GENERAL NOTES

1. ELEVATIONS ARE BASED ON THE NAVD88 ELEVATION.
2. ALL WATER AND SANITARY SEWER CONSTRUCTION SHALL COMPLY WITH THE TOWN OF NEW CASTLE PUBLIC WORKS MANUAL. ALL STREETS AND DRAINAGE CONSTRUCTION SHALL COMPLY WITH TOWN OF NEW CASTLE PUBLIC WORKS MANUAL AND CURRENT ROADWAY DESIGN AND CONSTRUCTION CRITERIA.
3. THE CONTRACTOR SHALL CONTACT ALL APPROPRIATE UTILITY COMPANIES, TOWN OF NEW CASTLE AND PINNACLE DESIGN CONSULTING GROUP, INC. PRIOR TO THE BEGINNING OF ANY CONSTRUCTION PRIOR TO COMMENCEMENT. 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.
4. ALL ITEMS SHOWN ON THE PLANS AS EXISTING ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. ACTUAL LOCATIONS MAY VARY FROM THE PLANS. REFER TO UTILITY NOTE 1. WHENEVER CONTRACTOR DISCOVERS A DISCREPANCY IN LOCATIONS, HE SHALL CONTACT THE ENGINEER IMMEDIATELY.
5. THE TOWN ENGINEER AND OTHER APPROVING AGENCIES ARE TO BE NOTIFIED AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
6. THE CONTRACTOR SHALL OBTAIN, AT THEIR EXPENSE, ALL PERMITS THAT ARE NECESSARY TO PERFORM THE PROPOSED WORK PRIOR TO CONSTRUCTION.
7. ALL CONCRETE SHALL BE A MINIMUM OF PORTLAND CEMENT TYPE II, 28-DAY MINIMUM COMPRESSIVE STRENGTH OF 3,750 PSI. REFER TO TOWN OF NEW CASTLE PUBLIC WORKS MANUAL SPECIFICATION 3100: CAST-IN-PLACE CONCRETE FOR MORE INFORMATION.
8. ALL BACKFILL MATERIAL SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE TOWN OF NEW CASTLE PUBLIC WORKS MANUAL. QA/QC TESTING AND SIGN OFF SHALL FOLLOW THE REQUIREMENTS OF THE TOWN'S ACCEPTANCE CHECKLIST.
9. COMPACTION TESTS SHALL BE PERFORMED BY A GEOTECHNICAL ENGINEER AND MUST BE SUBMITTED TO TOWN ENGINEER PRIOR TO PROBATIONARY ACCEPTANCE.
10. TRENCHES SHALL BE EXCAVATED AND THE PIPE EXPOSED FOR THE INSPECTION AT ANY LOCATION ON THE PROJECT IF SO ORDERED BY THE INSPECTOR AT NO ADDITIONAL CHARGE TO THE OWNER.
11. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE PROPER FUNCTIONING OF LINES (WATER AND SEWER) FOR UP TO TWO (2) YEARS FROM THE DATE OF WARRANTY ACCEPTANCE OF THE LINES BY THE TOWN. ANY MALFUNCTION DURING THIS PERIOD OF GUARANTEE SHALL BE REMEDIED BY THE CONTRACTOR TO THE SATISFACTION OF THE TOWN ENGINEER AT NO EXPENSE TO THE TOWN.
12. SURFACE GRADES ARE TO BE WITHIN PLUS OR MINUS ONE FOOT BELOW TOP OF CURB AND VERIFICATION OF COMPACTION RESULTS OBTAINED PRIOR TO THE INSTALLATION OF WATER AND SEWER LINES. RESULTS MUST BE SUBMITTED TO THE TOWN ENGINEER.
13. NO WORK SHALL BE BACKFILLED UNTIL THE CONSTRUCTION HAS BEEN INSPECTED AND APPROVED FOR BACKFILLING BY THE TOWN ENGINEER OR REPRESENTATIVE OF THE TOWN ENGINEER.
14. NO WORK WITHIN CR 335 RIGHT-OF-WAY SHALL BE COMPLETED UNTIL A WORK IN RIGHT-OF-WAY PERMIT HAS BEEN OBTAINED.

GENERAL GRADING NOTES

1. ALL STRUCTURES, CONCRETE, TREES, BRUSH AND RUBBISH SHALL BE REMOVED AND ACCEPTABLY DISPOSED OF.
2. ALL ORGANIC MATTER SHALL BE REMOVED FROM FILL AREAS.
3. ALL FILL AREAS SHALL BE COMPACTED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
4. ALL SLOPES 4:1 AND STEEPER SHALL BE STABILIZED WITH EROSION MATTING AND DRAINAGE SWALES SHALL BE STABILIZED WITH HIGH VELOCITY EROSION MATTING WITHIN 7 DAYS OF REACHING FINAL GRADE AND/OR AS SOON AS CONDITIONS ALLOW. SEEDING SHALL BE PLACED IMMEDIATELY PRIOR TO PLACEMENT OF EROSION MATTING. HIGH VELOCITY EROSION MATTING SHALL BE NORTH AMERICAN GREEN ROLLMAX ERONET DS150 OR APPROVED EQUAL.

SHOW ALL AREAS ON THE EROSION CONTROL PLAN.

5. SEED MIXTURE SHALL BE A DRYLAND GRASS SEED, CONFORMING TO THE "RIGHT-OF-WAY MIXTURE" PER THE TOWN OF NEW CASTLE PUBLIC WORKS MANUAL SPECIFICATION SECTION 2720: SEEDING, SODDING AND TOPSOIL.
6. MULCH SHALL BE A CONWEB LONG FIBER MULCH, HAY OR STRAW. CONWEB FIBER MULCH SHALL BE APPLIED AT 1500 LB/ACRE, HAY OR STRAW SHALL BE APPLIED AT A UNIFORM RATE OF 1.5 TONS/ACRE.
7. SEDIMENT CONTROL LOGS OR SILT FENCE SHALL BE PLACED AT THE TOE AND DRAINAGE OUTFALL POINTS OF ALL SLOPES 4:1 OR STEEPER TO PREVENT SILTATION ON STREETS. REFER TO STORMWATER MANAGEMENT PLAN FOR DETAIL AND LOCATION OF EROSION CONTROL MEASURES.
8. CONTRACTOR SHALL COMPLY WITH ALL LOCAL, COUNTY AND STATE REGULATIONS PERTAINING TO GRADING, DUST AND EROSION.
9. NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED WHEREVER POSSIBLE. EXPOSURE OF SOIL TO EROSION BY REMOVAL OR DISTURBANCE OF VEGETATION SHALL BE LIMITED TO THE AREA REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATIONS AND FOR THE SHORTEST PRACTICAL PERIOD OF TIME.
10. ALL DISTURBED AREAS SHALL RE-SEEDED, MULCHED OR SODDED AS PER TOWN OF NEW CASTLE CRITERIA.
11. TOPSOIL SHALL BE STOCKPILED TO THE EXTENT PRACTICABLE ON THE SITE FOR USE ON AREAS TO BE REVEGETATED. ANY AND ALL STOCKPILES SHALL BE LOCATED AND PROTECTED FORM EROSIVE ELEMENTS, INCLUDING EROSION CONTROL AROUND THE PERIMETER OF SAID STOCKPILES.
12. AT ALL TIMES, THE PROPERTY SHALL BE MAINTAINED AND/OR WATERED TO PREVENT WIND-CAUSED EROSION. EARTHWORK OPERATIONS SHALL BE DISCONTINUED WHEN FUGITIVE DUST SIGNIFICANTLY IMPACTS ADJACENT PROPERTY. IF EARTHWORK IS COMPLETE OR DISCONTINUED AND DUST FROM THE SITE CONTINUES TO CREATE PROBLEMS, THE OWNER/DEVELOPER SHALL IMMEDIATELY INSTITUTE MITIGATIVE MEASURES AND SHALL CORRECT DAMAGE TO ADJACENT PROPERTIES.
13. ALL EXISTING UTILITY LINE LOCATION MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
14. ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH THE LATEST VERSION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE CONTRACTOR IS DIRECTED TO PAY PARTICULAR ATTENTION TO THE SECTION OF CONSTRUCTION ZONE TRAFFIC. CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLAN TO TOWN ENGINEER AND PUBLIC WORKS DIRECTOR PRIOR TO ANY CONSTRUCTION ACTIVITIES.
15. CONTRACTOR SHALL ACHIEVE FINISHED GRADE SLOPES AWAY FROM BUILDING FOUNDATIONS AT A RATIO OF 12 INCHES IN THE FIRST 10 FEET IN UNPAVED AREAS AND 2½ INCHES IN THE FIRST 10 FEET IN PAVED AREAS.
16. ROOF DOWNSPOUTS AND DRAINS SHALL DISCHARGE WELL BEYOND THE LIMITS OF ALL BACKFILL.

UTILITY NOTES

1. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO CONTACT ALL UTILITY COMPANIES FOR FIELD LOCATIONS OF UTILITIES PRIOR TO CONSTRUCTION.
2. ALL CONSTRUCTION TO BE PER CURRENT TOWN OF NEW CASTLE SPECIFICATIONS, PUBLIC WORKS MANUAL, CURRENT EDITION.
3. ALL UTILITIES, BOTH UNDERGROUND OR OVERHEAD, SHALL BE MAINTAINED IN CONTINUOUS SERVICE THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD, EXCEPT AS NOTED IN THE SPECIAL CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE AND LIABLE FOR ANY DAMAGES TO, OR INTERRUPTION OF, SERVICES CAUSED BY THE CONSTRUCTION.
4. ANY DAMAGE TO PRIVATE PROPERTY BY THE CONTRACTOR OUTSIDE THESE LIMITS WITHOUT THE PERMISSION OF THE PRIVATE PROPERTY OWNER WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL EXCAVATION FOR RETAINING WALLS, UTILITY TRENCHES, ROADWAY AND DRAINAGE FACILITIES SHALL MEET OSHA AND COSH REQUIREMENTS.
6. COMPACTION AND FILL OF THE ROADWAY MUST BE ATTAINED AND COMPACTION TEST RESULTS SUBMITTED TO THE THE ENGINEER PRIOR TO ACCEPTANCE.
7. WATER DISTRIBUTION CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TOWN OF NEW CASTLE PUBLIC WORKS SPECIFICATIONS, RULES AND REGULATIONS.
8. ALL SANITARY SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH TOWN OF NEW CASTLE PUBLIC WORKS SPECIFICATIONS, RULES AND REGULATIONS.
9. THE CONTRACTOR SHALL AT ALL TIMES KEEP TWO FULL SETS OF CONTRACT DRAWINGS MARKED UP TO INDICATE ALL AS-BUILT CONDITIONS. THE DRAWINGS SHALL BE PROVIDED TO THE OWNER AND THE ENGINEER UPON COMPLETION OF THE WORK. WHERE PRACTICAL, THE CONTRACTOR IS TO PROVIDE AT LEAST TWO TIES FROM PHYSICAL MONUMENTS TO ALL FITTINGS, VALVES, MANHOLES, AND THE END OF ALL SERVICE LINES. A PROJECT ACCEPTANCE CHECKLIST PER THE TOWN OF NEW CASTLE PUBLIC WORKS MANUAL SHALL BE CONTINUALLY UPDATED AND KEPT ONSITE AT ALL TIMES.
10. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE TOWN AND ITS REPRESENTATIVES. THE TOWN RESERVES THE RIGHT TO ACCEPT OR REJECT ANY MATERIALS AND WORKMANSHIP THAT DO NOT CONFORM TO THE APPROVED DRAWINGS AND SPECIFICATIONS.
11. CONTRACTOR TO NOTIFY WATER USERS 24 HOURS IN ADVANCE OF ANY WATER SHUT DOWN. MORE NOTICE MAY BE REQUIRED FOR MAJOR CONNECTIONS, SEE SPECIAL CONDITIONS. TOWN OF NEW CASTLE PUBLIC WORKS STAFF ARE THE ONLY AUTHORIZED PERSONNEL ALLOWED TO OPERATE VALVES ON PUBLIC WATER SYSTEM. COORDINATE ALL SHUT DOWNS WITH THE PUBLIC WORKS DEPARTMENT.
12. THE TOWN OF NEW CASTLE, ENGINEER AND THE OWNER ARE TO BE NOTIFIED BY THE CONTRACTOR AT LEAST 48 HOURS PRIOR TO ANY UTILITY CONSTRUCTION SO INSPECTION AND OBSERVATION MAY OCCUR.
13. MAINTAIN A DISTANCE OF 10 FEET BETWEEN WATER LINES AND SANITARY SEWER LINES (CENTER TO CENTER). IF THIS IS NOT POSSIBLE, THE ELEVATION OF THE CROWN OF THE SEWER SHOULD BE AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER MAIN, OR ENCASE PER COLORADO DEPARTMENT OF HEALTH REQUIREMENTS. WHERE THE 10 FOOT SEPARATION IS NOT POSSIBLE, CONSTRUCTION SHALL BE AS DIRECTED BY THE ENGINEER.
14. NO FIELD ADJUSTMENT TO DESIGNED WATERLINE IS ALLOWED WITHOUT EXPLICIT AUTHORIZATION AND ACCEPTANCE FROM THE TOWN OF NEW CASTLE.
15. THE CONTRACTOR SHALL VERIFY EXISTING PIPE OR MANHOLE INVERTS AT TIE-IN POINTS PRIOR TO CONSTRUCTION.
16. ALL CONDUIT, PULLBOXES, VAULTS, APPURTENANCES AND TRENCHING FOR THE SHALLOW UTILITIES SHALL CONFORM TO EACH SPECIFIC UTILITY'S RULES AND REGULATIONS. THE CONTRACTOR WILL COORDINATE SHALLOW UTILITY INSTALLATION WITH REGIONAL REPRESENTATIVES.
17. SENSUS METERS ARE REQUIRED ON ALL WATER SERVICES.
18. CONCRETE ENCASE ALL SANITARY AND STORM SEWER PIPES WHERE THERE IS A VERTICAL CROSSING OF WATER MAINS AND SERVICES THAT DOES NOT MEET THE TOWN OF NEW CASTLE REQUIREMENTS FOR CROSSINGS.
19. WATERMAIN SHALL BE C900 CLASS 200 PVC.
20. MEGALUG MECHANICAL FITTING AND THRUST BLOCKS SHALL BE INSTALLED AT EVERY LOCATION WHERE POTABLE WATERMAIN CHANGES HORIZONTAL OR VERTICAL DEFLECTION.
21. FROST PROTECTION SHALL BE INSTALLED ON WATERMAIN WHERE 6 FOOT MINIMUM SEPARATION BETWEEN STORM SEWER CANNOT BE MAINTAINED.
22. PURE CORE PIPING MAY BE SUBSTITUTED FOR TYPE K COPPER WATER SERVICES.
23. ALL FIRE HYDRANT FITTINGS SHALL BE MEGALUG MECHANICAL JOINTS AND HAVE CONCRETE RESTRAINT BLOCKS.
24. ALL FIRE HYDRANTS SHALL BE KENNEDY GUARDIAN.
25. ALL DUCTILE IRON PIPE FITTINGS AND BURIED FIRE HYDRANT COMPONENTS SHALL BE POLYWRAPPED.
26. THE IRRIGATION IF SHOWN IS FOR CONCEPTUAL PURPOSES ONLY. THE IRRIGATION SYSTEM SHALL BE DESIGNED BY A QUALIFIED IRRIGATION DESIGNER AND PLANS SHALL INCLUDE ALL ELEMENTS NECESSARY FOR CONSTRUCTION. IRRIGATION DESIGN SHALL REFERENCE CIVIL PLANS TO AVOID ANY CONFLICTS WITH INFRASTRUCTURE. PLANS SHALL BE SUBMITTED TO THE TOWN FOR APPROVAL PRIOR TO CONSTRUCTION AND CONTRACTOR SHALL REFER TO APPROVED IRRIGATION PLANS FOR CONSTRUCTION.
27. BACKFLOW PREVENTION DEVICES SHALL BE INSTALLED AT THE IRRIGATION SYSTEM CONNECTION TO THE WATER MAIN. WATER METERS SHALL BE PLACED PRIOR TO ANY WATERING HEAD.
28. 12 GAUGE TRACER WIRE SHALL BE INSTALLED ON ALL PVC SEWER PIPE AND D.I.P. WATER PIPE IN ACCORDANCE WITH TOWN OF NEW CASTLE STANDARDS.
29. CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES PROIR TO THE CONSTRUCTION OF NEW FACILITIES.
30. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE POLYWRAPPED.

LEGEND

	EXISTING	PROPOSED
	(D) STORM MANHOLE	WATER SHUTOFF VALVE
	(SO) SANITARY CLEAN-OUT	WATER VALVE
	(S) SANITARY MANHOLE	TEE W/THRUST BLOCK
	FIRE HYDRANT	BEND W/THRUST BLOCK
	WATER VALVE	FIRE HYDRANT
	(W) WATER MANHOLE	INLET
	(G) GAS METER	CURB INLET
	TELEPHONE PEDESTAL	(D) STORM MANHOLE
	LIGHT POLE	(S) SANITARY MANHOLE
	UTILITY POLE	SANITARY CLEANOUT
	SIGN	(C) CABLE MANHOLE
		(E) ELECTRIC MANHOLE
		ELECTRIC TRANSFORMER
		AIR CONDITIONER UNIT
		GAS METER
		ELECTRIC METER
		TELEPHONE PEDESTAL
		CABLE BOX
BOUNDARY		
RIGHT-OF-WAY		
ADJOINER		
EASEMENT		
SETBACK		
STRUCTURE		
ASPHALT		
GRAVEL		
CONCRETE		
RETAINING WALL		
RIPRAP		
GUARDRAIL		
FENCE CHAINLINK		
FENCE WOOD POST		
WIRE FENCE	X	X
CENTERLINE ROAD		
CURB AND GUTTER		
FLOWLINE		
PAVEMENT STRIPING		
WATER MAIN	W	W
WATER SERVICE		WS
SEWER MAIN	SS	SS
SEWER SERVICE	SS	SS
OVERHEAD ELECTRIC	OE	
ELECTRIC	E	E
CATV	CTV	C
TELEPHONE	T	T
GAS	G	G
STORM SEWER		
CONTOUR	5585	5585
SPOT ELEVATION	×(58.01)	×58.66
SLOPE OR GRADE	0.8%	2.0%
LIMITS OF DISTURBANCE		
SEDIMENT CONTROL FENCE		
DRAINAGE FLOW DIRECTION		

SEDIMENT CONTROL LOG	(SCL)	EROSION CONTROL BLANKET	(ECB)
INLET PROTECTION	(IP)	MULCHING	(MU)
CULVERT INLET PROTECTION	(CIP)	VEHICLE TRACKING CONTROL	(VTC)
OUTLET PROTECTION	(OP)	SEDIMENT CONTROL FENCE	(SCF)

Provide a Cover Sheet for the Final Construction Plan Set include the following to cover site construction.

