUIPMENT** PΕ **EXIST EXISTING** PERF FD FOUND PROJ FG **FINISH GRADE** PROP FL OR FL FLOW LINE FEET PER SECOND PT **FEET** PVC GALV **GALVANIZED** QTY GRD **GROUND**

ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DEFINED IN THE PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM

ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE, UNLESS

- COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED.
- 12. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF SITE.
- 13. CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUT SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY.
- 14. DEWATERING OPERATIONS: UNCONTAMINATED GROUND WATER MAY BE DISCHARGED ON SITE, BUT MAY NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF.
- 15. EROSION CONTROL BLANKETING IS TO BE USED ON SLOPES STEEPER THAN 3:1.
- BUILDING, CONSTRUCTION, EXCAVATION, OR OTHER WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. BMP'S MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
- 17. VEHICLE TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFFSITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
- 18. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
- 19. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, AND SAND THAT MAY ACCUMULATE IN THE STORM SEWER OR OTHER DRAINAGE CONVEYANCE SYSTEM AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.

Associates Inc.

56 INVERNESS DRIVE EAST #112, ENGLEWOOD, CO 80112

PH: 720.232.6644

38375

PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS

RD

REF

REINF

REQD

**REV** 

SAN

SD

SHT

SQ

SS

ST

STL

STA

STD

TEL

TP

**TEMP** 

SPECS

SCHEE

- NO CHEMICALS ARE TO BE USED BY THE CONTRACTOR, WHICH HAVE THE POTENTIAL TO BE RELEASED IN STORMWATER UNLESS PERMISSION FOR THE USE OF A SPECIFIC CHEMICAL IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING THE USE OF SUCH CHEMICALS, SPECIAL CONDITIONS AND
- 22. BULK STORAGE OF PETROLEUM PRODUCTS OR OTHER LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL HAVE ADEQUATE SECONDARY CONTAINMENT PROTECTION TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
- 23. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE FLOW LINE OF THE CURB AND GUTTER OR IN THE DITCH FLOW LINE.
- 24. INDIVIDUALS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344), IN ADDITION TO THE REQUIREMENTS INCLUDED IN THE DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, OR COUNTY AGENCIES, THE MORE RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
- 25. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS
- 26. PRIOR TO ACTUAL CONSTRUCTION THE PERMITEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
- 27. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
- 28. THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY AND SHALL BE CONSIDERED A PART OF THESE PLANS.
- 29. AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB 1 ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART.

PCD FILE NO. PPR-21-030

REINFORCED CONCRETE PIPE

ROAD

**REFERENCE** 

REINFORCED

REQUIRED

**REVISION** 

**SANITARY** 

SCHEDULE

STORM DRAIN

**SPECIFICATIONS** 

SANITARY SEWER

SOUTH

**SHEET** 

**SQUARE** 

**STREET** 

STATION

**STANDARD** 

**TEMPORARY** 

TELEPHONE/TELEGRAM

TELEPHONE POLE

**STEEL** 

04-20-0153

MONUMENT WATERLINE

**GRADING AND EROSION CONTROL PLANS** DATE: LEGEND, NOTES AND ABBREVIATIONS FEB, 2022 2 OF 25

PAGE NO:

NUMBER TYP TYPICAL UBC OBLITERATE UNIFORM BUILDING CODES **OUTSIDE DIAMETER** UG UNDERGROUND **OUTSIDE TO OUTSIDE** UT UNDERGROUND TELEPHONE VΒ **VALVE BOX** ORIGINAL **VERT** PAVEMENT **VERTICAL** POINT OF CURVATURE VOL **VOLUME** POLYETHELENE WEST/WATER WM PERFORATED WATER METER **PROJECT** WV WATER VALVE **PROPERTY XING CROSSING** POUNDS PER SQUARE INCH W/ WITH W/O POINT OF TANGENCY **WITHOUT** POLYVINYL CHLORIDE DELTA QUANTITY **PERCENT** 20. THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED. AS MUCH AS

**CIVIL ABBREVIATIONS** 

APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE HYDROLOGY OR HYDRAULICS OF A ADMINISTRATOR PRIOR TO IMPLEMENTATION. ANY EARTH DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE

### LEGEND

VEHICLE TRACKING CONTROL

SILT FENCE

**EROSION CONTROL BLANKET** 

LIMIT OF DISTURBANCE

**ROCK CHECK DAM** 

STABILIZED STAGING AREA

CONCRETE WASH AREA

TEMPORARY OUTLET PROTECTION

FLOW

#### **ENGINEER'S STATEMENT:**

FLOW DIRECTION

THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLAN.

DATE

#### OWNER'S STATEMENT:

THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

DATE

#### **EL PASO COUNTY:**

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/ OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/ OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

JENNIFER IRVINE, P.E.

COUNTY ENGINEER / ECM ADMINISTRATOR

#### **GENERAL CONSTRUCTION NOTES:**

- 1. INSTALLATION OF ALL GRADING, EROSION CONTROL BMP'S SHALL BE PERFORMED IN ACCORDANCE WITH THE URBAN STORM DRAINAGE CRITERIA MANUAL VOLUME 3, CHAPTER 7. CONTRACTOR SHALL MAKE NO DEVIATIONS FROM THIS MANUAL DURING CONSTRUCTION.
- 2. ANY UNPAVED AREA THAT IS DISTURBED DURING CONSTRUCTION SHALL BE RESEEDED.

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17501					DRAWNS. CALE	
						$\exists$
					DESIGNED J. ADAMS	<u>3</u>   •
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	NO.	REVISIONS	BY	DATE	APPROVED J. ADAMS	ء <b>ا'</b>
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GRID TO GROUND COMBINED SCALE FACTOR: 1.0004129397 GROUND TO GRID COMBINED SCALE FACTOR: 0.9995872307

PROJECT COORDINATES SHOWN HEREON ARE MODIFIED STATE PLANE GROUND COORDINATES

POINT NO.

154

115

UNITS: US SURVEY FEET

GEOID MODEL: GEOID18

FALSE NORTHING: 0.0

FALSE EASTING: 0.0

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ATTENTION
LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"- SCALE ACCORDINGLY









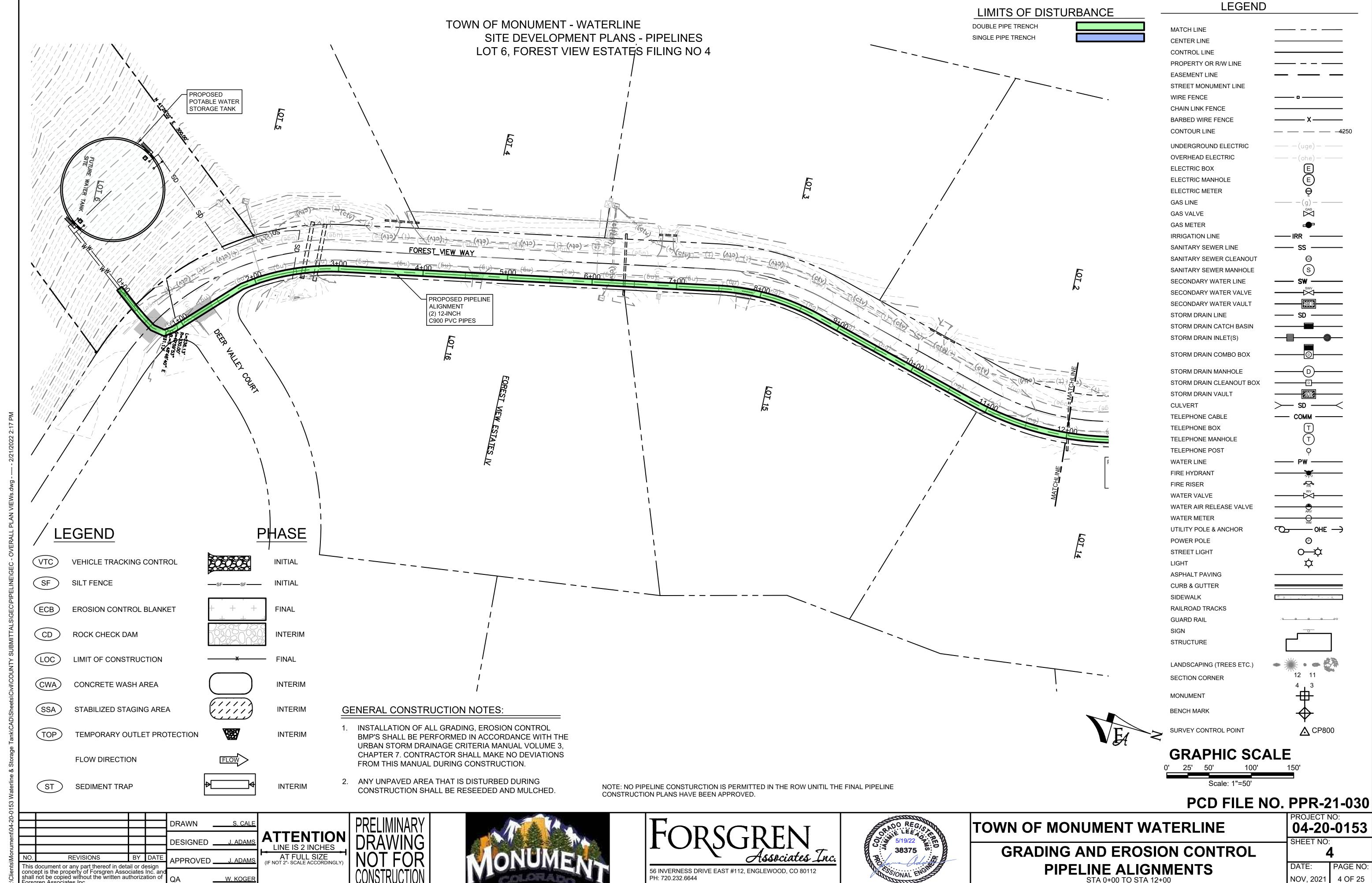
## TOWN OF MONUMENT WATERLINE

PIPELINE ALIGNMENTS KEY MAP

**GRADING AND EROSION CONTROL PLAN** 

04-20-0153 DATE:

PAGE NO: NOV, 2021 3 OF 24



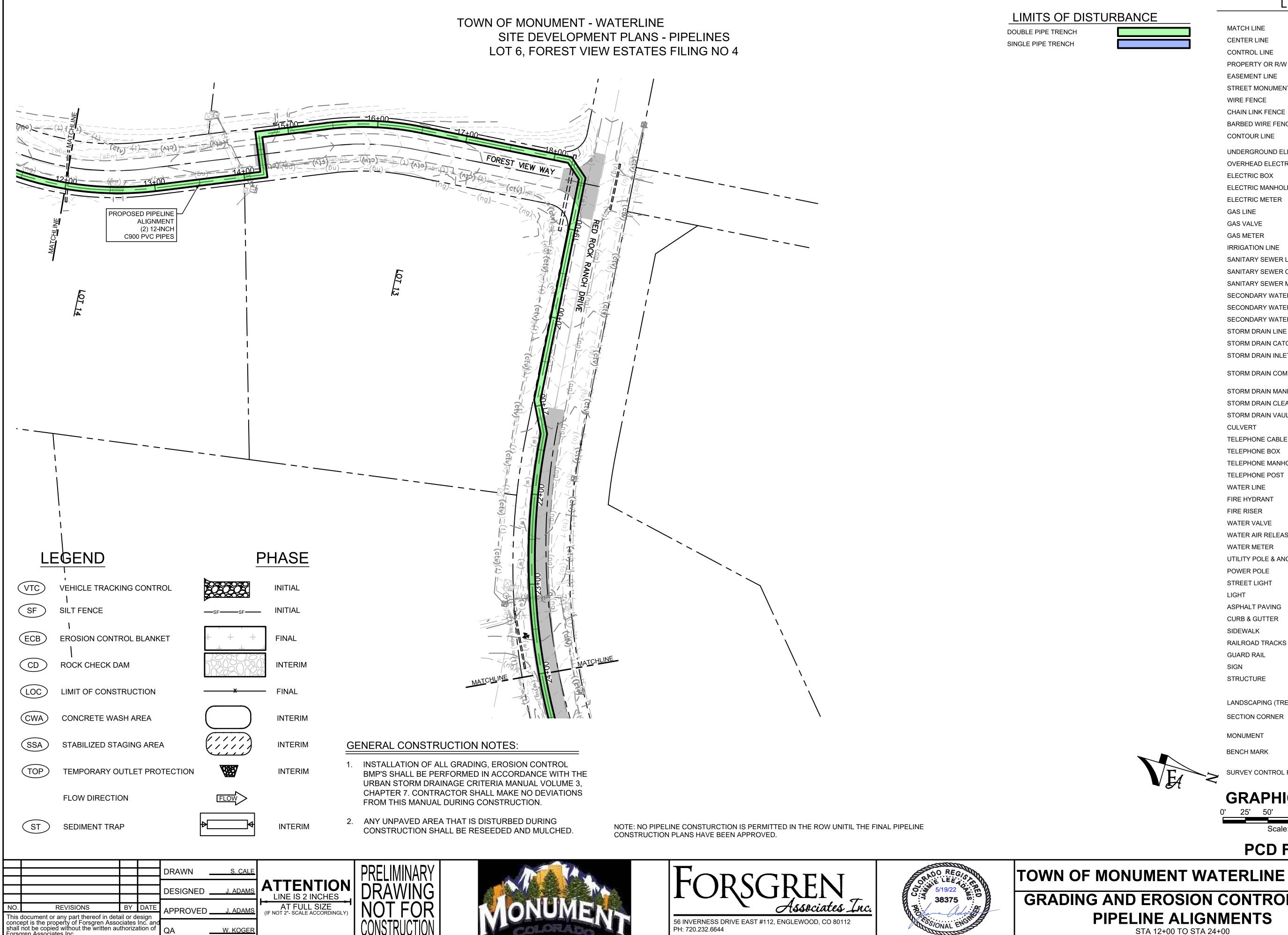
PH: 720.232.6644

NOV, 2021 4 OF 25

STA 0+00 TO STA 12+00

Forsgren Associates Inc.

W. KOGER



W. KOGER

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PH: 720.232.6644

LEGEND

MATCH LINE CENTER LINE CONTROL LINE PROPERTY OR R/W LINE **EASEMENT LINE** STREET MONUMENT LINE WIRE FENCE CHAIN LINK FENCE BARBED WIRE FENCE CONTOUR LINE UNDERGROUND ELECTRIC OVERHEAD ELECTRIC **ELECTRIC BOX** ELECTRIC MANHOLE **ELECTRIC METER GAS LINE** GAS VALVE **GAS METER** IRRIGATION LINE SANITARY SEWER LINE SANITARY SEWER CLEANOUT SANITARY SEWER MANHOLE SECONDARY WATER LINE SECONDARY WATER VALVE SECONDARY WATER VAULT STORM DRAIN LINE STORM DRAIN CATCH BASIN STORM DRAIN INLET(S) STORM DRAIN COMBO BOX STORM DRAIN MANHOLE STORM DRAIN CLEANOUT BOX STORM DRAIN VAULT CULVERT TELEPHONE CABLE — сомм — TELEPHONE BOX TELEPHONE MANHOLE TELEPHONE POST WATER LINE FIRE HYDRANT FIRE RISER WATER VALVE WATER METER **UTILITY POLE & ANCHOR** POWER POLE o—\$ STREET LIGHT LIGHT ASPHALT PAVING **CURB & GUTTER** SIDEWALK RAILROAD TRACKS **GUARD RAIL** SIGN STRUCTURE LANDSCAPING (TREES ETC.) SECTION CORNER MONUMENT **BENCH MARK △** CP800 SURVEY CONTROL POINT

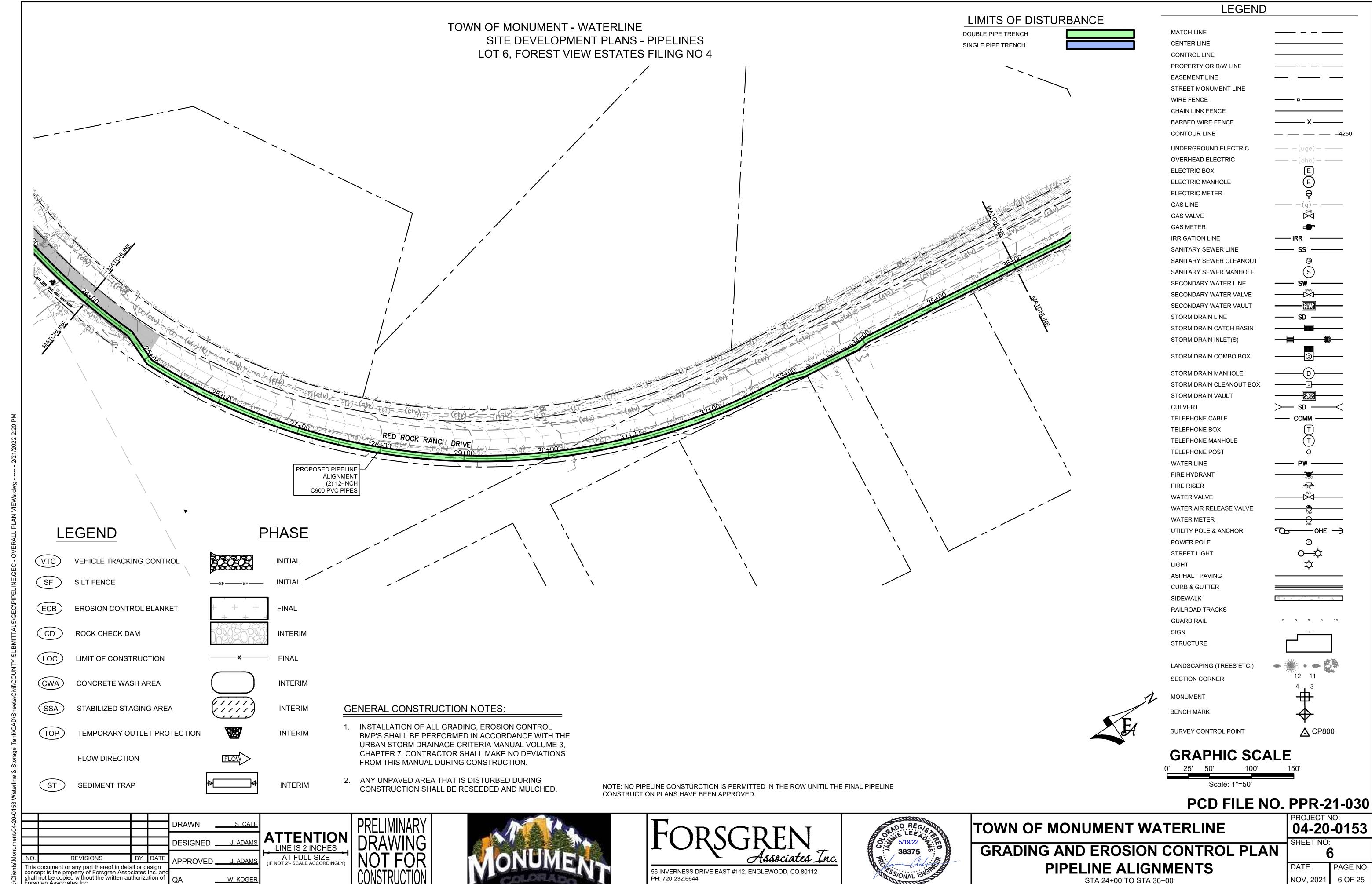
**GRAPHIC SCALE** 

PCD FILE NO. PPR-21-030

TOWN OF MONUMENT WATERLINE	04-20	-0153
GRADING AND EROSION CONTROL PLAN	SHEET NO	5
PIPELINE ALIGNMENTS	DATE:	PAGE NO:

STA 12+00 TO STA 24+00

SHEET NO: PAGE NO: DATE: NOV, 2021 5 OF 25



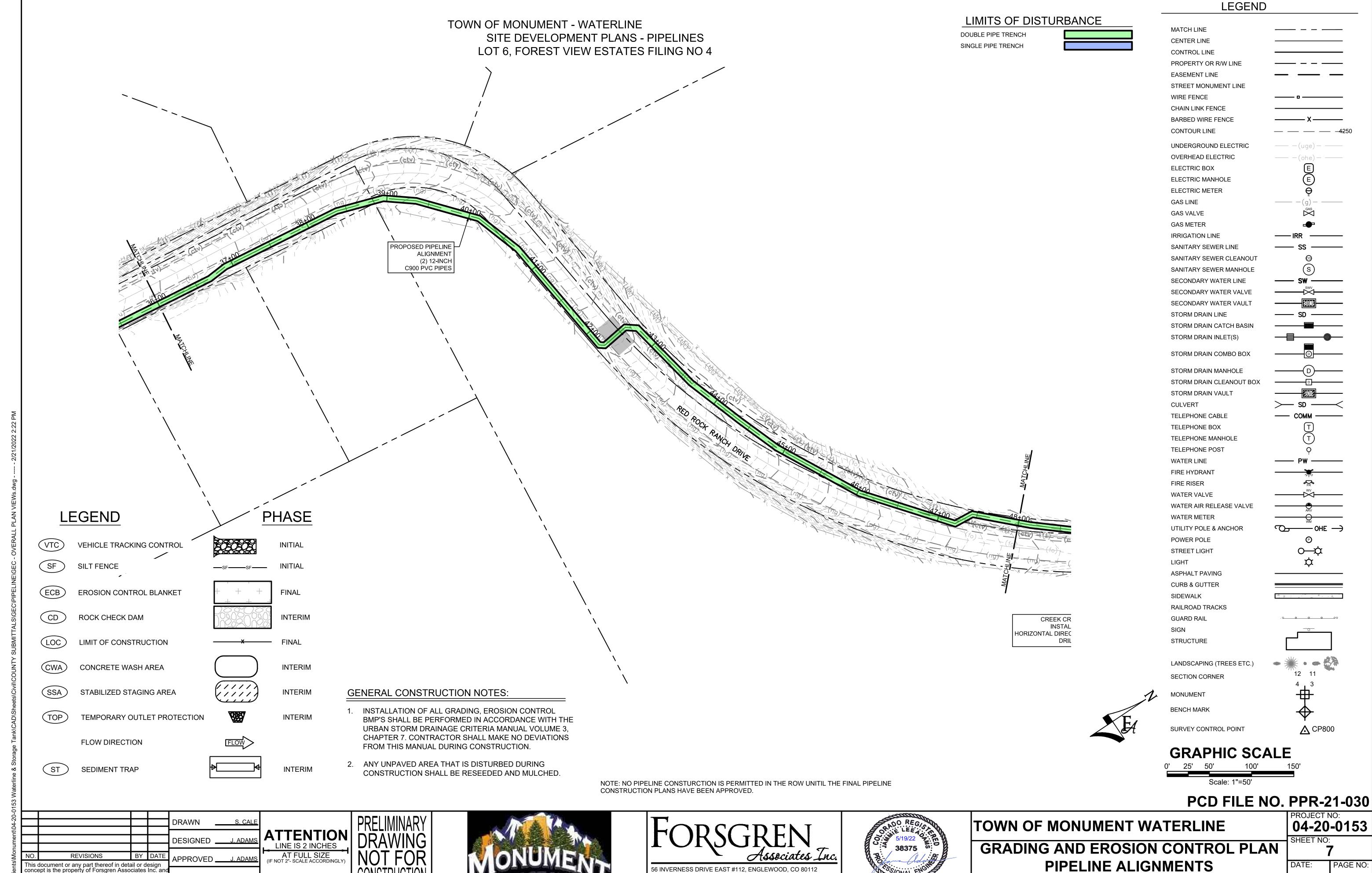
W. KOGER







NOV, 2021 6 OF 25 STA 24+00 TO STA 36+00



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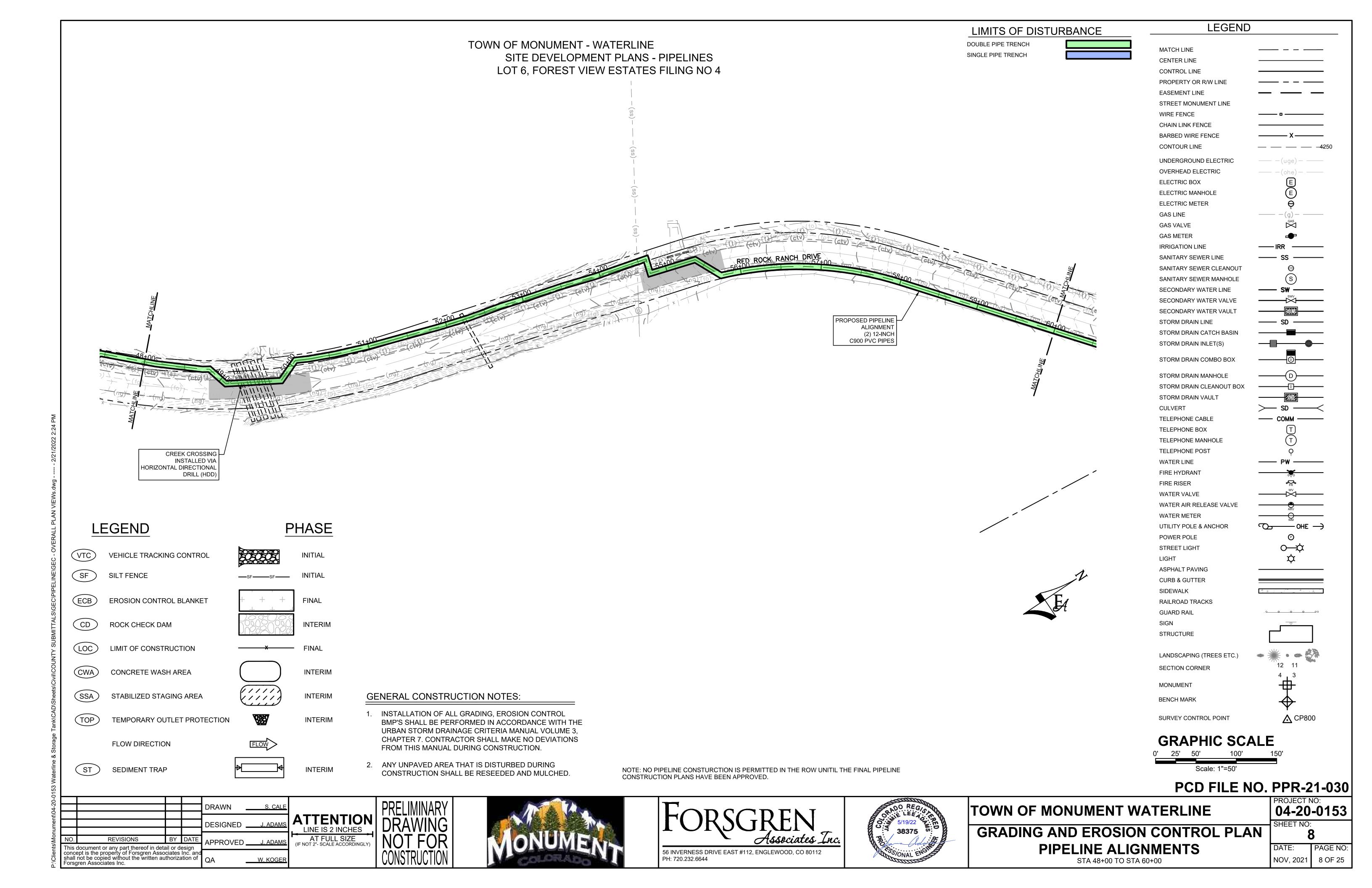