-Existing Conditions Map
-Civil Plans.
-Rockfall Berm Plans
-Structural Site Wall Plans

COLORADO LICENSED ERIC BRUCKER 35088 10/29/25 PROFESSIONAL ENGINEER

SHEETS C1 THRU C18

DRAWN & DESIGNED BY: H.E.B.	REVIEWED BY:	PINNACLE DESIGN CONSULTING GROUP, INC.	COAL SEAM LLC
CHECKED BY: H.E.B.	DATE: FOR:	CONSULTING ENGINEERS ● 0805 BUCK POINT ROAD CARBONDALE, CO 81623 ● (970) 963-2170 pinnacledesign@sopris.net	LOT 1 HIGHWAY P.U.D. – 7051 COUNTY ROAD 335 NOTES AND LEGEND

REVISION	DATE	DESCRIPTION	BY	CH'D

SCALE:	JOB NO:	DATE:
N.T.S.	2024.11	10-29-25

SHEET NO: C1

Legend

- = Electric Transformer
- = Phone Pedestal
- EM = Electric Meter
- G = Gas Head
- SS = Sanitary Manhole
- = Hydrant
- = Irrigation Valve
- = Water Shutoff
- WV = Water Valve
- = Cleanout

- PROPOSED ELECTRIC TRANSFORMER
- E — E — PROPOSED PRIMARY ELECTRIC
- W — W — WATER LINE AS DESCRIBED
- S — S — SEWER LINE AS DESCRIBED
- GAS — GAS — PROPOSED NATURAL GAS MAIN
- T — T — PROPOSED TELEPHONE LINE
- ECT — ECT — PROPOSED ELECTRIC, CABLE TV AND TELEPHONE
- PROPOSED FIRE HYDRANT
- PROPOSED SEWER MANHOLE
- WV WATER VALVE

FEET 30 0 30 FEET
GRAPHIC SCALE
1 inch = 30 ft.

LINE TABLE		
LINE	BEARING	LENGTH
L1	N 78°53'23" W	284.96'
L2	N 81°42'53" W	196.92'

CURVE TABLE					
CURVE	LENGTH	RADIUS	TANGENT	CHORD	BEARING	DELTA
C1	265.29'	1930.00'	132.85'	265.08'	S 74°57'7" E	7°52'32"
C2	118.53'	3570.00'	59.27'	118.52'	S 82°39'57" E	1°54'8"

N 89°1'15" E 647.64'
N 63°7'41" E 210.84'
S 4°99'53" W 460.85'
N 1°48'48" E 191.61'

Lot 1
254,499 Sq Ft
5.84 Ac.

Colorado River
Edge of River
ESTIMATED 100 YR FLOOD LINE
DESIGNATE LINETYPES?

EROSION PROTECTION FOR OUTLET OF PIPE? (OVER FLOW PROTECTION? I.E. 100 YEAR EVENT?)
RELOCATE SIGN
DRY DETENTION BASIN W/ SAND FILTER IN THE BOTTOM (580 SF)
TOP EL. = 5577.0
BOTTOM EL. = 5574.0
INV. = 5576.91
4,258 CF
INSTALL SEDIMENT CONTROL FENCE AND SEDIMENT CONTROL LOG AT BASE OF DEVELOPMENT
CONCRETE RETAINING WALL (SEE STRUCTURAL PLANS)
LABEL FL LP'S
151.74' of 18" HDPE PIPE @ -0.50%
SEDIMENT CONTROL FENCE ON BACK SIDE OF ROW
6" CURB TAPER FROM 6" TO 12" (TYP.)
EROSION CONTROL BLANKET (TYP.)
EROSION CONTROL BLANKET ON BERM (TYP.)
Cattle Guard
6" DEEP CONCRETE RAMP WITH DETECTABLE WARNING STRIP (TYP.)
SEE DETAIL SHEET __
SAW-CUT ASPHALT TRAIL AND REALIGN ASPHALT TRAIL SECTION AS SHOWN
INSTALL PAVEMENT JOINT

DOUBLE TYPE 13 INLET
STA:1+97.19 OFF:-0.00L
RIM:5581.67
SUMP:5577.17
INV OUT:5577.67 18" HDPE PIPE

6" THICK CONCRETE PAD FOR TRASH ENCLOSURE USE #5 REBAR @ 24" O.C.E.W. (TYP.)
HOTEL
FFE 5584.91
THIS IS LOW
ADA > 8% UNACCEPTABLE
4' WIDE CONCRETE V-PAN
Non-Exclusive Utility Easement Per Rec. No. 594720
UTILITY EASEMENT
STA __ OFF __ BEND OR TEE
8" x 6" REDUCER W/ 6" GV
STA __ OFF __ FH FLANGE EL __
8 IN X 8 IN-INCH DUCTILE IRON
FG CHECK FL 84.00 (TBC 84.70 PRIOR)
FRENCH DRAIN CONFLICT WITH EITHER WATER VALVE OR FORCE MAIN VALVE
18" DEEP ± FRENCH DRAIN ALONG ASPHALT TRAIL SEE PROFILE AND FRENCH DRAIN DETAIL
INSTALL PAVEMENT JOINT
HOW DO WE KEEP THE FRENCH DRAIN FROM FREEZING UP AND FUNCTIONING PROPERLY IN THE WINTER? WHEN IT FREEZES UP, WHAT HAPPENS TO THE BIKE PATH?

IT APPEARS THAT YOU WILL HAVE A CONFLICT WITH THE FRENCH DRAIN SITTING ON TOP OF THE WATER LINE. NEED TO LOCATE THE WATER LINE, FORCE MAIN, TELEPHONE, ELECTRIC AND GAS ALONG CR 335 TO ASSURE NO CONFLICTS EXIST.

County Road No. 335

WHY 8" WATER METER? WHAT SIZE DO YOU NEED FOR DOMESTIC SERVICE? IS 4" FOR FIRE SPRINKLER?
STRUCTURAL DETAIL AND CALCULATIONS
STA __ OFF __ 6" PVC SEWER SERVICE
STA __ OFF __ 8" WATER METER
40" CONCRETE DRYWELL WITH CAST IRON RING & 4" WATER METER COVER (In-It)
6" SDR-35 PVC @ -2% GRADE
(3) 48" HIGH TIER BOULDER WALLS
SEWER MANHOLE #3
STA:5+64.67 OFF:-22.06L
RIM:5584.86
SUMP:5573.64
INV OUT:5575.64 8" PVC
MIXED USE BUILDING
FFE
STA __ OFF __ 6" PVC SEWER SERVICE
STA __ OFF __ 8" WATER METER
(4) 8" GV
8" x 6" TEE
6" GV
151.48' of 8" PVC @ 1.26%
STA __ OFF __ VERT. BEND
8" x 4" TEE X 6" GV
(2) 8" GV
8 IN X 8 IN-INCH DUCTILE IRON
STA __ OFF __ FH FLANGE EL __
SAW-CUT ASPHALT TRAIL AND REALIGN ASPHALT TRAIL SECTION AS SHOWN
RELOCATE PEDESTAL
6" THICK CONCRETE PAD FOR TRASH ENCLOSURE USE #5 REBAR @ 24" O.C.E.W. (TYP.)
TO WHERE?
ALL WATER PIPING TO BE C900 PVC PIPE FOR 4" DIAMETER AND LARGER PIPE. SMALLER SERVICE LINES MAY BE COPPER OR PURE-CORE
WATER MAIN A.R.V. VAULT POTENTIAL CONFLICT. VERIFY AND RESOLVE HOW TO ALLOW ACCESS AND PROMOTE VENTING

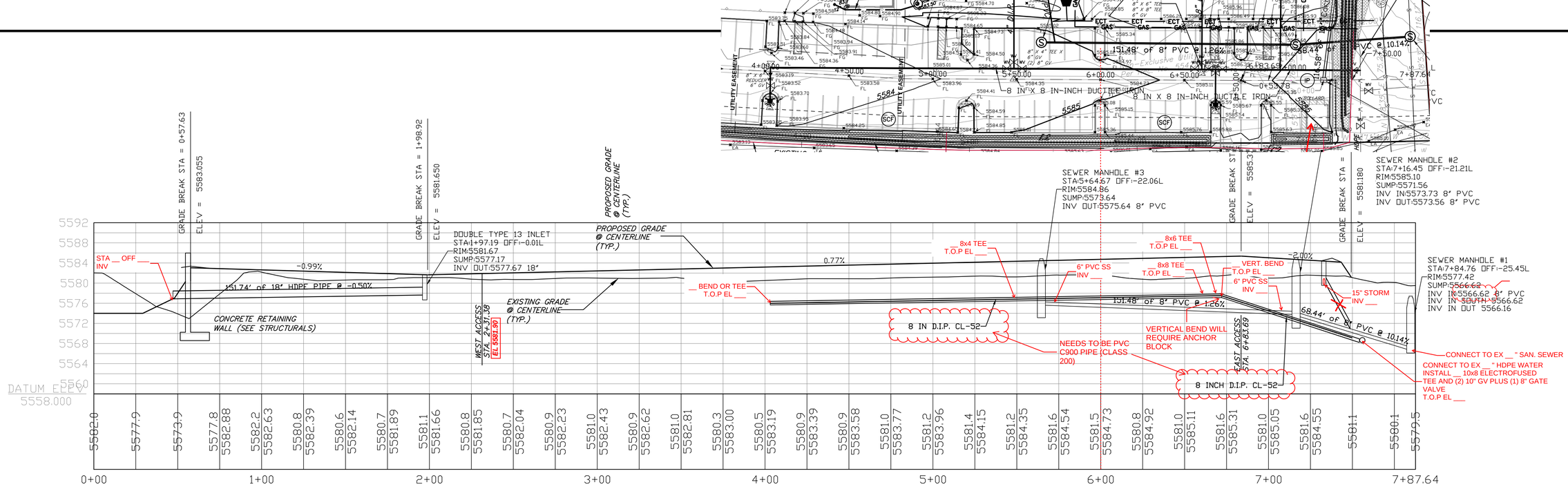
Unable to read FG contours with thick linetype. Appears to be 1:1 grading, confirm and provide FG contour, labels and slope reinforcement detail.

SEWER MANHOLE #2
STA:7+16.45 OFF:-21.21R
RIM:5585.10
SUMP:5571.56
INV IN:5573.73 8" PVC
INV OUT:5573.56 8" PVC
EROSION PROTECTION FOR OUTLET OF PIPE? (OVER FLOW PROTECTION? I.E. 100 YEAR EVENT?)
DRY DETENTION BASIN W/ SAND FILTER (72 SF)
TOP EL. = 5572.0
BOTTOM EL. = 5570.0
INV. = 5571.00
649 CF
RELOCATE EX. GAS AND ELECTRIC
DO NOT SEE EXISTING UTILITIES. DO NOT SEE PROPOSED RELOCATION
STA __ OFF __ CONNECT TO EX __ " HDPE WATER LINE USING ELECTROFUSION TEE
INSTALL __ 10x8 TEE AND (2) 10" GV AND (1) 8" GATE VALVE
T.O.P EL __ EXISTING GRAVITY SEWER TO LIFT STATION. COORDINATE WITH TOWN ON FLOW RATES TO LIFT STATION AND PUMPING FLOAT ADJUSTMENTS
EXISTING SMH 4.0 DIA.
RIM: 5576.32
INV-IN(S)5563.36
INV-OUT: 5563.16
SHOW LOCATION OF EXISTING FORCE MAIN TO AVOID CONFUSION
EXISTING FORCE MAIN MANHOLE
RIM
INV
DO NOT PUT WALL ON TOP OF EXISTING WATER LINE
Non-Exclusive Utility Easement Per Rec. No. 672447
'CAST IN PLACE' SEWER MANHOLE #1
STA:7+84.76 OFF:-25.45L
RIM:5577.42
SUMP:5566.62
INV IN:5566.62 8" PVC
INV IN SOUTH 5566.62
INV IN OUT 5566.16
SUMP? INV IN (W) ____ INV IN (S) ____ (EXIST.) INV IN OUT (N) ____ (EXIST.)
TYPE 13 INLET
STA:7+32.98 OFF:0.00
RIM:5584.36
SUMP:5580.06
INV OUT:5580.56 15" Corrugated HDPE Pipe
SHOW SUMP ON T13 DETAIL
EXISTING 8" PVC GRAVITY SEWER
EXISTING 10' ACCESS
EX. FM SEWER
5579.56 INV
5587.44 MH

DRAWN & DESIGNED BY: H.E.B.	REVIEWED BY:	PINNACLE DESIGN CONSULTING GROUP, INC.	COAL SEAM LLC
CHECKED BY: H.E.B.	DATE: FOR	CONSULTING ENGINEERS ● 0805 BUCK POINT ROAD CARBONDALE, CO 81623 ● (970) 963-2170 pinnacledesign@sopris.net	LOT 1 HIGHWAY P.U.D. – 7051 COUNTY ROAD 335 GRADING, DRAINAGE, EROSION CONTROL AND UTILITY PLAN

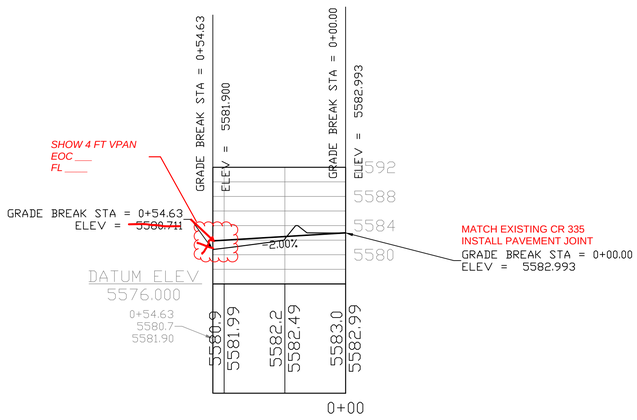
REVISION	DATE	DESCRIPTION	BY	CH'D

SCALE: 1" = 30' | JOB NO: 2024.11 | DATE: 10-29-25
SHEET NO: C2



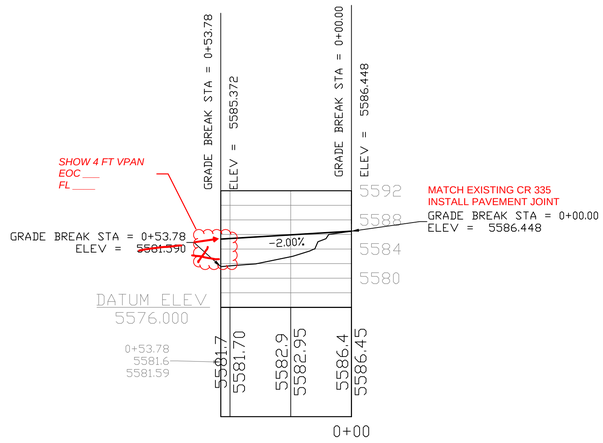
PARKING LOT CENTER LINE PROFILE

SCALE H: 1" = 30'
V: 1" = 10'



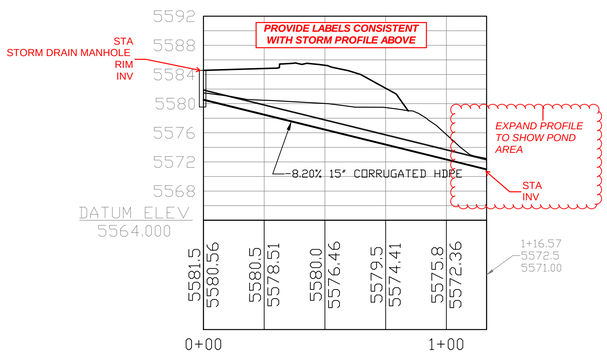
WEST ACCESS CENTER LINE PROFILE

SCALE H: 1" = 30'
V: 1" = 10'



EAST ACCESS CENTER LINE PROFILE

SCALE H: 1" = 30'
V: 1" = 10'