STA 36+00 TO STA 48+00

	04-20-0153
	SHEET NO:
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PAGE NO: NOV, 2021 7 OF 25





**LEGEND** 

SILT FENCE

VEHICLE TRACKING CONTROL

**EROSION CONTROL BLANKET** 

LIMIT OF CONSTRUCTION

**CONCRETE WASH AREA** 

STABILIZED STAGING AREA

TEMPORARY OUTLET PROTECTION

ROCK CHECK DAM

FLOW DIRECTION

(VTC)

PHASE

INITIAL

FINAL

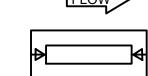
INTERIM

INTERIM

INTERIM

INTERIM

SEDIMENT TRAP



INTERIM

#### **GENERAL CONSTRUCTION NOTES:**

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- 2. ANY UNPAVED AREA THAT IS DISTURBED DURING CONSTRUCTION SHALL BE RESEEDED AND MULCHED.

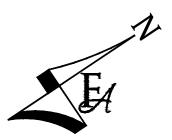
#### LIMITS OF DISTURBANCE

DOUBLE PIPE TRENCH SINGLE PIPE TRENCH



MATCH LINE **CENTER LINE** CONTROL LINE PROPERTY OR R/W LINE **EASEMENT LINE** STREET MONUMENT LINE WIRE FENCE CHAIN LINK FENCE BARBED WIRE FENCE CONTOUR LINE UNDERGROUND ELECTRIC OVERHEAD ELECTRIC **ELECTRIC BOX** ELECTRIC MANHOLE **ELECTRIC METER** GAS LINE GAS VALVE **GAS METER** IRRIGATION LINE SANITARY SEWER LINE SANITARY SEWER CLEANOUT SANITARY SEWER MANHOLE SECONDARY WATER LINE SECONDARY WATER VALVE SECONDARY WATER VAULT STORM DRAIN LINE STORM DRAIN CATCH BASIN STORM DRAIN INLET(S) STORM DRAIN COMBO BOX STORM DRAIN MANHOLE STORM DRAIN CLEANOUT BOX STORM DRAIN VAULT CULVERT TELEPHONE CABLE TELEPHONE BOX TELEPHONE MANHOLE **TELEPHONE POST** WATER LINE FIRE HYDRANT FIRE RISER WATER VALVE WATER METER **UTILITY POLE & ANCHOR** POWER POLE STREET LIGHT LIGHT **ASPHALT PAVING CURB & GUTTER** SIDEWALK RAILROAD TRACKS **GUARD RAIL** SIGN STRUCTURE LANDSCAPING (TREES ETC.) SECTION CORNER **BENCH MARK △** CP800

LEGEND



MONUMENT SURVEY CONTROL POINT

**GRAPHIC SCALE** 

## PCD FILE NO. PPR-21-030

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ATTENTION
LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"- SCALE ACCORDINGLY







TOWN OF MONUMENT WATERLINE

**GRADING AND EROSION CONTROL PLAN** PIPELINE ALIGNMENTS

STA 60+00 TO STA 72+00

PAGE NO: DATE: NOV, 2021 9 OF 25

04-20-0153

PH: 720.232.6644

NOV, 2021 10 OF 25

STA 72+00 TO STA 84+00

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PR0POSED PIPELINE

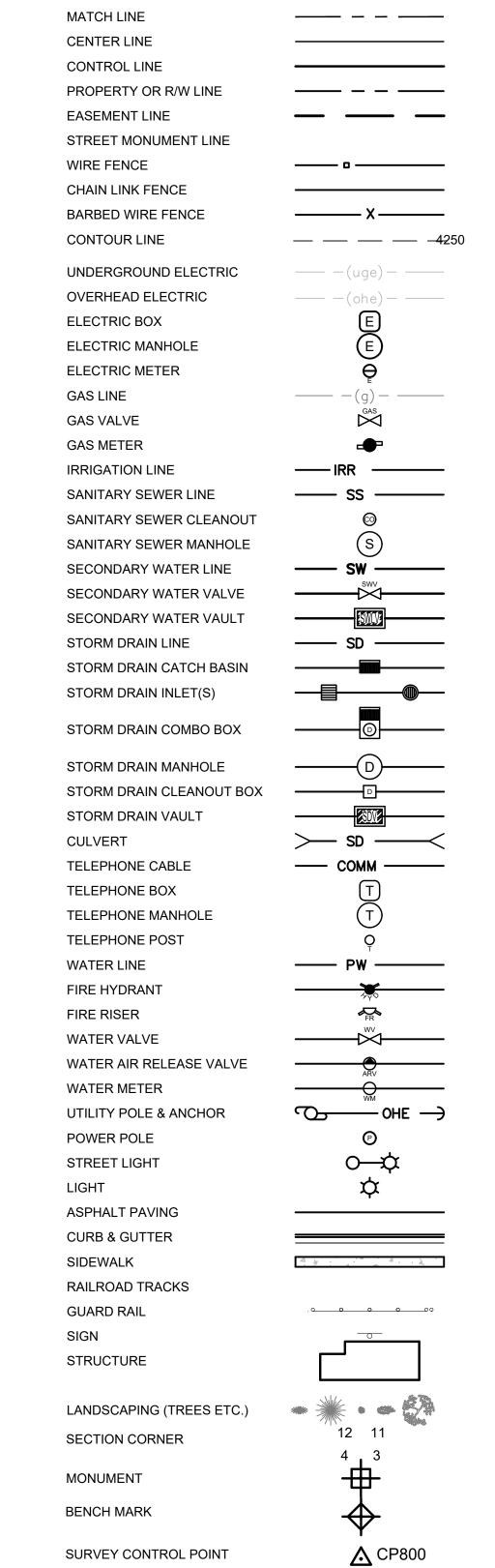
ALIGNMENT

PVC PIPES

(1) 12-INCH C900

DOUBLE PIPE TRENCH SINGLE PIPE TRENCH

LEGEND

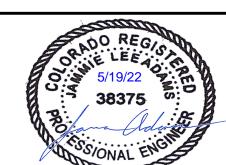


**GRAPHIC SCALE** 

PCD FILE NO. PPR-21-030



CONSTRUCTION PLANS HAVE BEEN APPROVED.



## TOWN OF MONUMENT WATERLINE **GRADING AND EROSION CONTROL PLAN PIPELINE ALIGNMENTS**

STA 84+00 TO STA 96+00

DATE: PAGE NO: NOV, 2021 11 OF 25

04-20-0153

(LOC) LIMIT OF CONSTRUCTION CWA **CONCRETE WASH AREA** INTERIM SSA STABILIZED STAGING AREA INTERIM **GENERAL CONSTRUCTION NOTES:** TOP TEMPORARY OUTLET PROTECTION INTERIM FLOW DIRECTION (st)SEDIMENT TRAP INTERIM DRAWN ATTENTION
LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"- SCALE ACCORDINGLY REVISIONS APPROVED \_ This document or any part thereof in detail or design concept is the property of Forsgren Associates Inc. and shall not be copied without the written authorization of QA W. KOGER

LEGEND

SILT FENCE

ROCK CHECK DAM

SF

(ECB)

(CD)

VEHICLE TRACKING CONTROL

**EROSION CONTROL BLANKET** 

PROPOSED PIPELINE

PHASE

INITIAL

**FINAL** 

INTERIM

= (comm)=

ALIGNMENT

(2) 12-INCH C900 PVC PIPES

INSTALLATION OF ALL GRADING, EROSION CONTROL BMP'S SHALL BE PERFORMED IN ACCORDANCE WITH THE URBAN STORM DRAINAGE CRITERIA MANUAL VOLUME 3, CHAPTER 7. CONTRACTOR SHALL MAKE NO DEVIATIONS FROM THIS MANUAL DURING CONSTRUCTION.

2. ANY UNPAVED AREA THAT IS DISTURBED DURING CONSTRUCTION SHALL BE RESEEDED AND MULCHED.

Associates Inc.

NOTE: NO PIPELINE CONSTURCTION IS PERMITTED IN THE ROW UNITIL THE FINAL PIPELINE

-- (comm) -- (comm) -- (comm) -- (comm) -- (comm) --

PROPOSED PIPELINE

ALIGNMENT

(1)12-INCH C900 PVC PIPES

LIMITS OF DISTURBANCE

DOUBLE PIPE TRENCH SINGLE PIPE TRENCH

107+00

CONTROL LINE PROPERTY OR R/W LINE EASEMENT LINE STREET MONUMENT LINE WIRE FENCE CHAIN LINK FENCE BARBED WIRE FENCE CONTOUR LINE UNDERGROUND ELECTRIC OVERHEAD ELECTRIC **ELECTRIC BOX ELECTRIC MANHOLE ELECTRIC METER GAS LINE** GAS VALVE **GAS METER** IRRIGATION LINE SANITARY SEWER LINE SANITARY SEWER CLEANOUT SANITARY SEWER MANHOLE SECONDARY WATER LINE SECONDARY WATER VALVE SECONDARY WATER VAULT STORM DRAIN LINE STORM DRAIN CATCH BASIN STORM DRAIN INLET(S) STORM DRAIN COMBO BOX STORM DRAIN MANHOLE STORM DRAIN CLEANOUT BOX STORM DRAIN VAULT CULVERT TELEPHONE CABLE — сомм — TELEPHONE BOX TELEPHONE MANHOLE TELEPHONE POST WATER LINE FIRE HYDRANT FIRE RISER WATER VALVE WATER METER **UTILITY POLE & ANCHOR** POWER POLE o—\$ STREET LIGHT LIGHT ASPHALT PAVING **CURB & GUTTER** SIDEWALK RAILROAD TRACKS **GUARD RAIL** SIGN STRUCTURE LANDSCAPING (TREES ETC.) SECTION CORNER MONUMENT **BENCH MARK △** CP800 SURVEY CONTROL POINT

LEGEND

MATCH LINE

**CENTER LINE** 

**GRAPHIC SCALE** 

## PCD FILE NO. PPR-21-030



**GENERAL CONSTRUCTION NOTES:** 

INSTALLATION OF ALL GRADING, EROSION CONTROL

FROM THIS MANUAL DURING CONSTRUCTION.

2. ANY UNPAVED AREA THAT IS DISTURBED DURING

BMP'S SHALL BE PERFORMED IN ACCORDANCE WITH THE

URBAN STORM DRAINAGE CRITERIA MANUAL VOLUME 3, CHAPTER 7. CONTRACTOR SHALL MAKE NO DEVIATIONS

CONSTRUCTION SHALL BE RESEEDED AND MULCHED.

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VEHICLE TRACKING CONTROL

**EROSION CONTROL BLANKET** 

LIMIT OF CONSTRUCTION

CONCRETE WASH AREA

FLOW DIRECTION

SEDIMENT TRAP

STABILIZED STAGING AREA

TEMPORARY OUTLET PROTECTION

**ROCK CHECK DAM** 



NOTE: NO PIPELINE CONSTURCTION IS PERMITTED IN THE ROW UNITIL THE FINAL PIPELINE

CONSTRUCTION PLANS HAVE BEEN APPROVED.



TOWN OF MONUMENT WATERLINE

**GRADING AND EROSION CONTROL PLAN** PIPELINE ALIGNMENTS STA 96+00 TO STA 108+00

04-20-0153 DATE:

PAGE NO: NOV, 2021 12 OF 25

LEGEND MATCH LINE **CENTER LINE** CONTROL LINE PROPERTY OR R/W LINE **EASEMENT LINE** STREET MONUMENT LINE WIRE FENCE CHAIN LINK FENCE BARBED WIRE FENCE CONTOUR LINE UNDERGROUND ELECTRIC OVERHEAD ELECTRIC **ELECTRIC BOX** ELECTRIC MANHOLE **ELECTRIC METER** IRRIGATION LINE SANITARY SEWER LINE SANITARY SEWER CLEANOUT SANITARY SEWER MANHOLE SECONDARY WATER LINE SECONDARY WATER VALVE SECONDARY WATER VAULT STORM DRAIN LINE STORM DRAIN CATCH BASIN STORM DRAIN INLET(S) STORM DRAIN COMBO BOX STORM DRAIN MANHOLE STORM DRAIN CLEANOUT BOX STORM DRAIN VAULT TELEPHONE CABLE — сомм — TELEPHONE BOX TELEPHONE MANHOLE TELEPHONE POST WATER LINE

## LANDSCAPING (TREES ETC.) SECTION CORNER **BENCH MARK △** CP800 SURVEY CONTROL POINT **GRAPHIC SCALE** 25' 50'

PCD FILE NO. PPR-21-030

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**ATTENTION** LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"- SCALE ACCORDINGLY







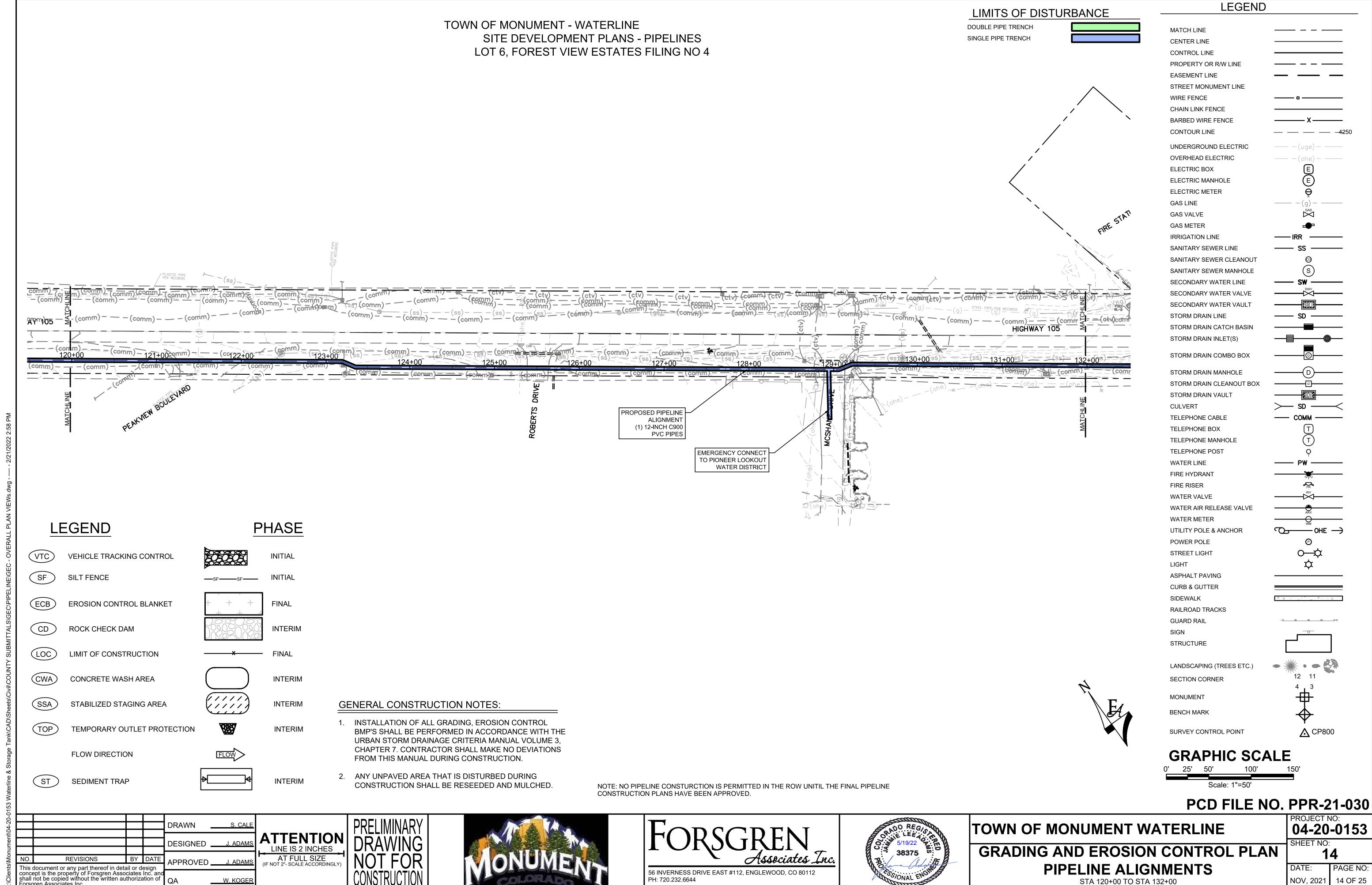
TOWN OF	MONUMENT	WATERLINE
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**GRADING AND EROSION CONTROL PLAN PIPELINE ALIGNMENTS** STA 108+00 TO STA 120+00

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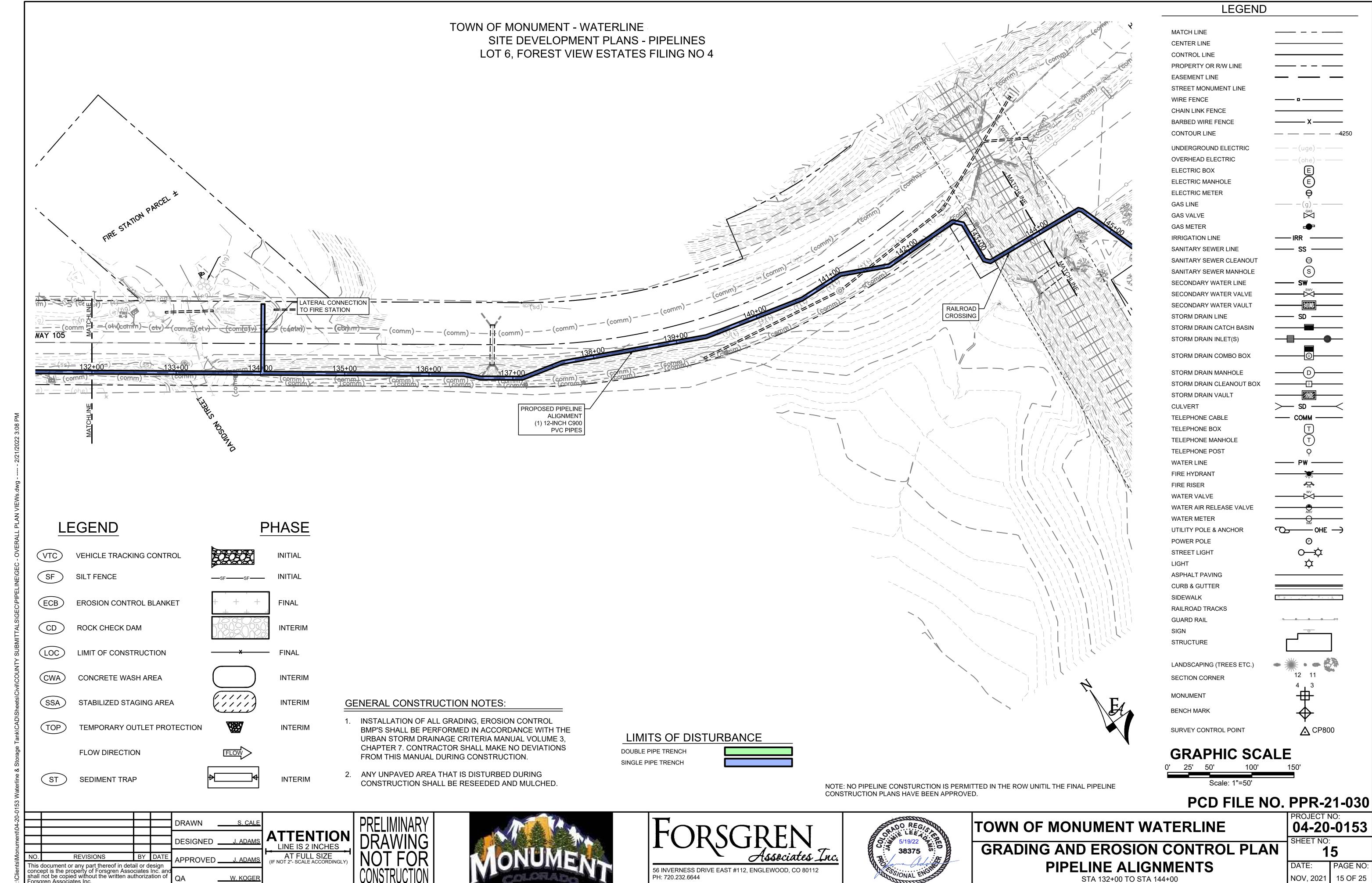




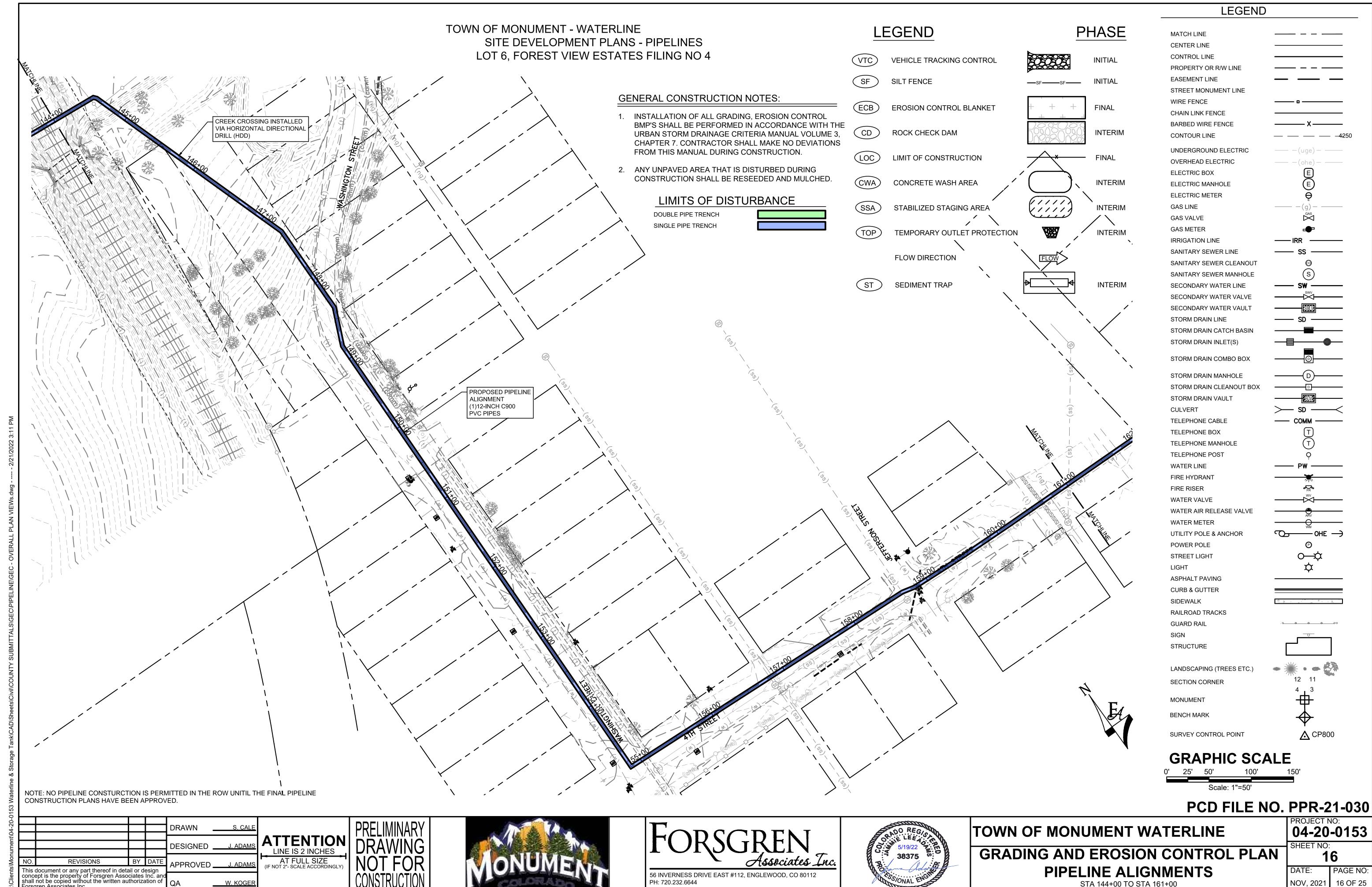
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STA 120+00 TO STA 132+00