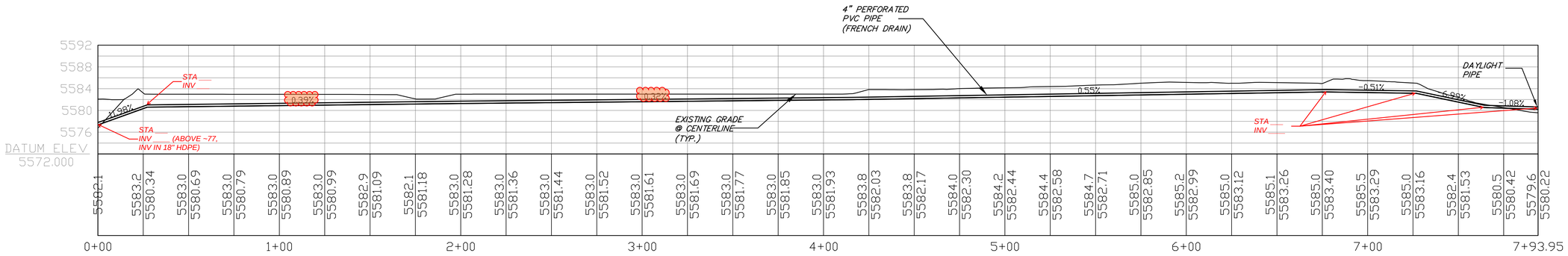
15 INCH HDPE STORMWATER PIPE PROFILE

SCALE H: 1" = 30'
V: 1" = 10'

DRAWN BY: H.E.B.	REVIEWED BY: _____	PINNACLE DESIGN CONSULTING GROUP, INC.	COAL SEAM LLC — NEW CASTLE, COLORADO
CHECKED BY: H.E.B.	DATE: _____ FOR _____	CONSULTING ENGINEERS ● 0805 BUCK POINT ROAD CARBONDALE, CO 81623 ● (970) 963-2170	LOT 1 HIGHWAY P.U.D. – 7051 COUNTY ROAD 335 PROFILES

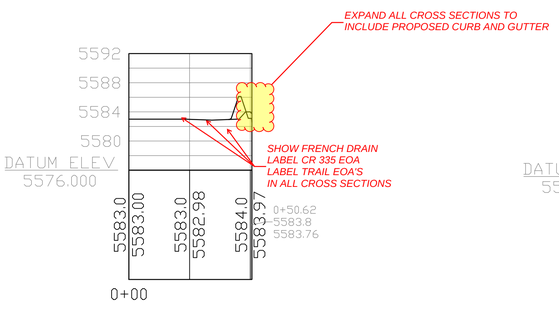
REVISION	DATE	DESCRIPTION	BY	CH'D

SCALE: Horz: 1" = 30' Vert: 1" = 10'
DATE: 10-29-25
Project No: 2024.11
SHEET NO: C3



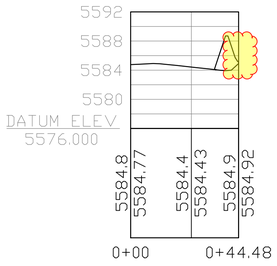
FRENCH DRAIN CENTER LINE PROFILE

SCALE H: 1" = 30'
V: 1" = 10'



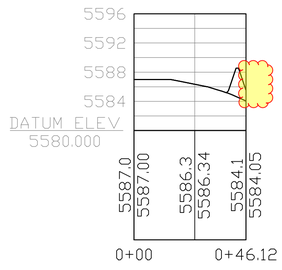
SECTION 1 CR 335

SCALE H: 1" = 30'
V: 1" = 10'



SECTION 2 CR 335

SCALE H: 1" = 30'
V: 1" = 10'



SECTION 3 CR 335

SCALE H: 1" = 30'
V: 1" = 10'

DRAWN BY: H.E.B.	REVIEWED BY:	PINNACLE DESIGN CONSULTING GROUP, INC.	REVISION / DATE / DESCRIPTION / BY / CH'D	COAL SEAM LLC	NEW CASTLE, COLORADO	Project No: 2024.11
CHECKED BY: H.E.B.	DATE: FOR	CONSULTING ENGINEERS ● 0805 BUCK POINT ROAD CARBONDALE, CO 81623 ● (970) 963-2170		LOT 1 HIGHWAY P.U.D. – 7051 COUNTY ROAD 335 FRENCH DRAIN PROFILE AND ROAD SECTIONS	SCALE: Horz: 1" = 30' Vert: 1" = 10' / DATE: 10-29-25	SHEET NO: C4

DEVELOPED DRAINAGE BASIN
PEAK RUNOFF FLOW DETERMINATION

DRAINAGE BASIN	TOTAL AREA ACRES	100-YEAR RUNOFF COEFFICIENT	100-YEAR INTENSITY in/hr	"Q" VALUE cfs
1	0.922	0.92	5.94	5.04
2	0.132	0.92	5.94	0.72
3	0.037	0.35	5.94	0.08
4	0.045	0.35	5.94	0.09

DEVELOPED STORM WATER VOLUME

DRAINAGE BASIN	TOTAL AREA SQ. FT.	100-YEAR STORM DEPTH (IN)	VOLUME CU. FT.
1	40167	1.27	4251.0
2	5729	1.27	606.3

FEET 30 0 30 FEET
GRAPHIC SCALE
1 inch = 30 ft.

LINE TABLE		
LINE	BEARING	LENGTH
L1	N 78°53'23" W	284.96'
L2	N 81°42'53" W	196.92'

CURVE TABLE						
CURVE	LENGTH	RADIUS	TANGENT	CHORD	BEARING	DELTA
C1	265.29'	1930.00'	132.85'	265.08'	S 74°57'7" E	7°52'32"
C2	118.53'	3570.00'	59.27'	118.52'	S 82°39'57" E	1°54'8"

N 89°1'15" E 647.64'
N 63°7'41" E 210.84'
S 4°8'58" W 460.85'
N 13°48'42" E 191.61'
Lot 1
254,499 Sq Ft
5.84 Ac.
Colorado River
Edge of River
DOUBLE TYPE 13 INLET
STA:1+97.19 OFF:-0.00L
RIM:5581.67
SUMP:5577.17
INV OUT:5577.67 18" HDPE PIPE
INV. = 5576.91
4,258 CF
151.74' of 18" HDPE PIPE @ -0.50%
5.04 CFS
0.72 CFS
2:1
Cattle Guard
EXISTING ASPHALT TRAIL
County Road No. 335
(3) 48" HIGH TIER BOULDER WALL
MIXED USE BUILDING
FFE 5587.09
HOTEL
FFE 5584.91
48" CONCRETE DRYWELL W/ CAST IRON RING AND OPEN GRATE COVER (in=11')
4" SDR-35 PVC @ -2% GRADE
4' WIDE CONCRETE V-PAN
649 CF
INV. = 5571.00
116.58' of 24" CONCRETE @ 0.50%
RELOCATE PEDESTAL
EXISTING 8" PVC GRAVITY SEWER
5579.56 INV
5587.44 MH
EX. FM SEWER
5575.32 MH
Non-Exclusive Utility Easement Per Rec. No. 572449
TYPE 13 INLET
STA:7+32.98 OFF:0.00
RIM:5584.36
SUMP:5580.06
INV OUT:5580.56 15" Corrugated HDPE Pipe

Recommendations:

1. Positive drainage should be constructed away from the building foundations in accordance with the grading and drainage plan (if proposed grades are shown) and to the extent possible, with the final soils report.
2. Stormwater should be conveyed to the dry detention basins via underground storm drain as shown on the Grading Plan.
3. Erosion control measures recommended above should be strictly followed.
4. Maintenance for drainage facilities should be in accordance with the aforementioned maintenance section.

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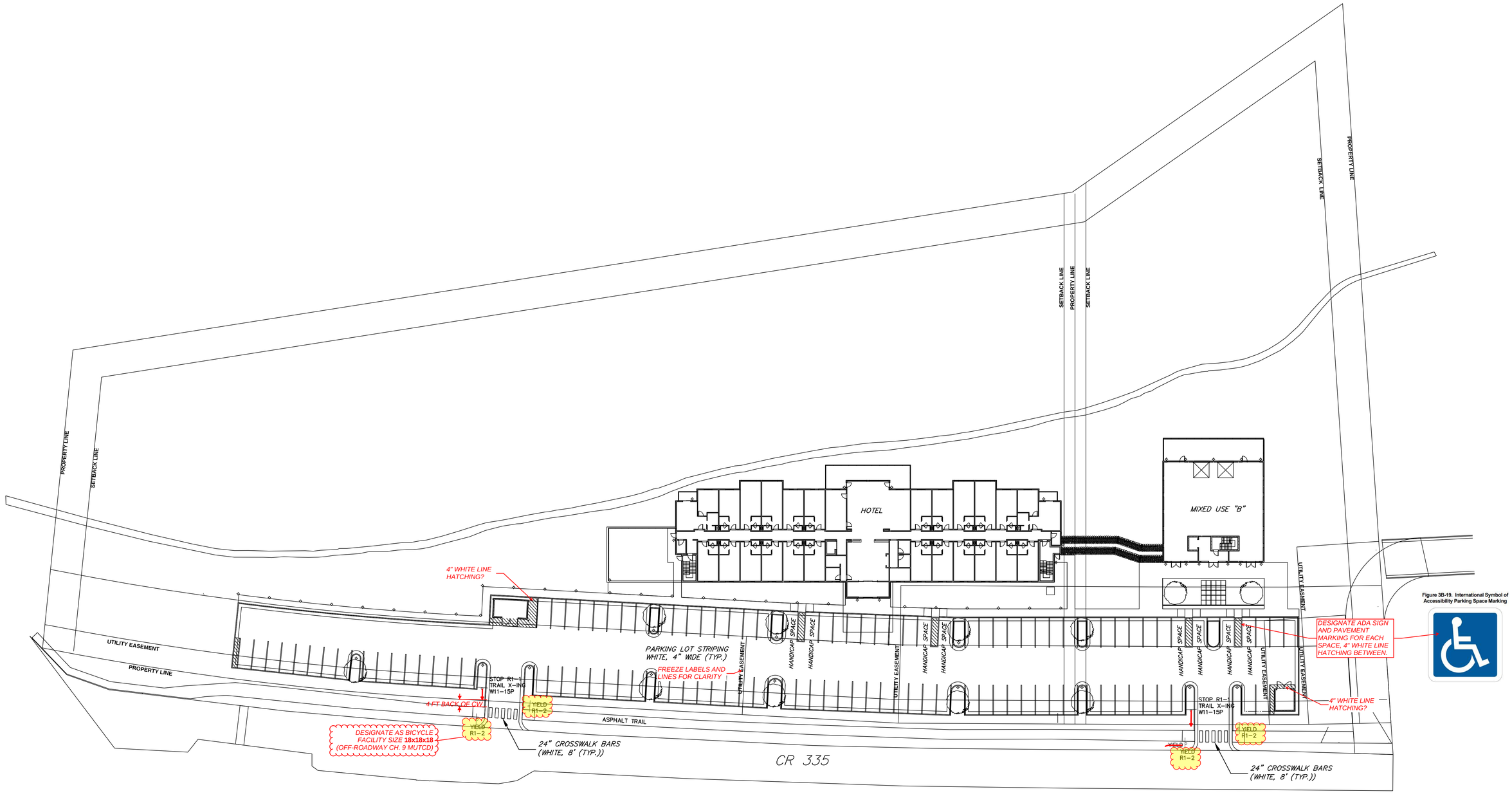
CHECKED BY: H.E.B.	DATE: FOR	CONSULTING ENGINEERS ● 0805 BUCK POINT ROAD CARBONDALE, CO 81623 ● (970) 963-2170 pinnacledesign@sopris.net					

COAL SEAM LLC

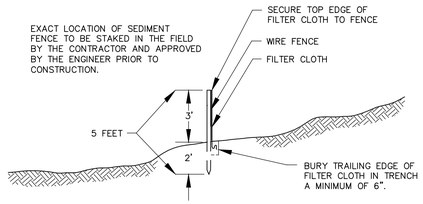
LOT 1 HIGHWAY P.U.D. – 7051 COUNTY ROAD 335
DRAINAGE BASINS

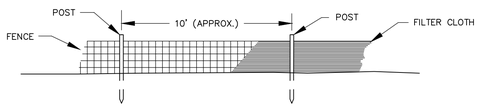
SCALE:	JOB NO:	DATE:
1" = 30'	2024.11	10-29-25

SHEET NO: C5



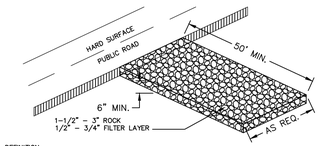
DRAWN & DESIGNED BY: H.E.B.	REVIEWED BY:	PINNACLE DESIGN CONSULTING GROUP, INC.	REVISION / DATE / DESCRIPTION / BY / CH'D	COAL SEAM LLC	SCALE: 1" = 30' / JOB NO: 2024.11 / DATE: 10-29-25
CHECKED BY: H.E.B.	DATE: FOR	CONSULTING ENGINEERS ● 0805 BUCK POINT ROAD CARBONDALE, CO 81623 ● (970) 963-2170 pinnacledesign@sopris.net		LOT 1 HIGHWAY P.U.D. – 7051 COUNTY ROAD 335 INTERSECTION SIGNAGE AND STRIPING PLAN	SHEET NO: C6





MATERIALS FOR FILTER CLOTH FENCE SHALL CONSIST OF STANDARD WOVEN LIVE-STOCK WIRE, A MINIMUM OF 36" IN HEIGHT, A MINIMUM OF 14-GAGE WIRE, WITH A MAXIMUM MESH SPACING OF 6 "; POSTS SHALL BE EITHER WOOD OR STEEL, MINIMUM LENGTH OF 5'.

SEDIMENT CONTROL FENCE (SCF)
N.T.S.

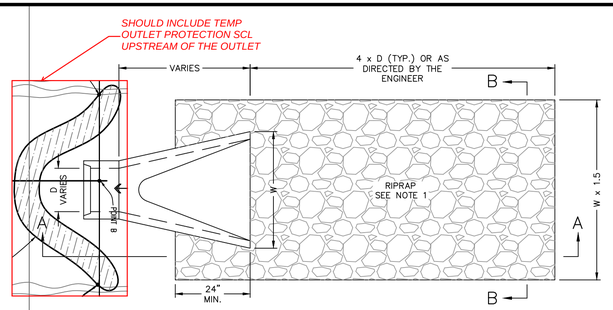


DEFINITION
A STONE STABILIZED PAD LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON A CONSTRUCTION SITE.

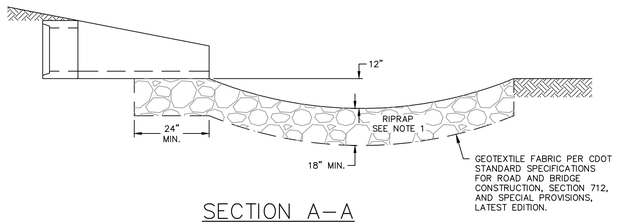
PURPOSES
TO REDUCE THE AMOUNT OF MUD TRANSPORTED ONTO PUBLIC ROADS BY MOTOR VEHICLES OR RUNOFF.
NOTE: ONLY APPLICABLE FOR SITES GREATER THAN 2 ACRES IN SIZE.

VEHICLE TRACKING CONTROL (VTC)
N.T.S.

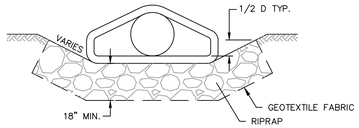
SHOULD INCLUDE TEMP OUTLET PROTECTION SCL UPSTREAM OF THE OUTLET



PLAN VIEW



SECTION A–A

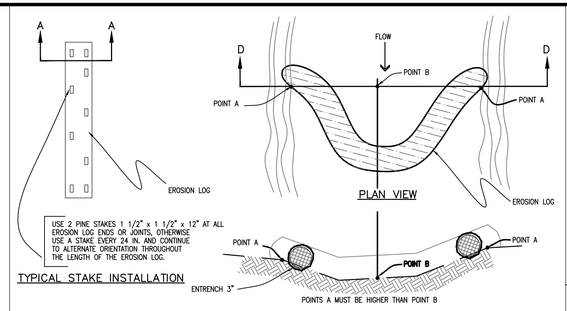


SECTION B–B

NOTES

1. RIPRAP SHALL CONFORM TO CDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 506, AND SPECIAL PROVISIONS, LATEST EDITION.

PIPE OUTFALL DETAIL (OP)



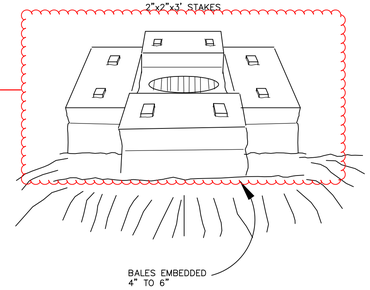
TYPICAL STAKE INSTALLATION

SECTION D–D
EROSION LOG DETAIL
DITCH INSTALLATION

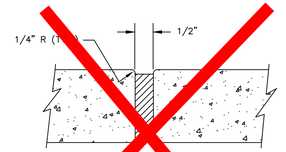
Flow Line Gradient	Maximum Check Dam Spacing based on Nominal Log Diameter (Feet)		
	8 to 9 Inches	12 Inches	18 to 20 Inches
0% to 2%	30	55	75
2% to 5%	25	40	55
5% to 10%	15	30	40
10% to 33%	10	15	20
33% to 50%	5	10	15

SEDIMENT CONTROL LOG (SCL)
N.T.S.

USE CURRENT SEDIIMNET CONTROL LOG DETAIL INLET PROTECION IN OPEN SPACE AREAS

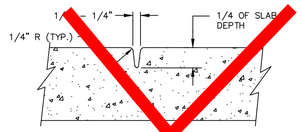


DROP INLET (IP)
N.T.S.



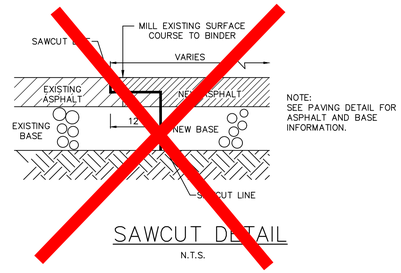
NOTE:
EXPANSION JOINTS TO BE LOCATED ADJACENT TO ANY EXISTING CONCRETE OR FIXED STRUCTURE, AND EVERY 100 FT. IN CURB AND GUTTER AND SIDEWALKS.

STANDARD EXPANSION JOINT
N.T.S.



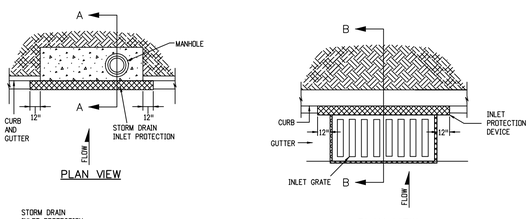
NOTE:
LOCATION OF CONTRACTION JOINTS TO BE EVERY 5 FT. IN SIDEWALK AND EVERY 10 FT. IN CURB AND GUTTER.

STANDARD CONTRACTION JOINT
N.T.S.



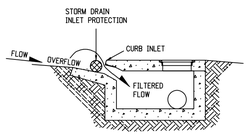
NOTE:
SEE PAVING DETAIL FOR ASPHALT AND BASE INFORMATION.

SAWCUT DETAIL
N.T.S.



PLAN VIEW

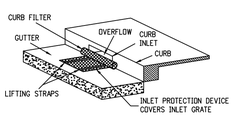
PLAN VIEW



SECTION A–A

STORM DRAIN INLET PROTECTION (TYPE I)

NOTES
1. INLET PROTECTION DEVICE SHALL EXTEND 12 INCHES PAST EACH END OF THE INLET.



ISOMETRIC VIEW
OPTION B
STORM DRAIN INLET PROTECTION (TYPE II)

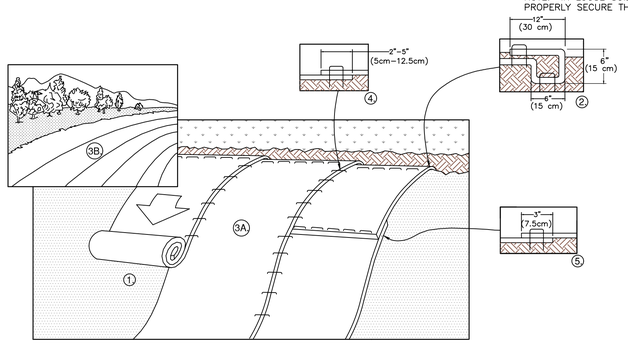
USE TYPE 13 INLET APPLICATION

INLET PROTECTION (IP)
N.T.S.

SLOPE INSTALLATION

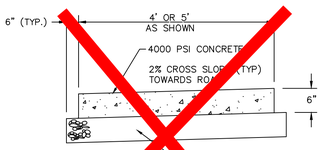
NORTH AMERICAN GREEN

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" (15cm) DEEP X 6" (15cm) 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" (30cm) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30cm) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30cm) 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 OPTIONAL 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" (5cm-12.5cm) OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5cm) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30cm) APART ACROSS ENTIRE BLANKET WIDTH. NOTE: *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15cm) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.



14649 HIGHWAY 41 NORTH, EVANSVILLE, INDIANA 47725
USA 1-800-772-2040 CANADA 1-800-448-2040
www.nagreen.com

EROSION CONTROL BLANKET (ECB)
N.T.S.



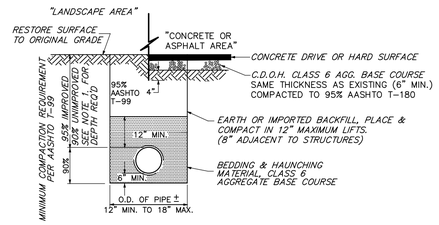
STRIP ALL TOPSOIL SCARIFY AND COMPACT 6" CLASS 6 AGGREGATE BASE COURSE SUBGRADE A MINIMUM OF 8" DEEP TO 95% COMPACTED TO 95% STANDARD PROCTOR STANDARD PROCTOR.

CONCRETE SIDEWALK DETAIL
N.T.S.

DRAWN & DESIGNED BY:	REVIEWED BY:	PINNACLE DESIGN CONSULTING GROUP, INC.	REVISION	DATE	DESCRIPTION	BY	CH'D	COAL SEAM LLC	SCALE:	JOB NO:	DATE:
H.E.B.		CONSULTING ENGINEERS ● 0805 BUCK POINT ROAD							N.T.S.	2024.11	10-29-25
CHECKED BY:	DATE: FOR	CARBONDALE, CO 81623 ● (970) 963-2170						LOT 1 HIGHWAY P.U.D. – 7051 COUNTY ROAD 335	SHEET NO:		
H.E.B.		pinnacledesign@sopris.net						MISCELLANEOUS DETAILS	C7		

TRENCH DETAIL NOTES:

1. MINIMUM PIPE COVER 30" UNDER HARD SURFACES AND 30" IN NATIVE, STEEP SLOPE AREAS.



DRAINAGE PIPE TYPICAL TRENCH DETAIL

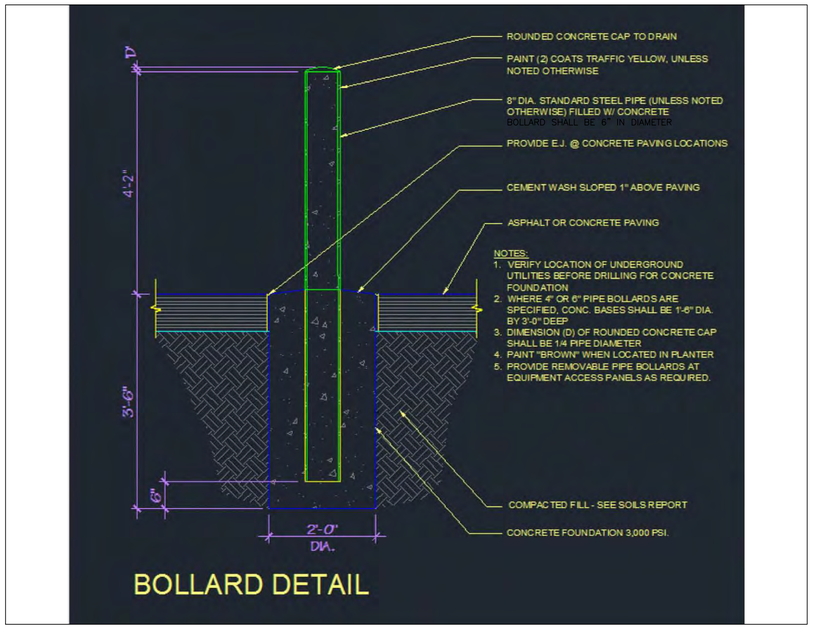
N.T.S.

	MAXIMUM PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES		
SIEVE SIZE	PIPE BEDDING & HAUNCHING MATERIAL (TYPE A)	GRANULAR STABILIZATION MATERIAL (SCREENED OR CRUSHED ROCK TYPE B)	IMPORTED MATERIAL (TO BE USED WHERE SPECIFIED OR DIRECTED BY THE ENGINEER
12 INCH	---	---	100
2 INCH	---	100	---
1 INCH	100	---	---
NO 4	---	15 MAX	---
NO 200	20 MAX	---	3% – 20%

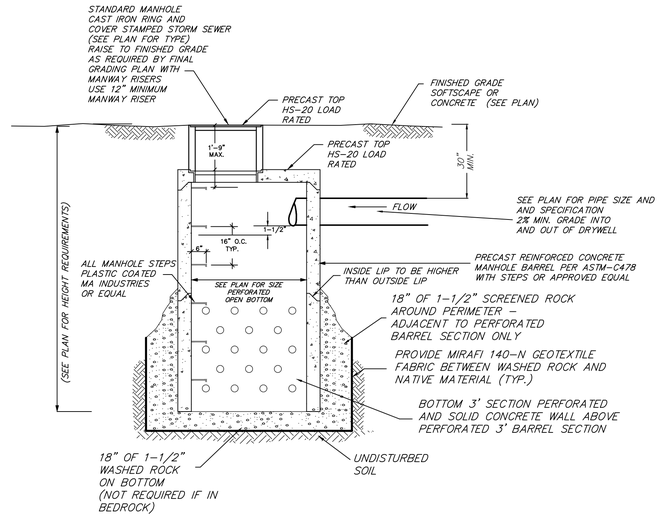
IMPORTED MATERIAL SHALL ALSO MEET HAZEN UNIFORMITY COEF. (C_U) > 6 AND COEFFICIENT OF CURVATURE (C_C) 1 TO 8 AND PLASTICITY INDEX (PI) MAXIMUM OF 7.

ALL BACKFILL MATERIAL SHALL BE PLACED FULL WIDTH IN 12" MAX. LIFTS (8" LIFTS ADJACENT TO STRUCTURES) AND COMPACTED TO THE MIN. RELATIVE DENSITIES SHOWN

NOTE: NATIVE MATERIAL MAY BE USED IN LIEU OF GRANULAR BEDDING & HAUNCHING MATERIAL IF APPROVED BY THE ENGINEER AND THE NATIVE MATERIAL IS IN COMPLIANCE WITH SIZE REQUIREMENTS FOR "TYPE A".



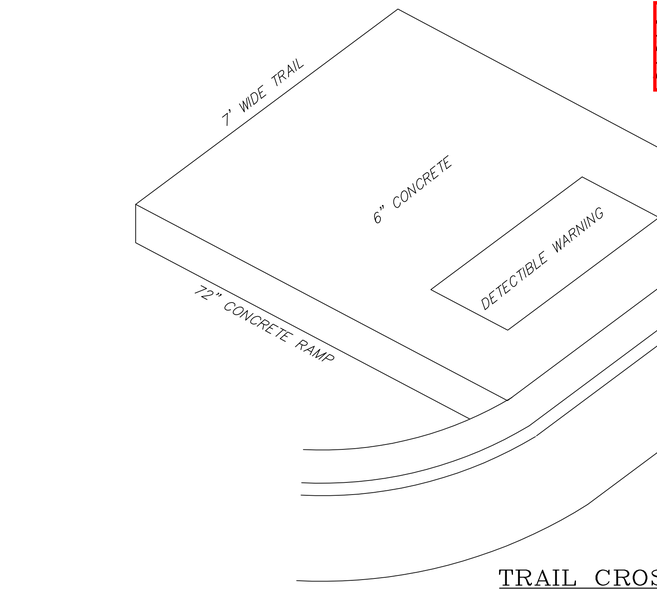
BOLLARD DETAIL



DRYWELL NOTES:

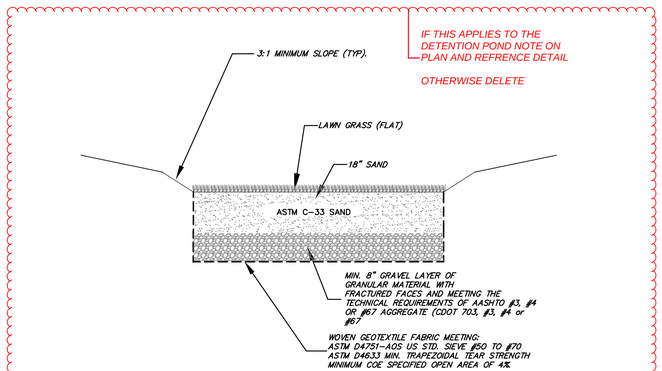
1. INLET PIPE SHOULD ENTER DRYWELL AWAY FROM DRYWELL STEPS.
2. USE LINK SEAL OR NO-SHRINK GROUT BETWEEN DRAIN PIPE'S AND MANHOLE
3. LOCATE MANHOLE COVER ON DOWN-GRADIENT SIDE OF DRYWELL AND RAISE TO FINISHED GRADE AS REQUIRED.
4. CONTACT ENGINEER IF GROUND WATER IS ENCOUNTERED DURING EXCAVATION.

DRYWELL DETAIL



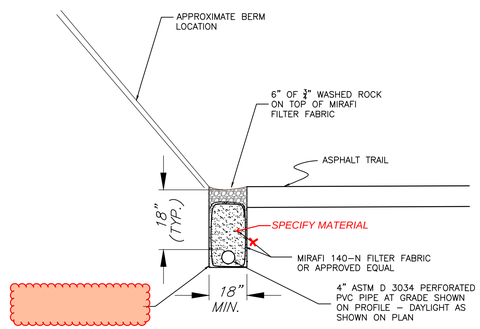
TRAIL CROSSING DETAIL

N.T.S.



SURFACE SAND FILTER TYPICAL SECTION

N.T.S.



4" PERFORATED PVC FRENCH DRAIN DETAIL

N.T.S.

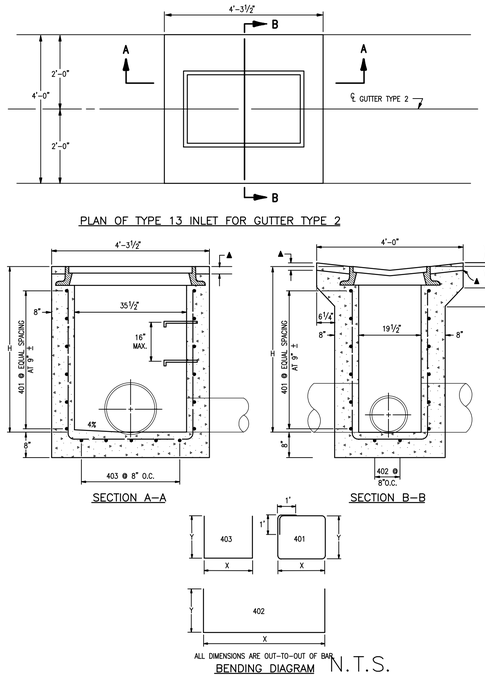
DRAWN & DESIGNED BY: H.E.B.	REVIEWED BY:	PINNACLE DESIGN CONSULTING GROUP, INC.	REVISION	DATE	DESCRIPTION	BY	CH'D
CHECKED BY: H.E.B.	DATE: FOR	CONSULTING ENGINEERS ● 0805 BUCK POINT ROAD CARBONDALE, CO 81623 ● (970) 963-2170 pinnacledesign@sopris.net					

COAL SEAM LLC

LOT 1 HIGHWAY P.U.D. – 7051 COUNTY ROAD 335
MISCELLANEOUS DETAILS

SCALE:	JOB NO:	DATE:
N.T.S.	2024.11	10-29-25

SHEET NO: C8



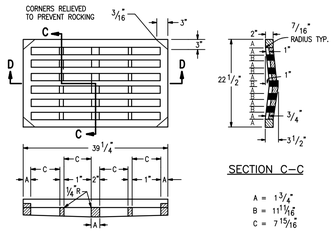
PLAN OF TYPE 13 INLET FOR GUTTER TYPE 2

SECTION A–A

SECTION B–B

ALL DIMENSIONS ARE OUT–TO–OUT OF BAR.

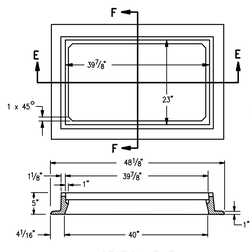
BENDING DIAGRAM



SECTION D–D
NO. 13 GRATE

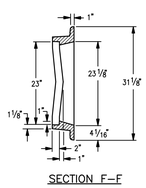
SECTION C–C

A = 1 3/4"
B = 11 11/16"
C = 7 15/16"



SECTION E–E
NO. 13 GRATING & FRAMES

APPROX. WEIGHT 590 LBS.



SECTION F–F

NOTE:
SEE PLAN DETAILS FOR LOCATION AND SIZE OF PIPE.

▲ WHEN BITUMINOUS MATERIAL IS TO EXTEND TO THE EDGE OF THE GRATING FRAME, CONCRETE MAY BE DEPRESSED.

SHOW SUMP AS NOTED ON PLANS

GENERAL NOTES

1. CONCRETE SHALL BE CLASS B. INLET MAY BE CAST–IN–PLACE OR PRECAST.
2. CAST–IN–PLACE CONCRETE WALLS SHALL BE FORMED ON BOTH SIDES.
3. EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED ¾ IN.
4. REINFORCING BARS SHALL BE DEFORMED AND SHALL HAVE A 2 IN. MINIMUM CLEARANCE. ALL REINFORCING BARS SHALL BE EPOXY COATED.
5. STEPS SHALL BE PROVIDED WHEN INLET DIMENSION "H" EXCEEDS 3 FT–6 IN. AND SHALL BE IN ACCORDANCE WITH AASHTO M 199.
6. ALL GRATES AND FRAMES SHALL BE GRAY OR DUCTILE CAST IRON CONFORMING TO 712.06. GRATES AND FRAMES SHALL BE DESIGNED TO WITHSTAND HS 20 LOADING AND BE BICYCLE PROOF.

QUANTITIES

H	CONCRETE CU. YD.	REINFORCING STEEL θ LB.	NO. OF 401 BARS REQ'D.
3'–0"	1.3	72	4
3'–6"	1.5	76	4
4'–0"	1.6	90	5
4'–6"	1.8	104	6
5'–0"	1.9	109	6
5'–6"	2.1	122	7
6'–0"	2.2	136	8
6'–6"	2.4	141	8
7'–0"	2.5	154	9
7'–6"	2.7	168	10
8'–0"	2.8	173	10
8'–6"	3.0	187	11
9'–0"	3.1	200	12
9'–6"	3.3	205	12
10'–0"	3.4	219	13

θ INCLUDES 1% FOR OVERRUN.
NOTE: CONCRETE QUANTITIES INCLUDE VOLUME OCCUPIED BY PIPE.

BAR LIST FOR H=3'–0"

MARK	NO. REQ'D.	DIMENSIONS X	DIMENSIONS Y	LENGTH
401	4	3'–6"	2'–2"	13'–4"
402	2	3'–4½"	* 2'–6½"	8'–5½"
403	5	2'–1½"	* 2'–7"	7'–2½"

* ADD 6 IN. TO THIS DIMENSION FOR EACH 6 IN. INCREASE OF "H" OVER 3 FT–0 IN.