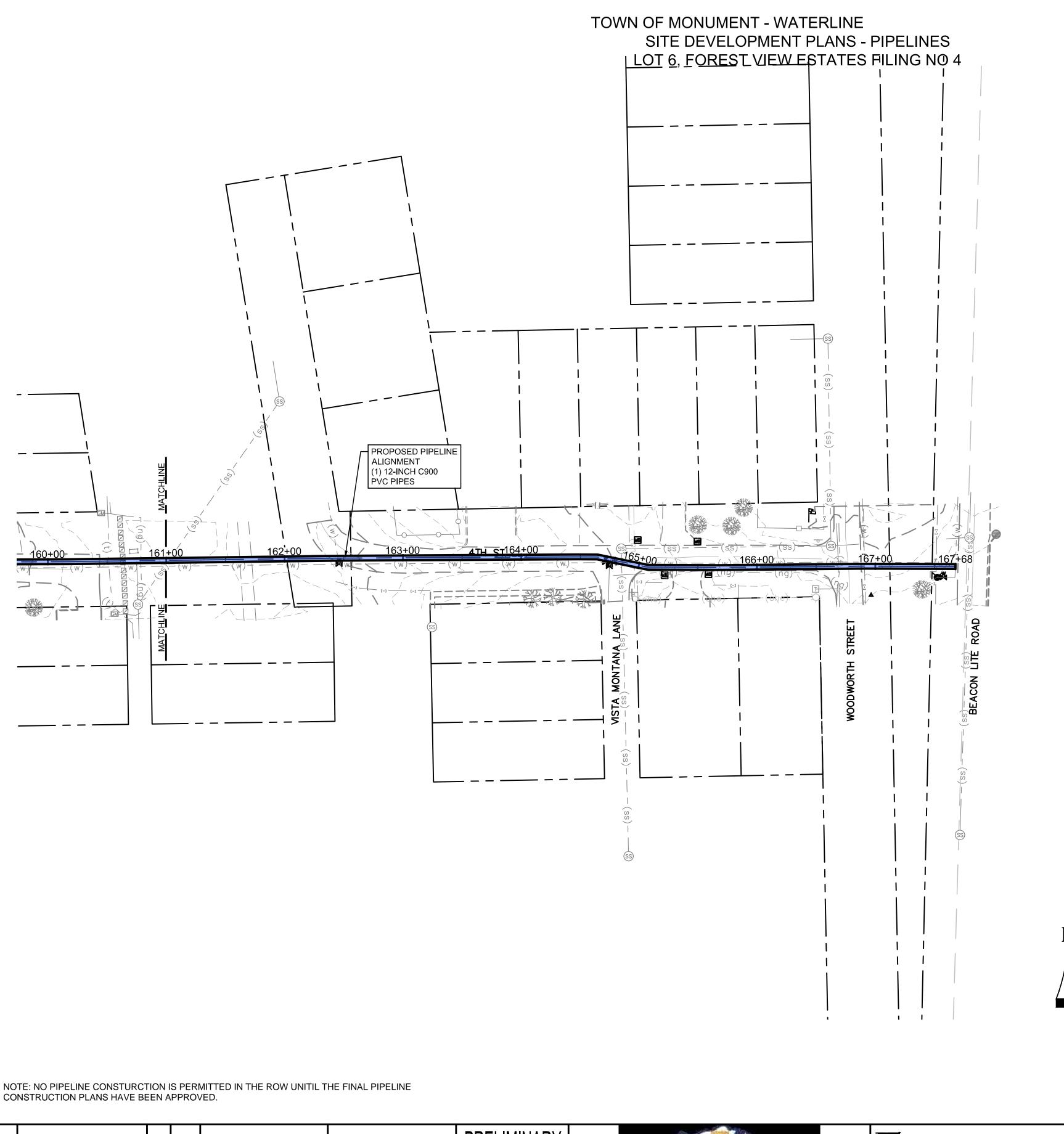
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NOV, 2021 16 OF 25 STA 144+00 TO STA 161+00



**LEGEND** 

SILT FENCE

ROCK CHECK DAM

**EROSION CONTROL BLANKET** 

LIMIT OF CONSTRUCTION

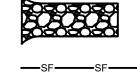
CONCRETE WASH AREA

FLOW DIRECTION

STABILIZED STAGING AREA

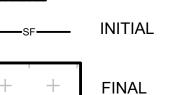
TEMPORARY OUTLET PROTECTION

VEHICLE TRACKING CONTROL

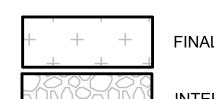


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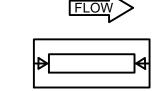












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#### **GENERAL CONSTRUCTION NOTES:**

- 1. INSTALLATION OF ALL GRADING, EROSION CONTROL BMP'S SHALL BE PERFORMED IN ACCORDANCE WITH THE URBAN STORM DRAINAGE CRITERIA MANUAL VOLUME 3, CHAPTER 7. CONTRACTOR SHALL MAKE NO DEVIATIONS FROM THIS MANUAL DURING CONSTRUCTION.
- 2. ANY UNPAVED AREA THAT IS DISTURBED DURING CONSTRUCTION SHALL BE RESEEDED AND MULCHED.

#### LIMITS OF DISTURBANCE

DOUBLE PIPE TRENCH SINGLE PIPE TRENCH



CONTROL LINE PROPERTY OR R/W LINE **EASEMENT LINE** STREET MONUMENT LINE WIRE FENCE CHAIN LINK FENCE BARBED WIRE FENCE CONTOUR LINE UNDERGROUND ELECTRIC OVERHEAD ELECTRIC **ELECTRIC BOX ELECTRIC MANHOLE ELECTRIC METER** GAS LINE GAS VALVE **GAS METER** IRRIGATION LINE SANITARY SEWER LINE SANITARY SEWER CLEANOUT SANITARY SEWER MANHOLE SECONDARY WATER LINE SECONDARY WATER VALVE SECONDARY WATER VAULT STORM DRAIN LINE STORM DRAIN CATCH BASIN STORM DRAIN INLET(S) STORM DRAIN COMBO BOX STORM DRAIN MANHOLE STORM DRAIN CLEANOUT BOX STORM DRAIN VAULT CULVERT TELEPHONE CABLE TELEPHONE BOX TELEPHONE MANHOLE TELEPHONE POST WATER LINE FIRE HYDRANT FIRE RISER WATER VALVE WATER METER **UTILITY POLE & ANCHOR** POWER POLE o—\$ STREET LIGHT **ASPHALT PAVING CURB & GUTTER** SIDEWALK

LEGEND

MATCH LINE

CENTER LINE

**GRAPHIC SCALE** 

RAILROAD TRACKS

LANDSCAPING (TREES ETC.)

SURVEY CONTROL POINT

**GUARD RAIL** 

STRUCTURE

MONUMENT

**BENCH MARK** 

SECTION CORNER

PCD FILE NO. PPR-21-030

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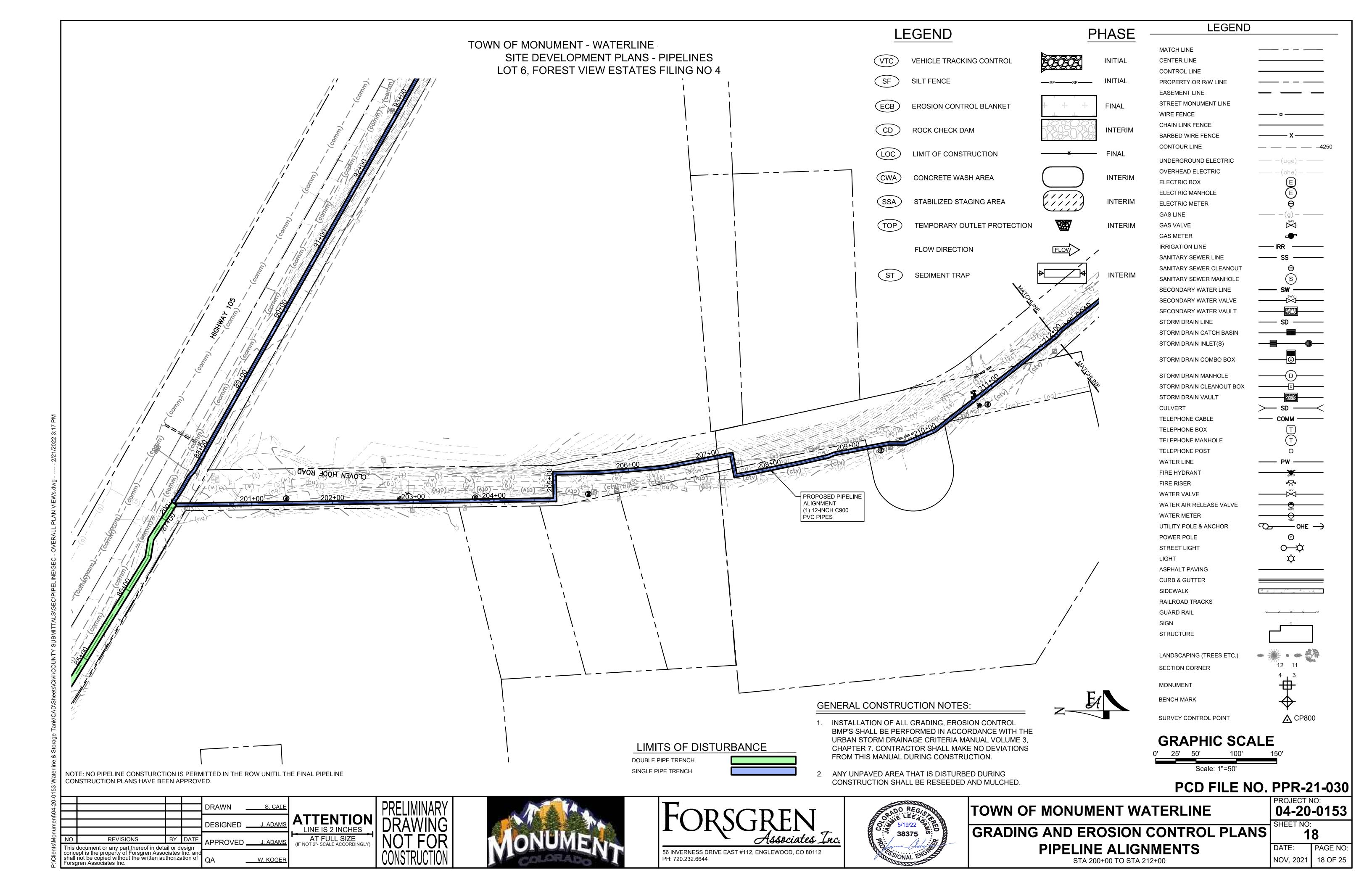


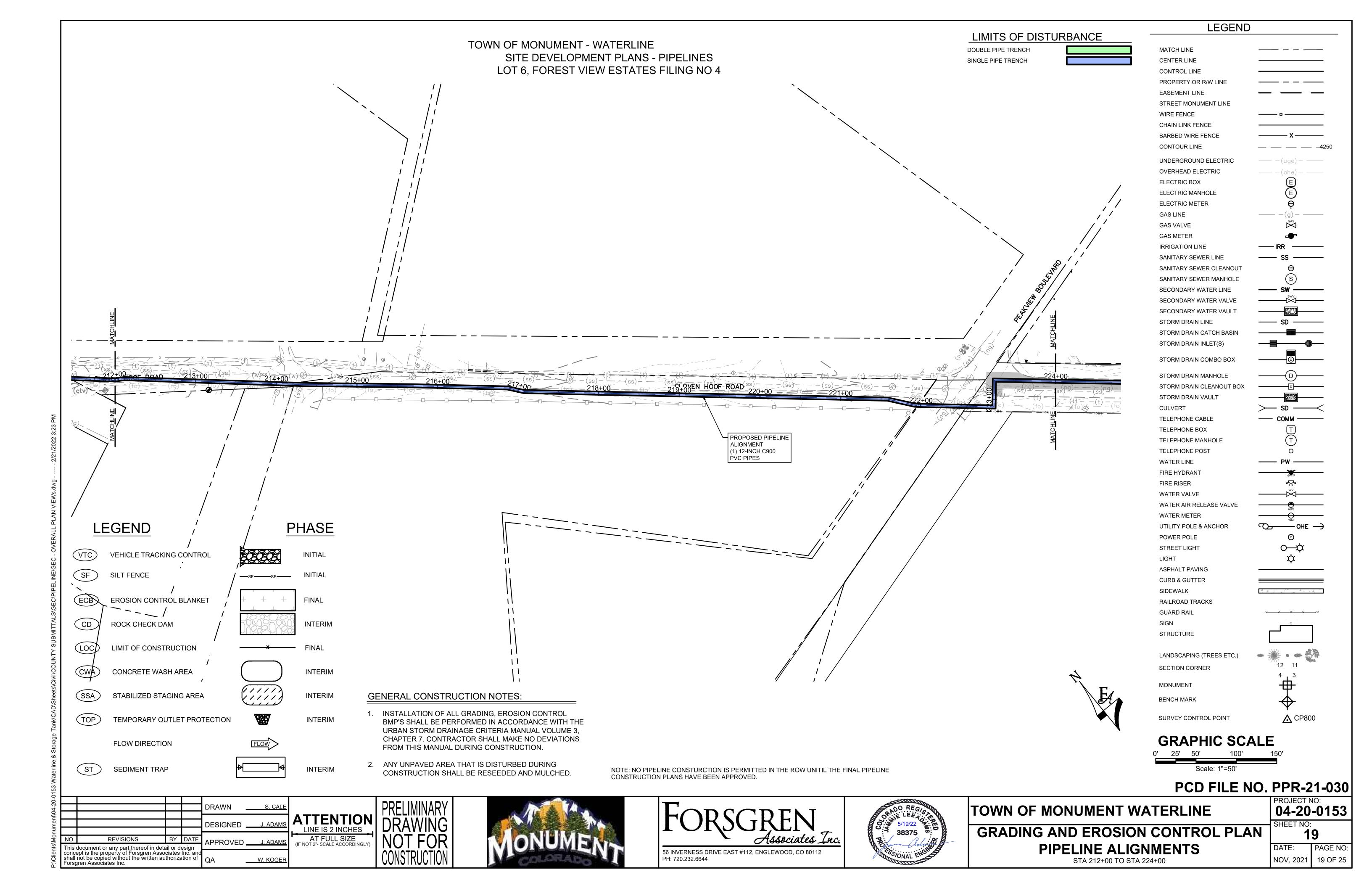
**GRADING AND EROSION CONTROL PLAN** PIPELINE ALIGNMENTS STA 161+00 TO STA 166+60