N.T.S.

TYPE 13 INLET DETAILS

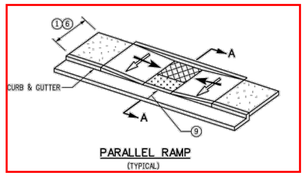
N.T.S.

DRAWN & DESIGNED BY: H.E.B.	REVIEWED BY:	PINNACLE DESIGN CONSULTING GROUP, INC.	COAL SEAM LLC
CHECKED BY: H.E.B.	DATE: FOR	CONSULTING ENGINEERS ● 0805 BUCK POINT ROAD CARBONDALE, CO 81623 ● (970) 963-2170 pinnacledesign@sopris.net	LOT 1 HIGHWAY P.U.D. – 7051 COUNTY ROAD 335 TYPE 13 INLET DETAIL

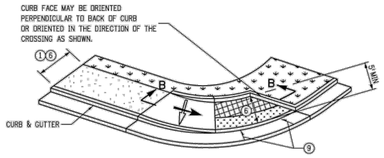
REVISION	DATE	DESCRIPTION	BY	CH'D

SCALE:	JOB NO:	DATE:
N.T.S.	2024.11	10–29–25

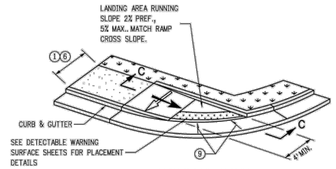
SHEET NO: C9



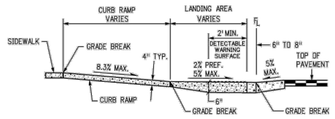
PARALLEL RAMP
(TYPICAL)



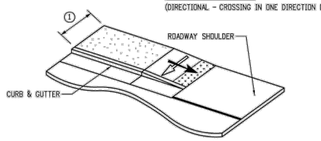
PARALLEL RAMP
(SIDEWALK ENDS)



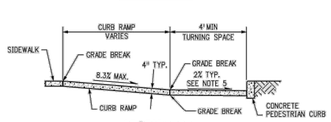
PARALLEL RAMP
(DIRECTIONAL - CROSSING IN ONE DIRECTION ONLY)



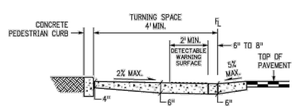
SECTION C-C



SIDEWALK TO SHOULDER TRANSITION



SECTION B-B



SECTION A-A

SIDEWALK

TURNING SPACE ④ ⑤ ⑥

DETECTABLE WARNING SURFACE (DWS)

PARALLEL RAMP NOTES

① RAMP WIDTH - PROVIDE A RAMP WIDTH EQUAL TO THE ADJOINING SIDEWALK, PROVIDE 4 FT. WIDTH MINIMUM. RAMPS SERVICING SHARED USE PATHS SHALL MATCH THE WIDTH OF THE PATH.

② RAMP RUNNING SLOPE - 8.3% MAX.

③ RAMP CROSS SLOPE - 2.0% MAX.

④ TURNING SPACE RUNNING SLOPE - 2.0% MAX. TURNING SPACE RUNNING SLOPE IS MEASURED PERPENDICULAR TO THE BACK OF CURB.

⑤ TURNING SPACE CROSS SLOPE - 2.0% TYPICAL, AT CROSSINGS WITHOUT YIELD OR STOP CONTROL, OR WITH A SIGNAL WHERE VEHICLES CAN PROCEED THROUGH THE INTERSECTION WITHOUT SLOWING OR STOPPING, THE CROSS SLOPE OF THE TURNING SPACE MAY EQUAL THE HIGHWAY GRADE. AT MIDBLOCK PEDESTRIAN STREET CROSSINGS THE TURNING SPACE CROSS SLOPE MAY EQUAL THE HIGHWAY GRADE. TURNING SPACE CROSS SLOPE IS MEASURED IN THE DIRECTION OF THE RAMP RUN.

⑥ TURNING SPACE DIMENSIONS - PROVIDE A TURNING SPACE AT THE BOTTOM OF PARALLEL RAMPS WITH A WIDTH EQUAL TO THE WIDTH OF THE CURB RAMP. PROVIDE 4 FT. MINIMUM, MEASURED IN THE DIRECTION OF THE RAMP RUN. IF THE TURNING SPACE IS CONSTRAINED ON TWO SIDES, PROVIDE 5 FT. MEASURED IN THE DIRECTION OF PEDESTRIAN STREET CROSSING. THE TURNING SPACE MAY CONTAIN THE DETECTABLE WARNING SURFACE.

⑦ RAMP ALIGNMENT - RAMPS SHALL BE ALIGNED SO THE TURNING SPACE IS FULLY CONTAINED WITHIN THE CROSSWALK OR STREET CROSSING THEY SERVE. PROVIDE ONE RAMP FOR EACH STREET CROSSING DIRECTION. IN ALTERATIONS, WHERE EXISTING PHYSICAL CONSTRAINTS PREVENT PROVIDING ONE CURB RAMP FOR EACH CROSSING DIRECTION, A SINGLE DIAGONAL CURB RAMP (ON THE APEX OF A CORNER) SHALL BE PERMITTED TO SERVE BOTH PEDESTRIAN STREET CROSSINGS. DIAGONAL RAMPS ARE NOT ACCEPTABLE IN NEW CONSTRUCTION, OR FULL-DEPTH RECONSTRUCTION.

⑧ RAMP LENGTH - PARALLEL RAMP LENGTH IS DEPENDENT UPON THE RAMP SLOPE AND THE CHANGE OF ELEVATION FROM THE TURNING SPACE TO THE SIDEWALK. WHERE TERRAIN IS SLOPING A RAMP IS NOT REQUIRED TO CHASE GRADE MORE THAN 15 FT. REGARDLESS OF THE RESULTING RAMP SLOPE.

⑨ GUTTER COUNTER SLOPE - 5.0% MAX.

TYPE 2 PARALLEL CURB RAMPS

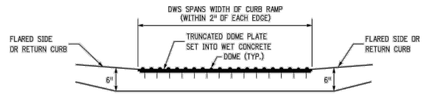
Computer File Information		Sheet Revisions	
Creation Date: 07/31/19		Date:	Comments
Designer Initials: JBK	(R-X)		
Last Modification Date: 07/31/19	(R-X)		
Detailer Initials: LTA	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

Colorado Department of Transportation
2829 West Howard Place
CDOT HQ, 3rd Floor
Denver, CO 80204
Phones 303-757-9021 FAX: 303-757-9868
Project Development Branch JBK

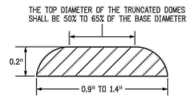
CURB RAMPS

Issued by the Project Development Branch: July 31, 2019

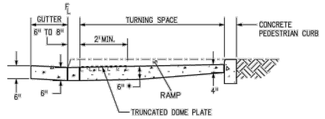
STANDARD PLAN NO.
M-608-1
Standard Sheet No. 4 of 10
Project Sheet Number:



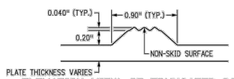
SECTION VIEW OF DETECTABLE WARNING SURFACE PLATE
(LOOKING AT PERPENDICULAR RAMP RUN FROM STREET)



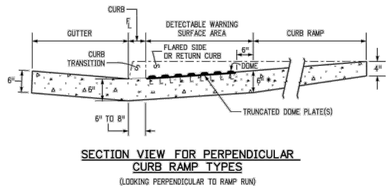
ELEVATION VIEW OF SINGLE TRUNCATED DOME



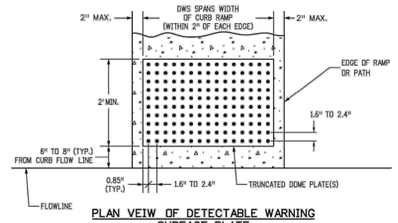
SECTION VIEW FOR PARALLEL CURB RAMP TYPES
(LOOKING PERPENDICULAR TO TURNING SPACE)



ELEVATION VIEW OF TRUNCATED DOME FOR DETECTABLE WARNING PLATE



SECTION VIEW FOR PERPENDICULAR CURB RAMP TYPES
(LOOKING PERPENDICULAR TO RAMP RUN)



PLAN VEIW OF DETECTABLE WARNING SURFACE PLATE

DETECTABLE WARNING SURFACE DETAILS

Computer File Information		Sheet Revisions	
Creation Date: 07/31/19		Date:	Comments
Designer Initials: JBK	(R-X)		
Last Modification Date: 07/31/19	(R-X)		
Detailer Initials: LTA	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

Colorado Department of Transportation
2829 West Howard Place
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Phones 303-757-9021 FAX: 303-757-9868
Project Development Branch JBK

CURB RAMPS

Issued by the Project Development Branch: July 31, 2019

STANDARD PLAN NO.
M-608-1
Standard Sheet No. 10 of 10
Project Sheet Number:

DRAWN & DESIGNED BY: H.E.B.
CHECKED BY: H.E.B.
REVIEWED BY: _____
DATE: _____ FOR _____

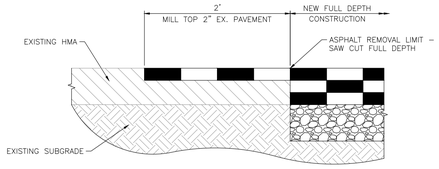
PINNACLE DESIGN CONSULTING GROUP, INC.
CONSULTING ENGINEERS ● 0805 BUCK POINT ROAD
CARBONDALE, CO 81623 ● (970) 963-2170
pinnacledesign@sopris.net

REVISION	DATE	DESCRIPTION	BY	CH'D

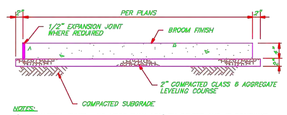
COAL SEAM LLC

LOT 1 HIGHWAY P.U.D. - 7051 COUNTY ROAD 335
HANDICAP RAMP AND DETECTABLE WARNING DETAILS

SCALE: N.T.S. | JOB NO: 2024.11 | DATE: 10-29-25
SHEET NO: C10

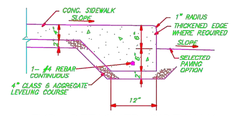


PAVEMENT JOINT DETAIL
N.T.S.



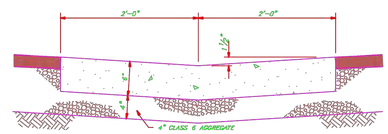
NOTES:
1) EXPANSION JOINTS: NO MORE THAN 100' ON CENTER AND AT DRIVEWAYS.
2) DUMMY JOINTS: 1" DEEP BY 1/8" - 1/4" WIDTH AT INTERVALS EQUAL TO SIDEWALK WIDTH.
3) USE 1/4" RADIUS ON ALL EDGES.
4) USE 6" DEPTH OF CONCRETE ON ALL DRIVEWAYS.
5) CURE FOR 72 HOURS USING CURING COMPOUND, PLASTIC COVERING OR MOISTURE.
6) USE 3750 PSI CONCRETE WITH FIBERMESH ADDITIVE AT 1-1/2 LBS./C.Y. MAXIMUM SLUMP 4".

CONCRETE SIDEWALK
SCALE: 1"= 1'-0"

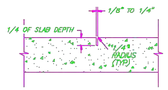


TYP. DETACHED SIDEWALK W/ THICKENED EDGE
SCALE: 1"= 1'-0"

TYPICAL SIDEWALK AND SIDEWALK W/THICKENED EDGE
TOWN OF NEW CASTLE
NOT TO SCALE | DWG: DR-40

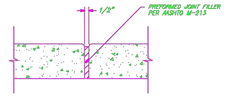


VALLEY PAN DETAIL
SCALE: 1/2"= 1'-0"



NOTE: LOCATION OF CONTRACTION JOINTS TO BE AS DETAILED OR AS DETERMINED IN FIELD WITH AND APPROVED BY TOWN.

STANDARD CONTRACTION JOINT
N.T.S.



NOTE: EXPANSION JOINTS TO BE LOCATED ADJACENT TO ANY EXISTING CONCRETE OR FIXED STRUCTURE.

STANDARD EXPANSION JOINT
N.T.S.

VALLEY PAN DETAIL AND EXPANSION AND CONTRACTION JOINT DETAILS
TOWN OF NEW CASTLE
NOT TO SCALE | DWG: DR-60

PROVIDE CURB AND GUTTER DETAILS

DRAWN & DESIGNED BY: H.E.B.
CHECKED BY: H.E.B.
REVIEWED BY: _____
DATE: _____ FOR _____

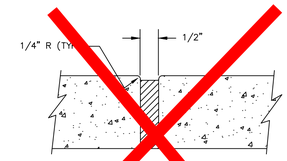
PINNACLE DESIGN CONSULTING GROUP, INC.
CONSULTING ENGINEERS ● 0805 BUCK POINT ROAD
CARBONDALE, CO 81623 ● (970) 963-2170
pinnacledesign@sopris.net

REVISION	DATE	DESCRIPTION	BY	CH'D

COAL SEAM LLC

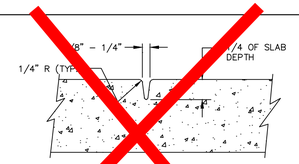
LOT 1 HIGHWAY P.U.D. – 7051 COUNTY ROAD 335
DRAINAGE DETAILS

SCALE: N.T.S. | JOB NO: 2024.11 | DATE: 10-29-25
SHEET NO: C11



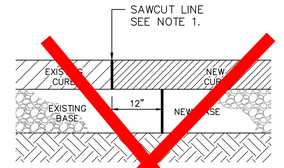
NOTE:
EXPANSION JOINTS TO BE LOCATED ADJACENT TO ANY EXISTING CONCRETE OR FIXED STRUCTURE, AND EVERY 100 FT. IN CURB AND GUTTER AND SIDEWALKS.

STANDARD EXPANSION JOINT
N.T.S.



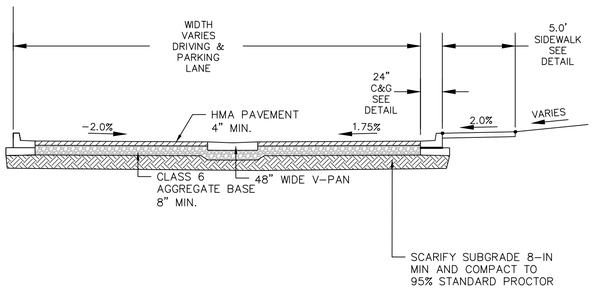
NOTE:
LOCATION OF CONTRACTION JOINTS TO BE EVERY 5 FT. IN SIDEWALK AND EVERY 10 FT. IN CURB AND GUTTER.

STANDARD CONTRACTION JOINT
N.T.S.

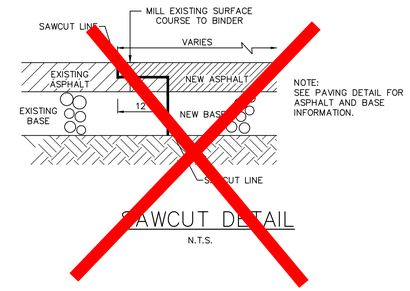


NOTE
1. SAWCUT SHALL BE AT NEAREST JOINT TO REMOVAL LOCATION SHOWN ON PLANS

CURB & GUTTER CONNECTION DETAIL
N.T.S.

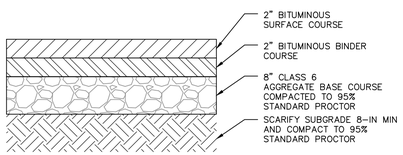


PARKING LOT – TYPICAL SECTION
N.T.S.



NOTE:
SEE PAVING DETAIL FOR ASPHALT AND BASE INFORMATION.

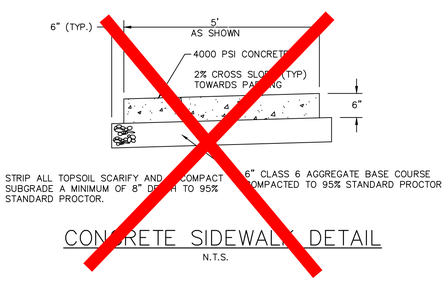
SAWCUT DETAIL
N.T.S.



NOTES:

1. REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION. IF THERE ARE ANY DISCREPANCIES BETWEEN THIS DETAIL AND THE GEOTECHNICAL REPORT, THE GEOTECHNICAL REPORT SHALL GOVERN.
2. HMA PAVEMENT SHALL CONFORM TO DIVISION 400 OF THE CDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AND SPECIAL PROVISIONS, LATEST EDITION.

PAVEMENT SECTION – HEAVY DUTY
N.T.S.



STRIP ALL TOPSOIL SCARIFY AND COMPACT SUBGRADE A MINIMUM OF 8" DEPTH TO 95% STANDARD PROCTOR.

6" CLASS 6 AGGREGATE BASE COURSE COMPACTED TO 95% STANDARD PROCTOR

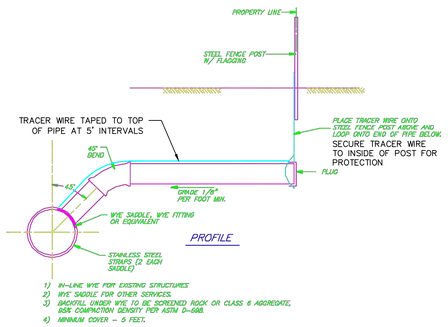
CONCRETE SIDEWALK DETAIL
N.T.S.