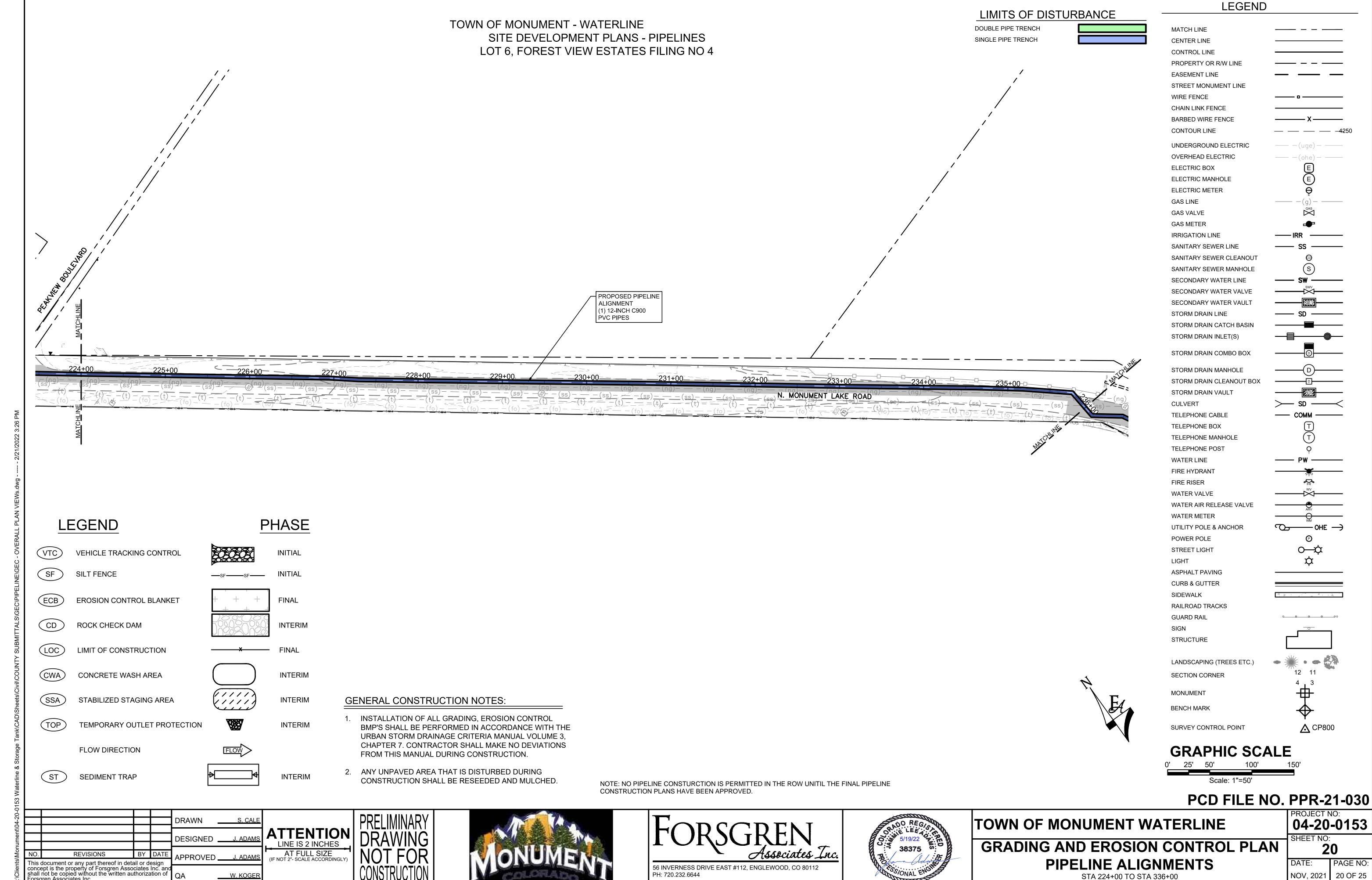
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**△** CP800

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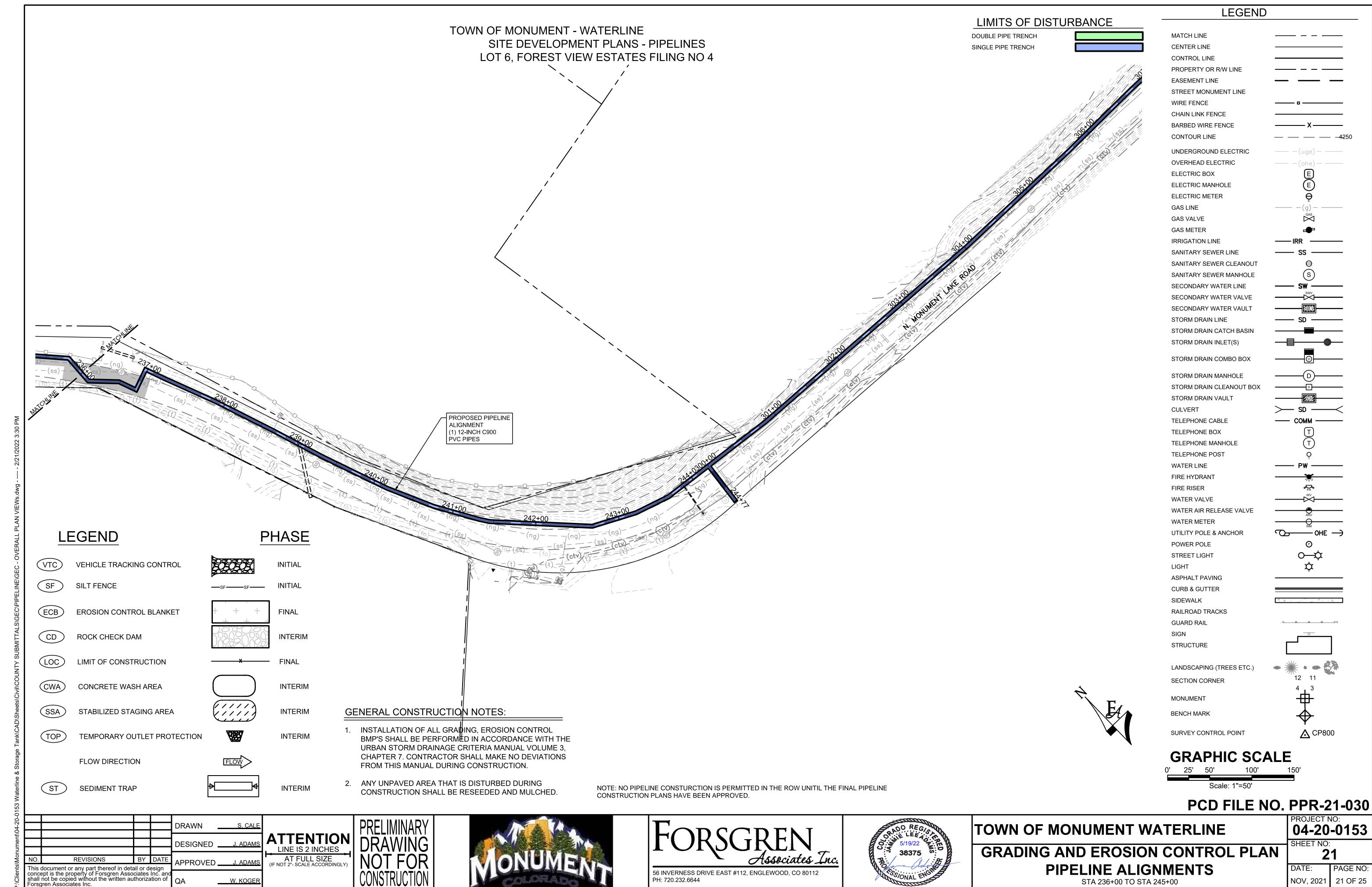
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STA 224+00 TO STA 336+00

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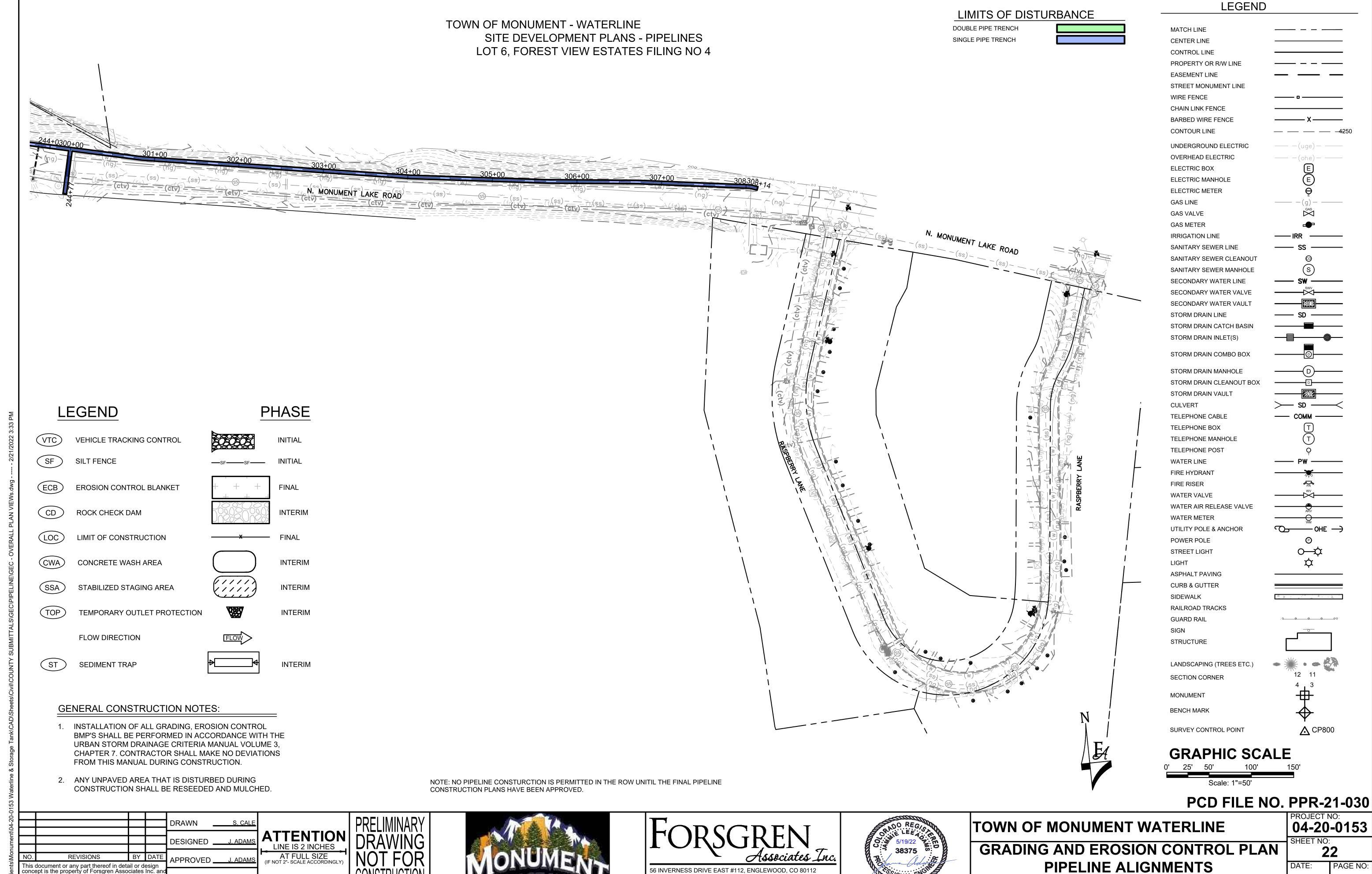
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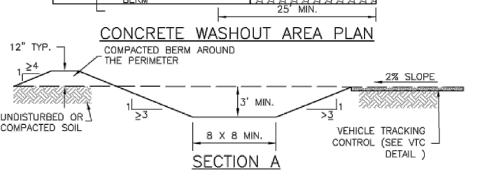






STA 300+00 TO STA 308+14

PAGE NO: NOV, 2021 22 OF 25 **Concrete Washout Area (CWA)** 



CWA-1. CONCRETE WASHOUT AREA

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

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.

November 2010

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

#### CWA MAINTENANCE NOTES

**MM-1** 

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

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN FFECTIVE 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

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

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD). CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

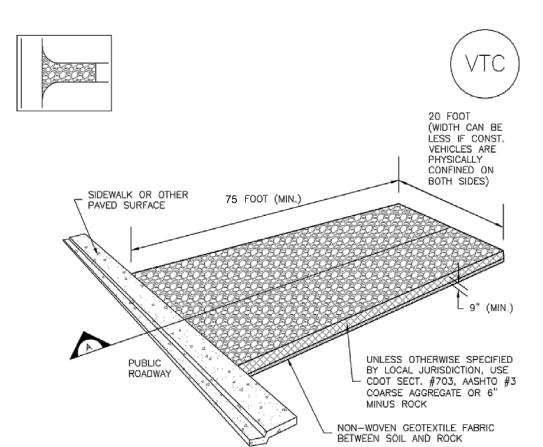
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS.

MULCH OR OTHERWISE STABILIZÉD IN A MANNER APPROVED BY THE LOCAL JÚRISDICTION.

CWA-4

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

#### **Vehicle Tracking Control (VTC) SM-4**



UNLESS OTHERWISE SPECIFIED BY LOCAL INSTALL ROCK FLUSH WITH JURISDICTION, USE CDOT SECT. #703, AASHTO OR BELOW TOP OF PAVEMENT #3 COARSE AGGREGATE OR 6" MINUS ROCK NON-WOVEN GEOTEXTILE COMPACTED SUBGRADE

VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

VTC-3

November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

#### **SM-4**

#### **Vehicle Tracking Control (VTC)**

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

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

I. 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.

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 THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)

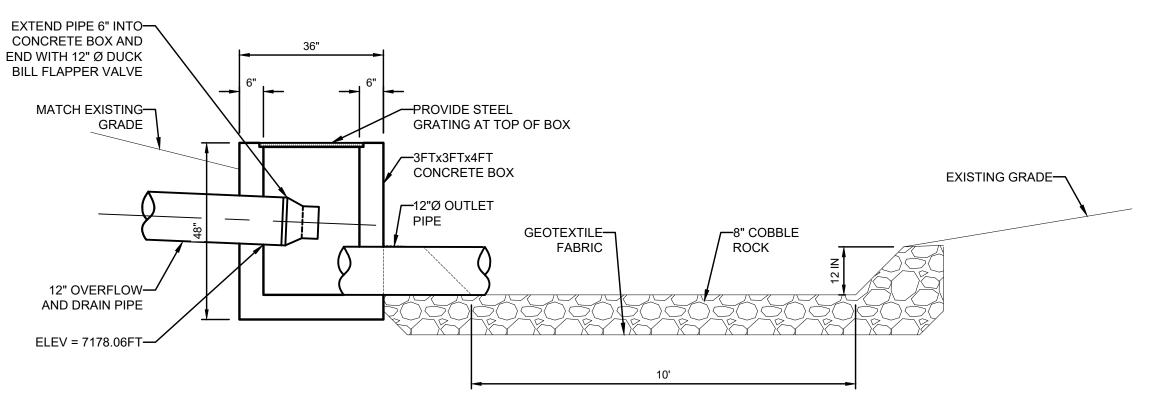
VTC-6 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

#### STANDARD NOTES FOR GRADING AND EROSION CONTROL PLANS

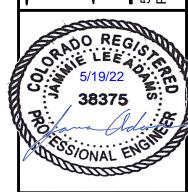
- 1. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF-SITE WATERS. INCLUDING WETLANDS
- 2. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
- 3. A SEPARATE STORMWATER MANAGEMENT PLAN (SMWP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. MANAGEMENT OF THE SWMP DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE DESIGNATED QUALIFIED STORMWATER MANAGER OR CERTIFIED EROSION CONTROL INSPECTOR. THE SWMP SHALL BE LOCATED ON SITE AT ALL TIMES DURING CONSTRUCTION AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
- ONCE THE ESQCP IS APPROVED AND A "NOTICE TO PROCEED" HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL MEASURES AS INDICATED ON THE APPROVED GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY STAFF.
- E. CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS TO STORMWATER. CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, AND DISTURBED LAND AREAS SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE
- 6. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATING CONDITION UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND FINAL STABILIZATION IS ESTABLISHED. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL ASSESS THE ADEQUACY OF CONTROL MEASURES AT THE SITE AND IDENTIFY IF CHANGES TO THOSE CONTROL MEASURES ARE NEEDED TO ENSURE THE CONTINUED EFFECTIVE PERFORMANCE OF THE CONTROL MEASURES. ALL CHANGES TO TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.
- 7. TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOCKPILES WHERE GROUND DISTURBING CONSTRUCTION ACTIVITY HAS PERMANENTLY CEASED OR TEMPORARILY CEASED FOR LONGER THAN 14 DAYS
- 8. FINAL STABILIZATION MUST BE IMPLEMENTED AT ALL APPLICABLE CONSTRUCTION SITES. FINAL STABILIZATION IS ACHIEVED WHEN ALL GROUND DISTURBING ACTIVITIES ARE COMPLETE AND ALL DISTURBED AREAS EITHER HAVE A UNIFORM VEGETATIVE COVER WITH INDIVIDUAL PLANT DENSITY OF 70 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR EQUIVALENT PERMANENT ALTERNATIVE STABILIZATION METHOD IS IMPLEMENTED. ALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED UPON FINAL STABILIZATION AND BEFORE PERMIT CLOSURE
- 9. ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY PROPOSED CHANGES THAT EFFECT THE DESIGN OR FUNCTION OF PERMANENT STORMWATER MANAGEMENT STRUCTURES MUST BE APPROVED BY THE ECM ADMINISTRATOR PRIOR TO IMPLEMENTATION.
- 10. EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME. PRE-EXISTING VEGETATION SHALL BE PROTECTED AND MAINTAINED WITHIN 50 HORIZONTAL FEET OF A WATERS OF THE STATE UNLESS SHOWN TO BE INFEASIBLE AND SPECIFICALLY REQUESTED AND APPROVED.
- 11. COMPACTION OF SOIL MUST BE PREVENTED IN AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES OR WHERE FINAL STABILIZATION WILL BE ACHIEVED BY VEGETATIVE COVER. AREAS DESIGNATED FOR INFILTRATION CONTROL MEASURES SHALL ALSO BE PROTECTED FROM SEDIMENTATION DURING CONSTRUCTION UNTIL FINAL STABILIZATION IS ACHIEVED. IF COMPACTION PREVENTION IS NOT FEASIBLE DUE TO SITE CONSTRAINTS, ALL AREAS DESIGNATED FOR INFILTRATION AND VEGETATION CONTROL MEASURES MUST BE LOOSENED PRIOR TO INSTALLATION OF THE CONTROL MEASURE(S).

- 12. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE A STABILIZED CONVEYANCE DESIGNED TO MINIMIZE EROSION AND THE DISCHARGE OF SEDIMENT OFF SITE
- 13. CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO ENTER STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES. CONCRETE WASHOUTS SHALL NOT BE LOCATED IN AN AREA WHERE SHALLOW GROUNDWATER MAY BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY, CREEK OR STREAM.
- 14. DURING DEWATERING OPERATIONS OF UNCONTAMINATED GROUND WATER MAY BE DISCHARGED ON SITE, BUT SHALL NOT LEAVE THE SITE IN THE FORM OF SURFACE RUNOFF UNLESS AN APPROVED STATE **DEWATERING PERMIT IS IN PLACE**
- 15. EROSION CONTROL BLANKETING OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER
- 16. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
- 17. WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. CONTROL MEASURES MAY BE REQUIRED BY EL PASO COUNTY ENGINEERING IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
- 18. TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFF-SITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
- 19. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, SOIL, AND SAND THAT MAY ACCUMULATE IN ROADS, STORM DRAINS AND OTHER DRAINAGE CONVEYANCE SYSTEMS AND STORMWATER APPURTENANCES AS A RESULT OF SITE
- 20. THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.
- 21. NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ONSITE UNLESS PERMISSION FOR THE USE OF SUCH CHEMICAL(S) IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING APPROVAL FOR THE USE OF SUCH CHEMICAL(S), SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
- 22. BULK STORAGE OF ALLOWED PETROLEUM PRODUCTS OR OTHER ALLOWED LIQUID CHEMICALS IN EXCESS OF 55 GALLONS SHALL REQUIRE ADEQUATE SECONDARY CONTAINMENT PROTECTION TO CONTAIN ALL SPILLS ONSITE AND TO PREVENT ANY SPILLED MATERIALS FROM ENTERING STATE WATERS, ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR OTHER FACILITIES.
- 23. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE CURB AND GUTTER OR DITCH EXCEPT WITH APPROVED SEDIMENT CONTROL MEASURES.
- 24. OWNER/DEVELOPER AND THEIR AGENTS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344), IN ADDITION TO THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE, DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (1041, NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND OTHER LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, LOCAL, OR COUNTY AGENCIES, THE MOST RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
- 25. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE ONLY AT APPROVED CONSTRUCTION ACCESS POINTS.
- 26. PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES 27. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND SHALL BE UTILIZED
- AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND. 28. THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY NINYO & MOORE DATED NOVEMBER 18, AND SHALL BE CONSIDERED A PART OF THESE PLANS.
- 29. AT LEAST TEN (10) DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB ONE (1) ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT WATER QUALITY CONTROL DIVISION WQCD - PERMITS 4300 CHERRY CREEK DRIVE SOUTH DENVER, CO 80246-1530 ATTN: PERMITS UNIT



RIPRAP AT PIPE OUTLET





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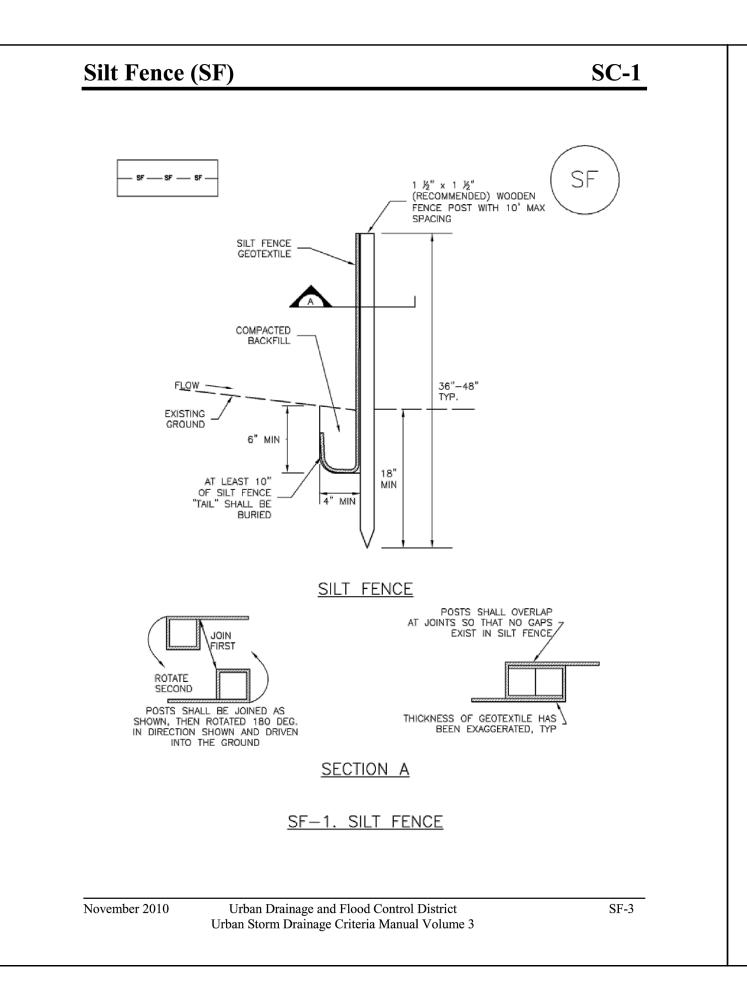
FEB, 2022

PCD FILE NO. PPR-21-030 PAGE NO: 23 OF

## **TOWN OF MONUMENT - WATERLINE** SITE DEVELOPMENT PLANS LOT 6, FOREST VIEW ESTATES FILING NO. 4

Chapter 14

May 2014



**Sediment Control Log (SCL)** 

9" DIAMETER (MIN)

浅 DIAM. SCL (TYP.)