DRAWN & DESIGNED BY: H.E.B.	REVIEWED BY:	PINNACLE DESIGN CONSULTING GROUP, INC.	COAL SEAM LLC
CHECKED BY: H.E.B.	DATE: FOR:	CONSULTING ENGINEERS ● 0805 BUCK POINT ROAD CARBONDALE, CO 81623 ● (970) 963-2170 pinnacledesign@sopris.net	LOT 1 HIGHWAY P.U.D. – 7051 COUNTY ROAD 335 DRAINAGE DETAILS

REVISION	DATE	DESCRIPTION	BY	CH'D

SCALE:	JOB NO:	DATE:
N.T.S.	2024.11	10-29-25

SHEET NO: C12

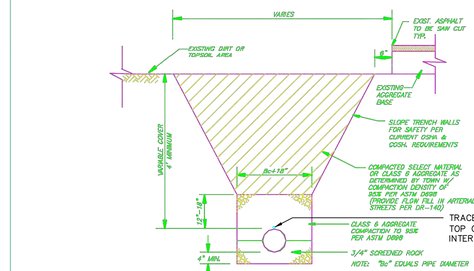


1) IN-LINE WYE FOR EXISTING STRUCTURES
2) WYE SADDLE FOR OTHER SERVICES.
3) BACKFILL UNDER WYE TO BE SCREENED ROCK OR CLASS 6 AGGREGATE, 95% COMPACTION DENSITY PER ASTM D-698.
4) MINIMUM COVER – 5 FEET.

STANDARD SEWER SERVICE CONNECTION DETAIL

N.T.S.

SEWER SERVICE CONNECTION DETAIL	
TOWN OF NEW CASTLE	
NOT TO SCALE	DWG: SW–40

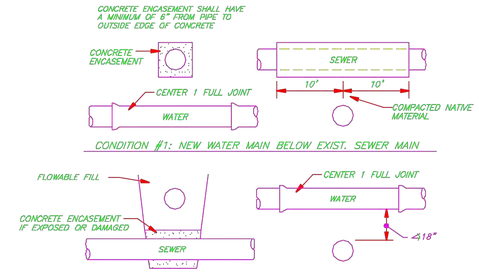


1) PAVEMENT REPLACEMENT SHALL MEET EXISTING THICKNESS AND KIND WITH THE FOLLOWING MINIMUMS: ASPHALT SURFACING = 3" MIN., AGGREGATE BASE COURSE = 6" MIN.
2) FOR UNPAVED SURFACES, BASE COURSE REPLACEMENT SHALL MEET EXISTING THICKNESS WITH THE FOLLOWING MINIMUMS: AGGREGATE BASE COURSE = 12" MIN.
3) DIRT / TOPSOIL PLACEMENT SHALL MEET EXISTING THICKNESS AND KIND WITH THE FOLLOWING MINIMUMS: 4" TOPSOIL
4) SELECT MATERIAL AS FOLLOWS: 6" MAXIMUM SIZE, (ROCKS TO BE PLACED SO THAT NO VOIDS ARE CREATED.)
5) DETAIL ABOVE FOR "DRY TRENCH" CONDITIONS. FOR UNSTABLE OR "WET TRENCH" CONDITIONS PROVIDE A MINIMUM OF 4" OF 1 1/2" SCREENED ROCK UNDER BEDDING MATERIAL WITH FILTER FABRIC PLACED BELOW AND ABOVE THE SCREENED ROCK.

TRENCH CROSS SECTION

SCALE: 3/4"= 1'-0"

STANDARD SEWER MAIN TRENCH SECTION	
TOWN OF NEW CASTLE	
NOT TO SCALE	DWG: SW–50



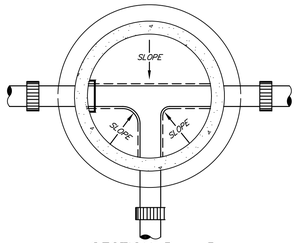
CONDITION #1: NEW WATER MAIN BELOW EXIST. SEWER MAIN

CONDITION #2: NEW WATER MAIN LESS THAN 18" ABOVE EXIST. SEWER MAIN

1) SEWER/WATER LINE TO BE CONSTRUCTED OF ONE JOINT (18' MINIMUM) OF C-900 PVC, DR-18 PIPE, CENTERED ON SEWER/WATER LINE FOR PERPENDICULAR CROSSING. FOR SKEW CROSSINGS, USE C-900 PIPE UNTIL HORIZONTAL SEPARATION EXCEEDS 10'.

WATER / SEWER CROSSING

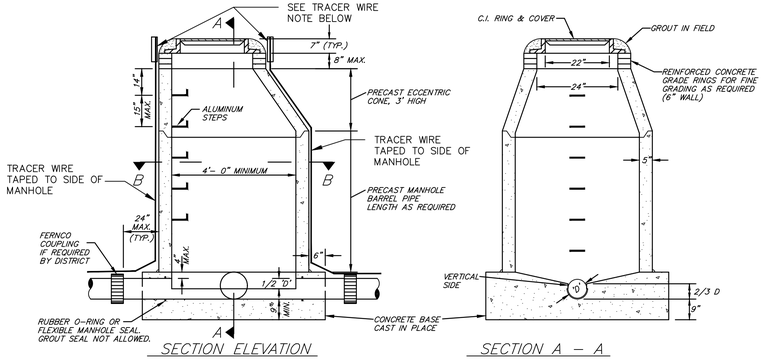
WATER/SEWER CROSSING DETAIL	
TOWN OF NEW CASTLE	
NOT TO SCALE	DWG: SW–60



SECTION B – B

NOTES:

1. All bases shall be cast in place or precast concrete; use #4 rebar on 12" c–c both ways in poured bases.
2. Joint to be located on each side of all manholes, maximum of 24" from inside face.
3. Where available from pipe manufacturer, use expandable water stop or special sleeve as per manufacturer's specifications.
4. Steps to be located on side of bench or over upstream pipe.
5. Use Rub–R–Nek preformed gasket (2 layers) or grout in place between all bottom section, barrel sections, concrete grade rings, and top castings.
6. Backfill within 24" of manhole: Class 6 aggregate or native materials with less than 3" size.
7. Precast rings or metal riser ring course shall be utilized where required with 2 courses minimum and 12 courses maximum (2 minimum, 12" maximum height).
8. Grade adjustment as follows: Greater than, or equal to, 1 foot, concrete barrel sections; less than 1 foot, concrete or metal grade rings.
9. Finish grade as follows: With asphalt or concrete pavements flush; with base course surface or dirt/topsoil –3" below grade.
10. Provide 12 gauge tracer wire on all sewer and water lines.

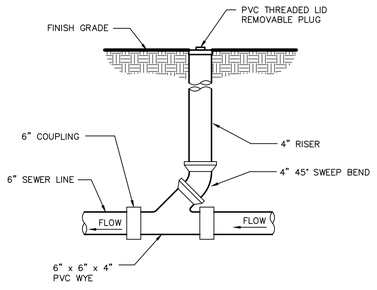


SECTION ELEVATION

SECTION A – A

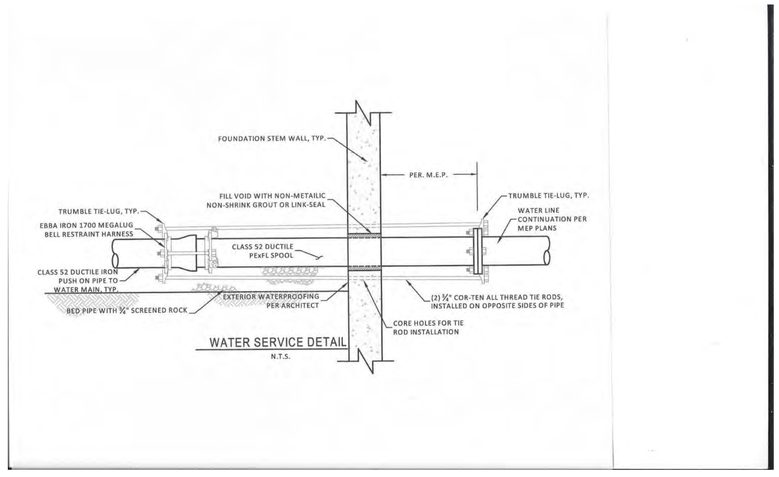
STANDARD MANHOLE CONNECTION DETAIL

N.T.S.



SEWER CLEAN OUT DETAIL

N.T.S.



WATER SERVICE DETAIL

N.T.S.

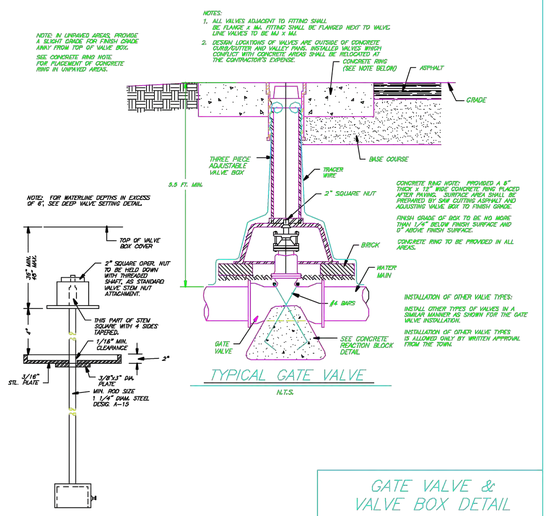
DRAWN & DESIGNED BY: H.E.B.	REVIEWED BY:	PINNACLE DESIGN CONSULTING GROUP, INC.	REVISION	DATE	DESCRIPTION	BY	CH'D
CHECKED BY: H.E.B.	DATE: FOR	CONSULTING ENGINEERS ● 0805 BUCK POINT ROAD CARBONDALE, CO 81623 ● (970) 963-2170 pinnacledesign@sopris.net					

COAL SEAM LLC

LOT 1 HIGHWAY P.U.D. – 7051 COUNTY ROAD 335
WATER AND SEWER DETAILS

SCALE:	JOB NO:	DATE:
N.T.S.	2024.11	10-29-25

SHEET NO: C13

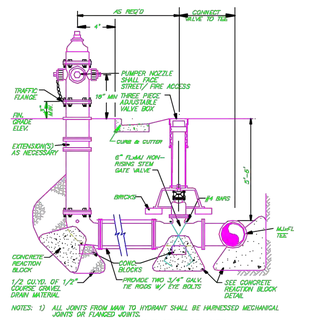


DEEP VALVE SETTING

TYPICAL GATE VALVE

N.T.S.

GATE VALVE & VALVE BOX DETAIL	
TOWN OF NEW CASTLE	
NOT TO SCALE	DWG: WA-10



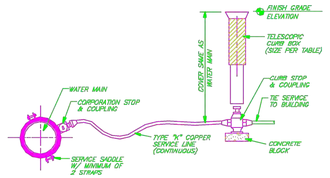
NOTES:
1) ALL JOINTS FROM MAIN TO HYDRANT SHALL BE HARNESSED MECHANICAL JOINTS OR FLANGED JOINTS.
2) HYDRANT, VALVE AND FITTINGS TO BE 250 P.S.I. RATED.
3) POLYETHYLENE WRAP SHALL COVER D.I.P. ASSEMBLY FROM HYDRANT BASE TO WATER MAIN.
4) ALL HYDRANT LEAD PIPING TO BE 6" D.I.P.
5) CENTERLINE OF HYDRANT TO BE 4'-0" FROM BACK OF CURB UNLESS OTHERWISE NOTED.
6) FOR FIRE HYDRANTS ON END OF WATER LINE:
7) CARE SHOULD BE TAKEN TO ASSURE THAT WEEP HOLE REMAINS FREE DRAINING.

FIRE HYDRANT ASSEMBLY INSTALLATION DETAIL

FIRE HYDRANT SETTING DETAIL	
TOWN OF NEW CASTLE	
NOT TO SCALE	DWG: WA-20

SERVICE PIPE	CORP. STOP	CURB STOP	SERVICE BOX
3/4"	3/4"	3/4"	3"
1"	1"	1"	3"
1 1/4"	1 1/4"	1 1/4"	3"
1 1/2"	1 1/4" - 1 1/2"	1 1/2"	3"
2"	1/2" - 2"	2"	3"

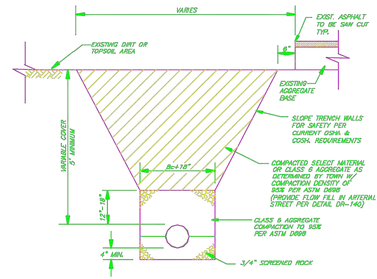
NOTE: CONTRACTOR TO VERIFY THE REQUIRED SERVICE SIZE WITH THE TOWN PRIOR TO INSTALLATION. THE TOWN WILL REQUIRE INDIVIDUAL DEMAND REQUIREMENTS BY THE SERVICE PRIOR TO SERVICE SIZE VERIFICATION.



TYP. WATER SERVICE DETAIL

NOTE:
1. LEAVE CORPORATION STOP AT MAIN IN THE "ON" POSITION.
2. LOCATE THE CURB STOP (AND SERVICE BOX) ON PRIVATE PROPERTY WITHIN TWO (2) FEET OF THE PROPERTY LINE OR AS APPROVED BY THE TOWN.
3. DIRECT TAPS ARE AN ACCEPTABLE ALTERNATIVE GIVEN WRITTEN TOWN APPROVAL.

WATER SERVICE INSTALLATION DETAIL	
TOWN OF NEW CASTLE	
NOT TO SCALE	DWG: WA-30

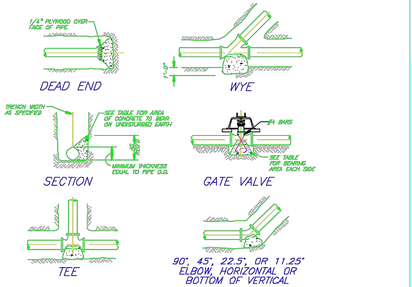


1) PAVEMENT REPLACEMENT SHALL MEET EXISTING THICKNESS AND KIND WITH THE FOLLOWING MINIMUMS: ASPHALT SURFACING = 3" MIN., AGGREGATE BASE COURSE = 6" MIN.
2) FOR UNPAVED SURFACES, BASE COURSE REPLACEMENT SHALL MEET EXISTING THICKNESS WITH THE FOLLOWING MINIMUMS: AGGREGATE BASE COURSE = 12" MIN.
3) DIRT / TOPSOIL PLACEMENT SHALL MEET EXISTING THICKNESS AND KIND WITH THE FOLLOWING MINIMUMS: 4" TOPSOIL.
4) SELECT MATERIAL AS FOLLOWS: 6" MAXIMUM SIZE IN TOP 12" OF BACKFILL, 12" MAXIMUM SIZE IN REMAINDER OF BACKFILL
5) PROVIDE TRACER WIRE TAPED TO THE TOP OF PIPE FOR PVC INSTALLATIONS. (TYPE OF TAPE TO BE APPROVED BY THE TOWN.)
6) PROVIDE POLYETHYLENE WRAP AROUND DUCTILE IRON PIPE INSTALLATIONS. USE A MINIMUM OF 12" LAPS WITH THE POLYETHYLENE WRAP. TAPE WRAP WITH TOWN APPROVED TAPE AT 3'-0" O.C.
7) DETAIL ABOVE FOR "DRY TRENCH" CONDITIONS. FOR UNSTABLE OR "WET TRENCH" CONDITIONS PROVIDE A MINIMUM OF 4" OF 1 1/2" SCREENED ROCK UNDER BEDDING MATERIAL WITH FILTER FABRIC PLACED BELOW AND ABOVE THE SCREENED ROCK.

TRENCH CROSS SECTION

SCALE: 3/4"= 1'-0"

STANDARD WATER MAIN TRENCH SECTION	
TOWN OF NEW CASTLE	
NOT TO SCALE	DWG: WA-40



SIZE (INCHES)	ELBOWS 90° (SQ. FT.)	ELBOWS 45° (SQ. FT.)	ELBOWS 22.5° (SQ. FT.)	ELBOWS 11.25° (SQ. FT.)	TEES & DEAD ENDS	GATE VALVES
4	1.8	1.0	0.5	0	1.3	0.5
6	4.0	2.3	1.1	0	2.8	0.7
8	7.1	3.8	2.0	1.0	5.0	2.4
10	11.1	6.0	3.0	1.5	7.8	4.5
12	16.0	8.6	4.4	2.5	11.3	7.1
14	21.7	11.8	6.0	3.0	15.4	11.0
16	28.4	15.3	8.0	4.0	20.0	16.6
18	36.0	19.4	10.0	5.0	25.4	24.9

AREAS GIVEN IN TABLE ARE BASED UPON AN INTERNAL STATIC PRESSURE OF 100 P.S.I. AND A SOIL BEARING CAPACITY OF 1000 LBS. PER SQ. FT. BEARING AREAS FOR ANY PRESSURE AND SOIL BEARING CAPACITY MAY BE OBTAINED BY MULTIPLYING THE TABULATED VALUES BY A CORRECTION FACTOR "F".

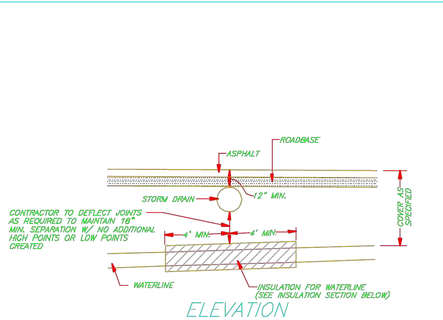
F= ACTUAL SPECIFIED TEST PRESSURE IN HUNDREDS OF LBS.
ACTUAL SOIL BEARING CAPACITY IN THOUSANDS OF LBS. PER SQ. FT.

INSTALLATION OF THRUST BLOCKS ARE NOT ALLOWED FOR CONDITIONS OUTSIDE OF THOSE LISTED. DATA, SUBMITTAL OF CALCULATIONS FOR THE CORRECTION FACTOR ARE SUBMITTED TO AND REVIEWED BY THE TOWN AND WRITTEN APPROVAL BY THE TOWN IS GIVEN.

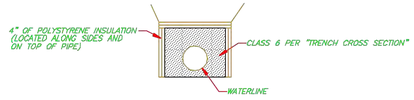
TABLE OF BEARING AREAS IN SQ. FT.

TYP. CONCRETE REACTION BLOCK DETAILS

THRUST BLOCKING DETAILS	
TOWN OF NEW CASTLE	
NOT TO SCALE	DWG: WA-50



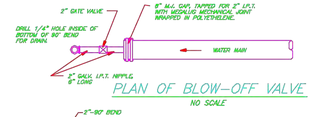
ELEVATION
WATERLINE/CULVERT CROSSING
NO SCALE



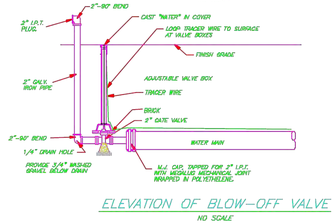
INSULATION SECTION
NO SCALE

NOTE: AS DRAWN, THE INSULATION DETAIL ADDRESSES CULVERT CROSSINGS. PROVIDE THE SAME DETAIL FOR THOSE INSTANCES WHERE THE WATERLINE IS INSTALLED WITHIN 5' OF OPEN AIR.

WATERLINE INSULATION DETAIL	
TOWN OF NEW CASTLE	
NOT TO SCALE	DWG: WA-80

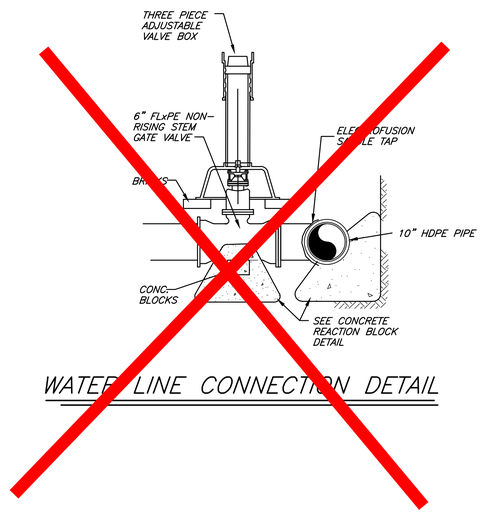


PLAN OF BLOW-OFF VALVE
NO SCALE



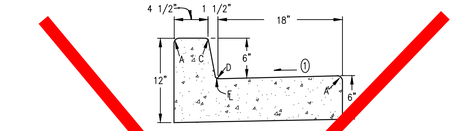
ELEVATION OF BLOW-OFF VALVE
NO SCALE

BLOW OFF DETAIL	
TOWN OF NEW CASTLE	
NOT TO SCALE	DWG: WA-90



WATER LINE CONNECTION DETAIL

DRAWN & DESIGNED BY: H.E.B.	REVIEWED BY:	PINNACLE DESIGN CONSULTING GROUP, INC.	REVISION	DATE	DESCRIPTION	BY	CH'D	COAL SEAM LLC	SCALE: N.T.S.	JOB NO: 2024.11	DATE: 10-29-25
CHECKED BY: H.E.B.	DATE: FOR:	CONSULTING ENGINEERS ● 0805 BUCK POINT ROAD CARBONDALE, CO 81623 ● (970) 963-2170 pinnacledesign@sopris.net						LOT 1 HIGHWAY P.U.D. – 7051 COUNTY ROAD 335 WATER DETAILS	SHEET NO: C14		



CURB AND GUTTER
(6" BARRIER – 18" GUTTER)

LEGEND FOR RADII
A = 1/8' TO 1/4"
B = 1"
C = 1 1/2"
D = 1 1/2" TO 2"

GENERAL NOTES

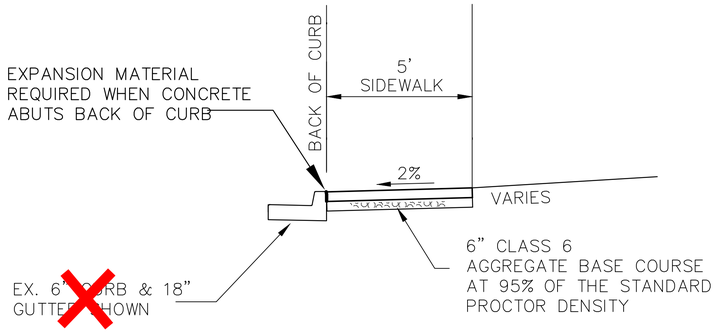
ON CURVES 3' OR LESS, CURBS AND/OR GUTTERS ARE TO BE PLACED ON THE ARC OF THE CURVE UNLESS OTHERWISE NOTED ON THE PLANS. A MAXIMUM CHORD LENGTH OF 10 FEET MAY BE USED WHEN THE CURVE IS LESS THEN 3'.

▲ — EXPANSION JOINTS SHALL BE INSTALLED WHEN ABUTTING EXISTING CONCRETE OR FIXED STRUCTURE. EXPANSION JOINT MATERIAL SHALL BE 1/2" THICK AND SHALL EXTEND THE FULL DEPTH OF CONTACT SURFACE.

CONCRETE SHALL BE CLASS B UNLESS OTHERWISE SPECIFIED.

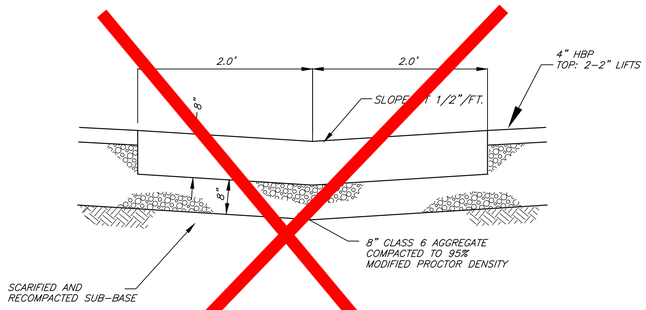
① — GUTTER CROSS SLOPES SHALL BE 0.04 FT/FT WHEN DRAINING AWAY FROM CURB AND 0.08 FT/FT WHEN DRAINING TOWARD CURB.

PROFILE GRADE OF CURBS AND GUTTERS SHALL BE LOCATED AT THE FLOW LINE.



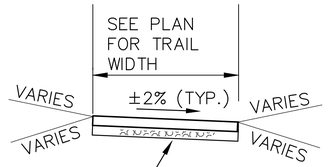
TYPICAL SIDEWALK CROSS–SECTION

N.T.S.



TYPICAL VALLEY PAN SECTION

N.T.S.



TYP. 3" THICK ASPHALT TRAIL
ON 6" OF CLASS 6 AGGREGATE
BASE COURSE COMPACTED TO 95%
MODIFIED PROCTOR DENSITY

NOTE:
IF SUB–BASE SOIL MATRIX IS FOUND TO BE NON–STRUCTURAL, CONTRACTOR SHALL SUB–EXCAVATE NON–SUITABLE SOILS AND PLACE COMPACTED STRUCTURAL FILL BELOW CLASS 6 BASE COURSE LAYER.

TYPICAL TRAIL SECTION

N.T.S.

DRAWN & DESIGNED BY: H.E.B.	REVIEWED BY:	PINNACLE DESIGN CONSULTING GROUP, INC.	REVISION	DATE	DESCRIPTION	BY	CH'D
CHECKED BY: H.E.B.	DATE: FOR	CONSULTING ENGINEERS ● 0805 BUCK POINT ROAD CARBONDALE, CO 81623 ● (970) 963-2170					

COAL SEAM LLC

LOT 1 HIGHWAY P.U.D. – 7051 COUNTY ROAD 335
CURB & GUTTER, AND VALLEY PAN DETAILS

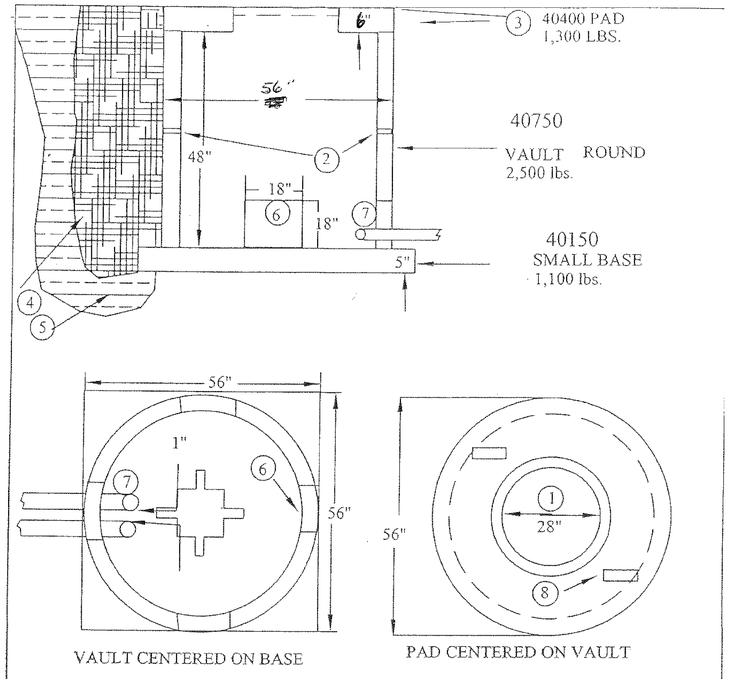
SCALE:	JOB NO:	DATE:
N.T.S.	2024.11	10–29–25

SHEET NO: C15

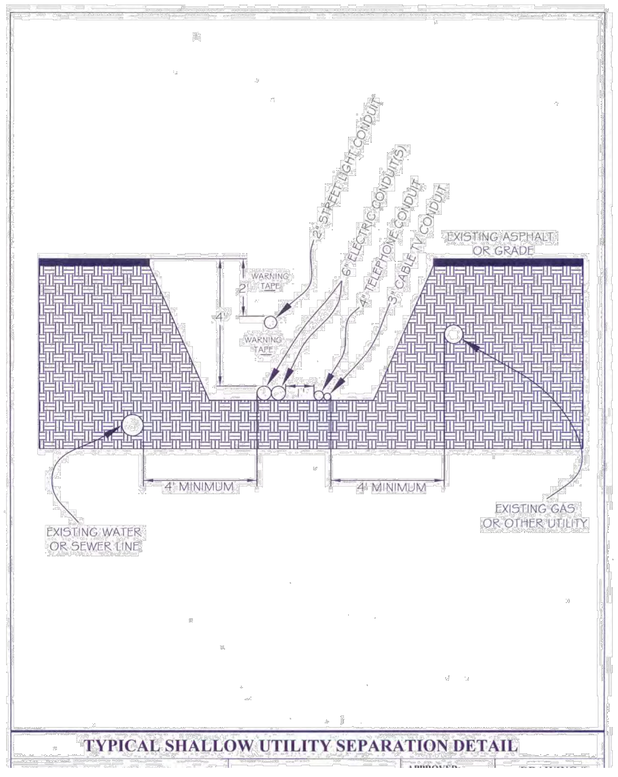
CABLE TV PEDESTAL CONNECTION PHOTO

GAS LINE CONNECTION PHOTO

TELEPHONE PEDESTAL CONNECTION PHOTO



ELECTRIC MAIN CONNECTION DETAIL



DRAWN & DESIGNED BY: H.E.B.	REVIEWED BY:	PINNACLE DESIGN CONSULTING GROUP, INC.	COAL SEAM LLC
CHECKED BY: H.E.B.	DATE: FOR:	CONSULTING ENGINEERS ● 0805 BUCK POINT ROAD CARBONDALE, CO 81623 ● (970) 963-2170	LOT 1 HIGHWAY P.U.D. – 7051 COUNTY ROAD 335 SHALLOW UTILITY CONNECTIONS AND DETAILS

REVISION	DATE	DESCRIPTION	BY	CH'D

SCALE:	JOB NO:	DATE:
N.T.S.	2024.11	10-29-25

SHEET NO: C16

HYDROSTATIC TESTING

NEWLY INSTALLED WATER MAINS AND FIRE LINES SHALL BE HYDROSTATICALLY TESTED. HYDROSTATIC TESTS SHALL NOT BE MADE ON ANY PORTION OF THE PIPELINE UNTIL FIELD PLACED CONCRETE HAS HAD ADEQUATE CURING TIME.

ENGINEER SHALL BE NOTIFIED 24 HOURS IN ADVANCE OF TESTING. TESTING SHALL BE MADE IN THE PRESENCE OF THE TOWN OF NEW CASTLE.

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

A. WATER MAY BE TAKEN FROM A NEARBY PRESSURIZED WATER SOURCE THAT WAS PREVIOUSLY CHLORINATED, TESTED, AND ACCEPTED, SUCH AS A FIRE HYDRANT.

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

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

THE METHOD OF SUPPLYING WATER AND THE SOURCE OF WATER FOR HYDROSTATIC TESTING MUST BE CERTIFIED AND APPROVED BY THE TOWN OF NEW CASTLE. THE USE OF BARRELS, SANITARY OR OTHERWISE, TO SUPPLY WATER FOR HYDROSTATIC TESTING IS PROHIBITED.

CONTRACTOR SHALL FURNISH THE CALIBRATED METER FOR TESTING AND THE SUPPLY THE PUMP. THE PIPELINE SHALL BE PROPERLY BACKFILLED AND IN A STATE OF READINESS FOR TESTING. BULKHEADS, PUMPS, TAPS, AND APPURTENANCES NECESSARY TO FILL THE PIPELINE AND MAINTAIN THE REQUIRED PRESSURE SHALL BE IN PLACE AND THE PIPELINE FILLED WITH WATER. THE TEST PRESSURE OF 150 PSI SHALL THEN BE APPLIED TO THE PIPELINE BY MEANS OF A CONTINUOUSLY OPERATING PUMP THAT IS EQUIPPED WITH A BYPASS VALVE FOR PRESSURE REGULATION. THE PIPELINE SHALL BE FILLED AT A RATE THAT DOES NOT CAUSE SURGES AND DOES NOT EXCEED THE RATE AT WHICH AIR CAN BE RELEASED. 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, TOWN OF NEW CASTLE WILL REQUIRE A TAP TO PURGE THE LINE. THE LOCATION AND THE SIZE OF THE TAP TO BE USED IS AT THE TOWN OF NEW CASTLE'S DISCRETION.

WHILE THE TEST PRESSURE IS MAINTAINED, AN EXAMINATION SHALL BE MADE OF THE PIPELINE AND ANY LEAKS LOCATED AND REPAIRED. PIPE OR FITTINGS FOUND TO BE FAULTY SHALL BE REMOVED AND REPLACED. LEAKAGE IS NOT ALLOWED THROUGH THE BONNET OF THE LINE VALVE. A VALVE LEAKING THROUGH THE BONNET MAY BE REPAIRED IN PLACE OR REMOVED AND REPLACED. CUTTING AND REPLACEMENT OF PAVEMENT AS WELL AS EXCAVATION AND BACKFILLING MAY BE NECESSARY WHEN LOCATING AND REPAIRING LEAKS DISCOVERED DURING PRESSURE TESTING. AFTER VISIBLE LEAKS ARE STOPPED, THE FULL TEST PRESSURE SHALL BE MAINTAINED FOR 1 CONTINUOUS HOUR. ALLOWABLE LEAKAGE FOR EACH SECTION BETWEEN LINE VALVES SHALL NOT EXCEED THE FOLLOWING LEAKAGE RATES FOR 4 THROUGH 20-INCH DISTRIBUTION AND TRANSMISSION MAINS:

ALLOWABLE LEAKAGE PER HOUR

PIPE SIZE (INCHES)	GALLONS PER 1,000 FEET OF PIPE
4"	0.33 GAL.
6"	0.50 GAL.
8"	0.66 GAL.
12"	0.99 GAL.
16"	1.32 GAL.
20"	1.66 GAL.

SHOULD TESTING SHOW A LEAKAGE RATE IN EXCESS OF THE RATES SHOWN, THE PIPELINE WILL NOT BE ACCEPTED. THE PIPELINE SHALL BE

CHLORINATION

MAIN EXTENSIONS AND PRIVATE PIPE EXTENSIONS SHALL BE CHLORINATED IN ACCORDANCE WITH AWWA C651 AND THE REQUIREMENTS OF THE LOCAL HEALTH AUTHORITY HAVING JURISDICTION PRIOR TO ACCEPTANCE BY THE TOWN OF NEW CASTLE.

Testing and Inspection

PRIOR TO ACCEPTANCE, A VISUAL EXAMINATION OF THE SEWER SYSTEM SHALL BE DONE. THE INSPECTOR SHALL VISUALLY LAMP THE PIPELINE CHECKING FOR A "FULL MOON" TO DETERMINE LAYING ALIGNMENT AND TO CHECK FOR BLOCKAGES. THE INSPECTOR SHALL VISUALLY CHECK EACH MANHOLE'S INTERIOR FOR FLAWS, CRACKS, HOLES, OR OTHER INADEQUACIES THAT MIGHT AFFECT THE OPERATION OR WATERTIGHT INTEGRITY OF THE MANHOLE. SHOULD ANY INADEQUACIES BE FOUND, THE CONTRACTOR SHALL MAKE REPAIRS DEEMED NECESSARY BY THE INSPECTOR.

PRIOR TO ACCEPTANCE, THE CONTRACTOR, AT HIS OWN EXPENSE, FOR ALL NEW SEWER CONSTRUCTION, WILL CONDUCT TESTS FOR WATER TIGHTNESS. TESTS SHALL BE COMPLETED UNDER THE DIRECTION OF THE UTILITIES DIRECTOR. THE UTILITIES DIRECTOR MAY REQUIRE THAT THE FIRST TWO (2) MANHOLES, INCLUDING THE MAIN BETWEEN THEM, OF ALL SEWER PROJECTS BE TESTED BEFORE FURTHER CONSTRUCTION TO PERMIT INITIAL OBSERVATION OF THE QUALITY OF CONSTRUCTION WORKMANSHIP. THE UTILITIES DIRECTOR MAY REQUIRE ADDITIONAL TESTING DURING THE COURSE OF CONSTRUCTION IF INFILTRATION APPEARS TO BE EXCESSIVE OR THE QUALITY OF WORKMANSHIP IS QUESTIONABLE.