TREE LAWN (TYPICAL)

SCL-2. SEDIMENT CONTROL LOG AT BACK OF CURB

SCL-3. SEDIMENT CONTROL LOG AT SIDEWALK WITH

TREE LAWN

SCL-4. SEDIMENT CONTROL LOGS TO CONTROL

SLOPE LENGTH

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SEDIMENT CONTROL LOG

PLACE LOG AGAINST BACK OF CURB

VERTICAL SPACING

\_\_LON SLOPE \_\_\_\_\_\_

AT PERIMETER O

- CENTER STAKE IN CONTROL LOG

#### SC-1 Silt Fence (SF)

#### 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

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

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

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

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,

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. (DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, NOT AVAILABLE IN AUTOCAD)

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

SF-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

Revegetation

## SC-2 **Sediment Control Log (SCL)** 1½" x 1½" x 18" (MIN) WOODEN STAKE 9" DIAMETER (MIN) SEDIMENT CONTROL LOG CENTER (TYP DIAMETER SEDIMENT CONTROL LOGS MAY NEED TO BE EMBEDDED DEEPER. SEDIMENT CONTROL LOG - CENTER STAKE IN CONTROL LOG COMPACTED EXCAVATED 没 DIAM. SCL (TYP.) 9" DIAMETER (MIN SEDIMENT CONTROL LO SEDIMENT CONTROL LOG JOINTS SCL-1. SEDIMENT CONTROL LOG Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

#### GENERAL CONSTRUCTION NOTES:

- 1. PARKING DIMENSIONS ARE TO FACE OF CURB.
- 2. CONSTRUCTION MAY NOT COMMENCE UNTIL A CONSTRUCTION PERMIT IS OBTAINED FROM PLANNING AND COMMUNITY (PCD) AND PRECONSTRUCTION CONFERENCE IS HELD WITH PCD INSPECTIONS.
- 3. ANY UNPAVED AREA THAT IS DISTURBED DURING CONSTRUCTION SHALL BE RESEEDED. SEE BELOW FOR GRASS SEED MIXES FOR EL PASO COUNTY.

#### Recommended El Paso County Grass Seed Mixes

Grass mix for	quick revegetation	ı – all sites
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Grass:	Variety	PLS lbs per acre
Crested Wheat Grass	Ephraim or HyCrest	4.0
Perennial Rye	Linn	2.0
Western Wheatgrass	Barton	3.0
Smooth Brome Grass	Lincoln or Manchar	5.0
Sideoats Grama	El Reno	2.5
		Total: 16.5

Grass mix for heavier soil areas:

Grass:	Variety	PLS lbs per ac
Crested Wheat Grass	Ephraim	3.0
Slender Wheat Grass	Sodar	2.5
Western Wheatgrass	Barton	5.0
Smooth Brome Grass	Lincoln or Manchar	4.0
Sideoats Grama	El Reno	3.0

Total: 17.5

#### Grass mix for sandy soils:

SEDIMENT TRAP INSTALLATION NOTES

THE RIPRAP OUTLET STRUCTURE.

THE CENTER OF THE OUTLET STRUCTURE.

EROSION, AND PERFORM NECESSARY MAINTENANCE.

SEDIMENT TRAP MAINTENANCE NOTES

DISCOVERY OF THE FAILURE.

DIFFERENCES ARE NOTED.

-LOCATION, LENGTH AND WIDTH OF SEDIMENT TRAP.

3. SEDIMENT TRAPS SHALL BE INSTALLED PRIOR TO ANY UPGRADIENT LAND-DISTURBING

4. SEDIMENT TRAP BERM SHALL BE CONSTRUCTED FROM MATERIAL FROM EXCAVATION. THE

BERM SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY IN ACCORDANCE WITH ASTM

5. SEDIMENT TRAP OUTLET TO BE CONSTRUCTED OF RIPRAP, TYPE M (D50=12") TYP.SMALLER ROCK SIZE MAY BE ALLOWABLE FOR SMALLER TRAPS IF APPROVED BY LOCAL JURISDICTION.

6. THE TOP OF THE EARTHEN BERM SHALL BE A MINIMUM OF 6" HIGHER THAN THE TOP OF

7. THE ENDS OF THE RIPRAP OUTLET STRUCTURE SHALL BE A MINIMUM OF 6" HIGHER THAN

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

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

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON

5. SEDIMENT TRAPS SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

6. WHEN SEDIMENT TRAPS ARE REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH

TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE

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

4. REMOVE SEDIMENT ACCUMULATED IN TRAP AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN THE SEDIMENT DEPTH REACHES 1/2 THE HEIGHT OF THE RIPRAP OUTLET.

2. ONLY USE FOR DRAINAGE AREAS LESS THAN 1 ACRE.

Variety	PLS lbs per acre
El Reno	3.0
Barton	2.5
Native	2.0
Pastura	2.0
Native	0.5
Nebraska 28	3.0
Morpha	1.0
	2.0
	Total: 14-16
	El Reno Barton Native Pastura Native Nebraska 28

**SC-8** 

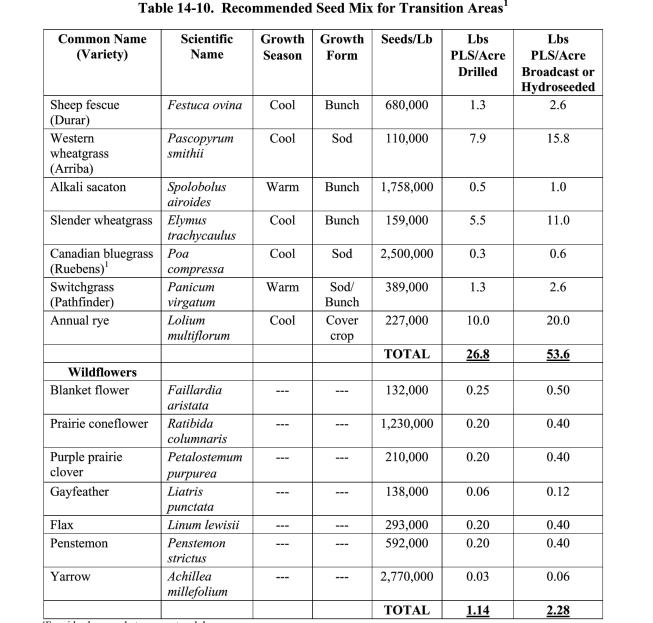


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SHEET NO:

**Sediment Trap (ST) Sediment Trap (ST)** 



<sup>2</sup>Substitute 1.7 lbs PLS/acre of inland saltgrass (*Distichlis spicata*) in salty soils.

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SIZE MAY BE ALLOWABLE FOR SMALLER TRAPS -IF APPROVED BY LOCAL JURISDICTION TOP OF EARTHEN BERM 2:1 MAX. 2:1 MAX. TRANSITION EXISTING SEDIMENT TRAP 2:1 MAX. 2:1 MAX. SEDIMENT TRAP PLAN 6" (CENTER OF RIPRAP 6" LOWER THAN ENDS CHANNEL GRADE RIPRAP, TYPE M (D50=12") TYP. SMALLER ROCK SIZE MAY BE APPROVED BY LOCAL JURISDICTION SECTION B ST-1. SEDIMENT TRAP

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ST-2

RIPRAP, TYPE M (D50=12") TYP, SMALLER ROCK

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

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COMPACTED EXCAVATED

TRENCH SOIL

IN CONTROL LOG

SEDIMENT CONTROL LOG

SIDEWALK

- ½ DIAM. SCL (TYP.)

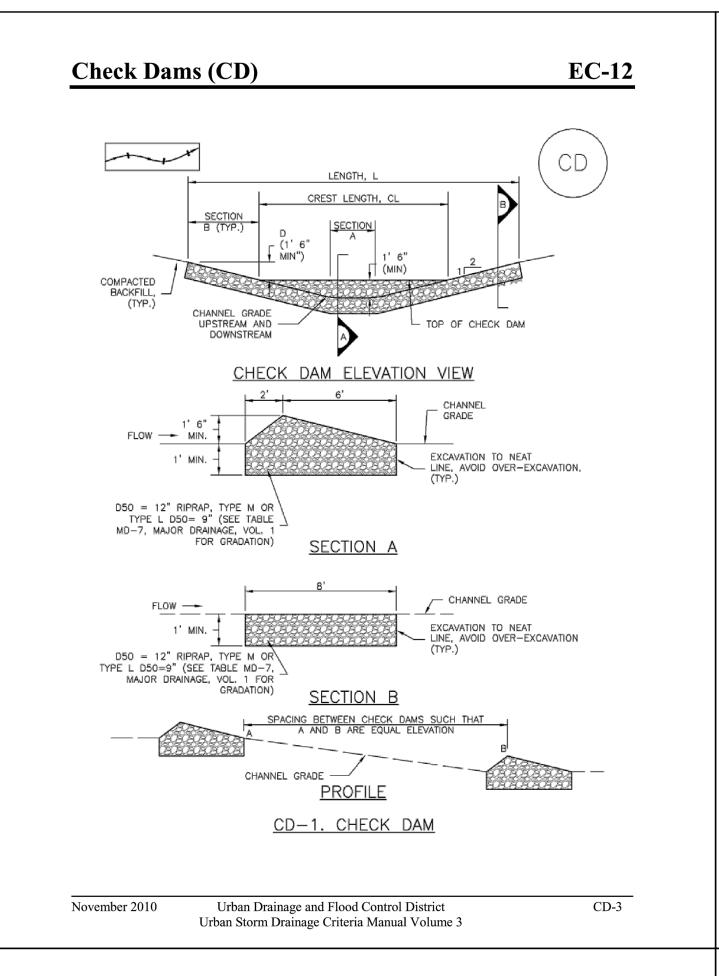
RLACE CONTROL LOS

AGAINST SIDEWALK

STAKING AT 4' MAX.

ON CENTER (TYPE

SCL-4



#### **EC-12** Check Dams (CD)

CHECK DAM INSTALLATION NOTES 1. SEE PLAN VIEW FOR:

-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")

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 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

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 1/2 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. (DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

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

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### **Compost Blanket and Filter Berm (CB)**

#### **EC-5**

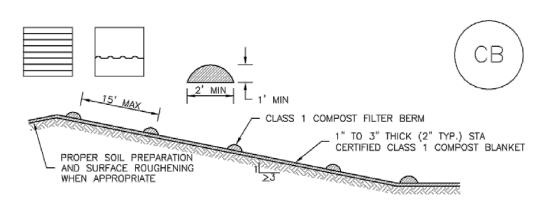


TABLE CB-1. CLASS 1 COMPOST			
PARAMETERS	CHARACTERISTIC		
MINIMUM STABILITY INDICATOR	STABLE TO VERY STABLE		
SOLUBLE SALTS	MAXIMUM 5 mmhos/cm		
PH	6.0 - 8.0		
AG INDEX	> 10		
MATURITY INDICATOR EXPRESSED AS PERCENTAGE OF GERMINATION/VIGOR	80+/80+		
MATURITY INDICATOR EXPRESSED AS AMMONIA N/ NITRATE 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		

CB-1. COMPOST BLANKET AND COMPOST FILTER BERM

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**Compost Blanket and Filter Berm (CB)** 

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).

**EC-5** 

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

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  ${\rm BMPs}$  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.

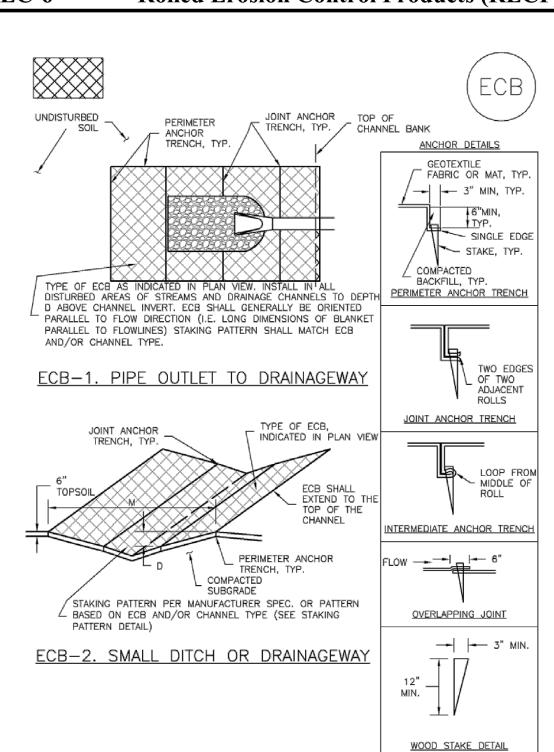
(DETAILS ADAPTED FROM ARAPAHOE COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)  $\underline{\mathsf{NOTE}}.$  MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

CB-4

November 2010

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

#### **Rolled Erosion Control Products (RECP) EC-6**



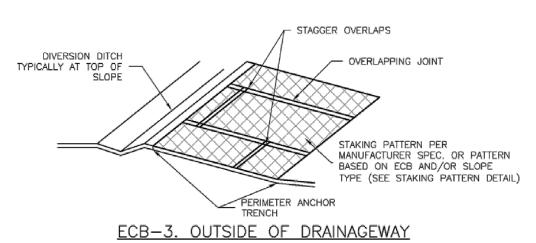
Urban Drainage and Flood Control District

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RECP-6

## **Rolled Erosion Control Products (RECP)**



## ANCHOR TRENCH OR JOINT, TYP. COCONUT OR EXCELSIOR

# STAKING PATTERNS BY ECB TYPE LOW FLOW CHANNEL HIGH FLOW CHANNEL

STAKING PATTERNS BY SLOPE OR CHANNEL TYPE

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## RECP-7

**EC-6** 

## **Rolled Erosion Control Products (RECP)**

#### 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

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

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

DIFFERENT FROM THOSE SHOWN HERE.

RECP-8

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

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

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### **Rolled Erosion Control Products (RECP)**

#### 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

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,

 $\underline{\text{NOTE:}}$  MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS, CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO AND TOWN OF PARKER COLORADO, NOT AVAILABLE IN AUTOCAD)

Urban Drainage and Flood Control District

## **EC-6**



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