LOW PRESSURE AIR TESTING OF THE SEWER LINES (INCLUDING SERVICES) AND VACUUM TESTING OF ALL MANHOLES WILL BE REQUIRED BY THE UTILITIES DIRECTOR. AIR AND VACUUM TESTING SHALL BE COMPLETED IN ACCORDANCE WITH ASTM C-828 AND AS DESCRIBED HEREIN. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AND PERSONNEL NECESSARY TO PERFORM THE REQUIRED TESTS. THE UTILITIES DIRECTOR SHALL RECORD TIMES AND PRESSURE AND VACUUM READINGS DURING THE TEST PERIOD. A TEST SECTION SHALL NOT BE ANY LONGER THAN THE LENGTH OF PIPE BETWEEN ADJACENT MANHOLES. THE LOW-PRESSURE AIR TEST FOR SEWER LINES AND THE VACUUM TEST FOR MANHOLES SHALL BE DONE AFTER COMPLETION OF BACKFILLING AND COMPACTION. IF THE UTILITIES DIRECTOR DETERMINES THAT RELIABLE AND UNIFORM RESULTS ARE PRODUCED BY THE CONTRACTOR'S CONSTRUCTION METHODS, THE LOW-PRESSURE AIR TEST MAY BE DONE AFTER INITIAL BACKFILL AND COMPACTION.

AIR TESTING PIPELINE

THE ENDS OF THE SEWER PIPE BEING TESTED SHALL BE PLUGGED AND BRACED AND THE TEST SECTION SHALL BE PRESSURIZED TO FOUR (4) PSI. THE PRESSURE PUMP SHALL BE TURNED OFF AND THE AIR IN THE PIPE ALLOWED STABILIZING FOR A MINIMUM OF TWO (2) MINUTES OR UNTIL THE PRESSURE REACHES THREE AND ONE-HALF (3.5) PSI. THE TIME SHALL BE MONITORED AS THE LINE EITHER HOLDS PRESSURE OR DROPS NO MORE THAN ONE-HALF (.5) PSI (IF THE GROUND WATER IS HIGHER THAN THE TOP OF THE PIPE, THE TEST PRESSURE WILL BE INCREASED TO ACCOUNT FOR THE HIGH GROUNDWATER).

THE PORTION OF THE LINE BEING TESTED SHALL BE TERMED "ACCEPTABLE" IF THE TIME REQUIRED IN MINUTES FOR THE PRESSURE TO DECREASE FROM 3.5 TO 3.0 PSIG (GREATER THAN THE AVERAGE BACK PRESSURE OF ANY GROUND WATER THAT MAY BE OVER THE PIPE) SHALL NOT BE LESS THAN THE TIME SHOWN FOR THE GIVEN DIAMETERS IN THE FOLLOWING TABLE:

SPECIFICATION TIME REQUIRED FOR A 0.5PSIG PRESSURE DROP FOR SIZE AND LENGTH OF PIPE

MINIMUM FOR FOR SPECIFIED MINIMUM FOR LENGTH (L) SHOWN (MIN: SEC)

DIAMETER (IN.)	(MIN: TIME SEC)	LENGTH (FT) 100FT	150FT	200FT	250FT	300FT	350FT	400FT
8	3:47	3:47	3:47	3:47	3:47	3:48	4:26	5:04

IF GROUND WATER IS KNOWN TO EXIST, THE TEST PRESSURE IS TO BE INCREASED. AN AIR PRESSURE ADJUSTMENT SHALL BE ADDED TO THE NORMAL TEST STARTING PRESSURE WHEN GROUND WATER IS PRESENT. THE HEIGHT OF GROUND WATER IN FEET SHALL BE DIVIDED BY ALL READINGS. (FOR EXAMPLE, IF THE HEIGHT OF WATER IS ELEVEN (11) AND ONE HALF (1/2) FEET, THEN THE ADDED PRESSURE WILL BE 5 PSIG. THIS INCREASES THE 3.5 PSIG TO 8.5 PSIG, AND THE 2.5 PSIG TO 7.5 PSIG. THE ALLOWABLE DROP OF ONE POUND AND THE TIMING REMAIN THE SAME. IN NO CASE HOWEVER, SHOULD THE STARTING TEST PRESSURE EXCEED 9.0 PSIG.

SECTIONS OF PIPE THAT FAIL THE AIR TEST SHALL HAVE THE DEFECTS REPAIRED AND THE TEST SHALL BE REPEATED. REPAIR AND REPEAT TESTING SHALL BE CONTINUED UNTIL THE TESTING REQUIREMENTS ARE MET.

VACUUM TESTING MANHOLES

MANHOLES SHALL BE TESTED BEFORE THE RING AND COVER AND GRADE ADJUSTMENT RINGS HAVE BEEN INSTALLED. ALL PIPES ENTERING THE MANHOLE SHALL BE PLUGGED AND BRACED AND A VACUUM OF TEN (10) INCHES OF MERCURY SHALL BE DRAWN. THE VACUUM PUMP SHALL BE TURNED OFF AND THE TIME MONITORED AS THE VACUUM DROPS ONE (1) INCH. THE VACUUM MUST NOT DROP MORE THAN ONE (1) INCH FOR THE DURATION OF THE TIME INDICATED IN THE FOLLOWING TABLE:

MINIMUM TEST TIMES FOR 48" DIAMETER

	DIAMETER (IN.)
	48
DEPTH (FT)	TIME (SEC)
8	20
10	25
12	30
14	35
16	40
18	45
20	50

MANHOLES THAT FAIL THE VACUUM TEST SHALL HAVE THE DEFECTS LOCATED AND REPAIRED AND THE TEST SHALL BE REPEATED. REPAIR AND REPEAT TESTING SHALL BE CONTINUED UNTIL THE TESTING REQUIREMENTS ARE MET.

DEFLECTION TESTING PIPING

ALL PVC SEWER PIPELINES SHALL JET-RODDED AND CCTV AT THE CONTRACTOR'S EXPENSE AFTER PLACEMENT AND COMPACTION OF BACKFILL. THE CONTRACTOR WILL ALSO BE REQUIRED TO CCTV ALL SEWER LINES AFTER FINAL ASPHALT PLACEMENT.

ALL PVC SEWER PIPELINES SHALL BE TESTED FOR VERTICAL DEFLECTION AFTER PLACEMENT AND COMPACTION OF BACKFILL UNLESS THE INSPECTOR SPECIFICALLY EXPECTS TESTING. METHOD OF TESTING SHALL BE BY DEFLECTOMETER OF THE RIGID GO/NO-GO TYPE DEVICE. AN ALTERNATIVE METHOD WILL BE PERMITTED ONLY BY WRITTEN PERMISSION OF THE INSPECTOR. MAXIMUM ALLOWABLE DEFLECTION SHALL BE FIVE (5) PERCENT OF THE PIPE DIAMETER. ANY AND ALL PIPE WITH VERTICAL DEFLECTION GREATER THAN THE ALLOWABLE SHALL BE EXCAVATED, REMOVED FROM THE PIPELINE, REPLACED, BACKFILLED AND COMPACTED AS SPECIFIED AND RETESTED.

WHEN REQUIRED, INFILTRATION TESTS SHALL BE CONDUCTED BY PLACING AN APPROVED, CALIBRATED V-NOTCH WEIR IN THE LINE JUST ABOVE THE LOWER MANHOLE AND PLUGGING THE LINE JUST ABOVE THE UPPER MANHOLE. UP TO AN HOUR TIME LAPSE WILL BE ALLOWED FOR THE LEVEL OF WATER BEHIND THE WEIR TO STABILIZE BEFORE IT IS READ. ANY FOREIGN MATTER HANGING TO THE WEIR WILL BE DISLODGED BEFORE READING. SUCCESSIVE READINGS WILL BE TAKEN UNTIL CONSISTENT RESULTS ARE ATTAINED.

WHEN REQUIRED, EXFILTRATION TESTS WILL BE CONDUCTED BY PLUGGING THE LINE JUST ABOVE BOTH THE UPPER AND LOWER MANHOLES AND ADDING WATER TO THE SEWER UP TO A LEVEL MARKED IN THE UPPER MANHOLE TO PRODUCE A FOUR (4) FOOT HEAD ON THE INVERT OF THE LINE AT THE MIDPOINT BETWEEN MANHOLES. THE WATER WILL BE ALLOWED TO STAND FOR A MINIMUM OF FOUR (4) HOURS (PREFERABLY OVERNIGHT) TO ALLOW ABSORPTION TO TAKE PLACE IN THE WALLS OF THE MANHOLE AND PIPE. WATER WILL THEN BE ADDED TO BRING THE WATER SURFACE BACK TO THE MARK. AFTER A CAREFULLY TIMED INTERVAL, VARYING FROM FIFTEEN (15) MINUTES TO SIXTY-- (60) MINUTES, THE DROP IN ELEVATION OF THE WATER SURFACE WILL BE RECORDED AND CONVERTED TO AN EXFILTRATION RATE, OR A MEASURED AMOUNT OF WATER WILL BE ADDED TO BRING THE WATER LEVEL BACK TO THE MARK AND THIS AMOUNT OF WATER CONVERTED TO AN EXFILTRATION RATE.

THE EXFILTRATION RATE OF THE UPPER MANHOLE MAY BE DETERMINED IN THE SAME MANNER BY PLUGGING THE LINE IN BOTH SIDES OF THIS MANHOLE. THIS AMOUNT OF EXFILTRATION MAY BE SUBTRACTED FROM THE RATE DETERMINED ABOVE FOR THE FIRST TEST REQUIRED ON THE PROJECT IN ORDER TO DETERMINE THE ACTUAL EXFILTRATION RATE RESULTING FROM THE PIPE JOINT LEAKAGE. THE PRACTICAL UPPER LIMIT OF HEAD APPLIED TO THE LOWER PART OF THE LINE BEING TESTED IS TWENTY (20) FEET. WHENEVER THE LINE IS SO STEEP AS TO REQUIRE MORE HEAD THAN THIS, AN EXFILTRATION TEST WILL NOT BE ATTEMPTED. THE BASIC EXFILTRATION LEAKAGE ALLOWANCE WILL BE INCREASED BY TEN PERCENT (10%) FOR EACH TWO (2) FEET THAT THE AVERAGE ACTUAL HEAD EXCEEDS THE BASIC FOUR (4) FEET OF HEAD, UP TO A MAXIMUM OF THIRTY PERCENT (30%).

WHENEVER THE RATE OF INFILTRATION OR EXFILTRATION IS FOUND TO EXCEED THE PRESCRIBED AMOUNT, THE CONTRACTOR SHALL STOP ALL CONSTRUCTION. THE CONTRACTOR SHALL MAKE APPROPRIATE REPAIRS BY METHODS ACCEPTABLE TO THE UTILITIES DIRECTOR AND WILL CONTINUE TO TEST THE CONDUIT UNTIL IT IS PROVEN SATISFACTORY.

DRAWN & DESIGNED BY: H.E.B.
CHECKED BY: H.E.B.
REVIEWED BY: _____
DATE: _____ FOR _____

PINNACLE DESIGN CONSULTING GROUP, INC.
CONSULTING ENGINEERS ● 0805 BUCK POINT ROAD
CARBONDALE, CO 81623 ● (970) 963-2170
pinnacledesign@sopris.net

REVISION	DATE	DESCRIPTION	BY	CH'D

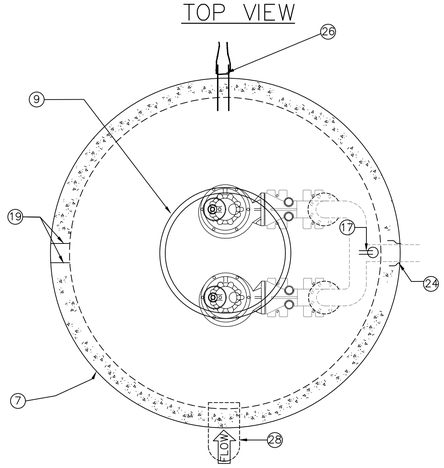
COAL SEAM LLC

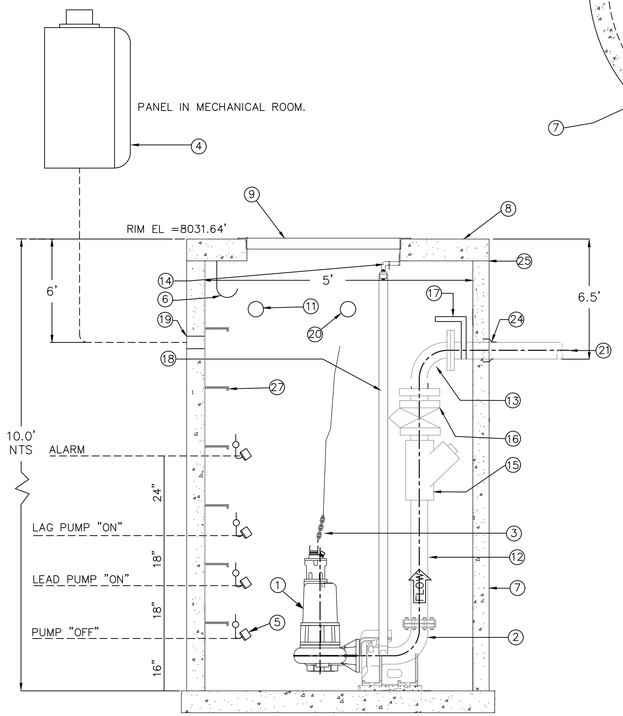
LOT 1 HIGHWAY P.U.D. – 7051 COUNTY ROAD 335
WATER AND SEWER TESTING SPECS

SCALE: N.T.S. | JOB NO: 2024.11 | DATE: 10-29-25
SHEET NO: C17

N.T.S.

TOP VIEW





60" DIAMETER CONCRETE MANHOLE

SIDE VIEW

N.T.S.

KEYED NOTES		
MARK	QTY	DESCRIPTION
1	2	HYDROMATIC PUMP
2	2	2" BASE ELBOWS
3	2	STAINLESS STEEL LIFTING CHAIN
4	1	DUPLEX CONTROL PANEL NEMA 4X (MOUNTED & WIRED BY CONTRACTOR)
5	4	FLOAT SWITCH
6	1	SS FLOAT HANGER
7	1	48" DIA x 12' DEEP CONCRETE WET WELL
8	1	6" THK FLAT CONCRETE TOP
9	1	24" DIAMETER ALUMINIUM COVER (300 PSF)
11	1	4" PVC VENT - PIPE TO ROOF PER UPC
12	2	6" SCH 80 PVC PIPE
13	2	6" SCH 80 PVC 90° ELBOW
14	2	SS UPPER GUIDE BRACKETS
15	2	BALL CHECK VALVE
16	2	TRUE UNION BALL VALVE
17	1	BALL VALVE
18	4	SS GUIDE RAILS
19	1	8" SDR-26 PVC SEWER SERVICE PIPE
20	1	2" ELECTRIC CONDUIT
21	1	CONNECT TO 6" HDPE FM SEWER PIPE
24	2	RESILIENT RUBBER BOOT
25	-	ALL JOINTS MADE WATER-TIGHT w/ PLASTIC FLEXIBLE GASKET (RAM-NEX)
26	1	CONDUIT SEAL TO BE SUPPLIED BY CONTRACTOR TO MEET CODES AND PREVENT SURFACE WATER FROM ENTERING J. BOX
27	-	STEPS REQ'D IN MANHOLE (TYP.)
28	1	SEWER SERVICE INLET PIPING SEAL w/ NON-SHRINK GROUT (BY OTHERS)

SPECIFICATIONS

ALUMINIUM COVER:
36" DIAMETER SKID-RESISTANT

PUMPS:
PUMPS SHALL BE CENTRIFUGAL GRINDER TYPE SOLIDS HANDLING WITH SUBMERSIBLE TYPE MOTOR. PUMPS SHALL HAVE A CAPACITY AS FOLLOWS:

HYDROMATIC PUMPS 110 GPM ~~(VERIFY HEAD WITH TOWN OF NEW CASTLE PRIOR TO ORDERING)~~

CONTROLS:
PUMP CONTROLS SHALL BE MOUNTED INSIDE A UL LISTED NEMA-4X ENCLOSURE AND INCLUDE CIRCUIT BREAKERS, ALARM CIRCUIT FUSE, IEC RATED MOTOR STARTER, PUMP HOA, AND ALTERNATOR RELAY. PANEL SHALL HAVE A VISUAL ALARM BEACON. PANEL IS DESIGNED FOR REMOTE MOUNTING.

TO BE DETERMINED BY ENGINEER OF RECORD AND COORDINATED WITH THE TOWN OF NEW CASTLE.

DRAWN & DESIGNED BY: H.E.B.	REVIEWED BY:	PINNACLE DESIGN CONSULTING GROUP, INC.	REVISION	DATE	DESCRIPTION	BY	CH'D
CHECKED BY: H.E.B.	DATE: FOR	CONSULTING ENGINEERS ● 0805 BUCK POINT ROAD CARBONDALE, CO 81623 ● (970) 963-2170 pinnacledesign@sopris.net					

COAL SEAM LLC

LOT 1 HIGHWAY P.U.D. – 7051 COUNTY ROAD 335
SEWER LIFT STATION DETAILS

SCALE:	JOB NO:	DATE:
N.T.S.	2024.11	10-29-25

SHEET NO: C18