

NDDOT ABBREVIATIONS

D-101-1

?	This is a special text character used in the labeling of existing features. It indicates a feature that has an unknown characteristic, potentially based on: lack of description, location accuracy or purpose.	C Gdrl	cable guardrail	Culv	culvert	FOS	factor of safety
Abn	abandoned	Calc	calculate	C&G	curb & gutter	Fed	Federal
Abut	abutment	CIP	cast iron pipe	CI	curb inlet	FP	feed point
Adj	adjusted	CB	catch basin	CR	curb ramp	Fn	fence
Aggr	aggregate	CRS	cationic rapid setting	C	cut	Fn P	fence post
Ahd	ahead	C Gd	cattle guard	Dd Ld	dead load	FO	fiber optic
ARV	air release valve	C To C	center to center	Defl	deflection	FD	field drive
Align	alignment	CL or $\varnothing$	centerline	Defm	deformed	F	fill
Al	alley	Ch	chain	DInt	delineate	FAA	fine aggregate angularity
Alt	alternate	Chnlk	chain-link	DIntr	delineator	FH	fire hydrant
Alum	aluminum	Ch Blk	channel block	Depr	depression	FI	flange
ADA	Americans with Disabilities Act	Ch Ch	channel change	Desc	description	Flrd	flared
&	and	Chk	check	Det	detail	FES	flared end section
Appr	approach	Chsld	chiseled	DWP	detectable warning panel	F Bcn	flashing beacon
Approx	approximate	Cir	circle	Dtr	detour	FA	flight auger sample
ACP	asbestos cement pipe	Cl	class	Dia or $\varnothing$	diameter	FL	flow line
Asph	asphalt	Clnt	clean-out	Dir	direction	Ftg	footing
AC	asphalt cement	Clr	clear	Dist	distance	FM	force main
Assmd	assumed	Cl&gr	clearing & grubbing	DM	disturbed material	Fnd	found
@	at	Comb.	combination	DB	ditch block	Fdn	foundation
Atten	attenuation	Coml	commercial	DG	ditch grade	Frac	fractional
ATR	automatic traffic recorder	Compr	compression	Dbl	double	Frwy	freeway
Ave	Avenue	CADD	computer aided drafting & design	Dn	down	Frt	front
Avg	average	Conc	concrete	Dwg	drawing	FF	front face
ADT	average daily traffic	CECB	concrete erosion control blanket	Dr	drive	F Disp	fuel dispenser
		Cond	conductor	Drw	driveway	FFP	fuel filler pipes
		Const	construction	DI	drop inlet	FLS	fuel leak sensor
		Cont	continuous	D	dry density	Furn	furnish/ed
		CSB	continuous split barrel sample				
		Contr	contraction				
		Contr	contractor				
Bk	back	CP	control point	Ea	each		
BF	back face	Coord	coordinate	Esmt	easement		
Balc	balcony	Cor	corner	E	East		
B Wire	barbed wire	Corr	corrected	EB	Eastbound		
Barr	barricade	CAES	corrugated aluminum end section	Elast	elastomeric		
Btry	battery	CAP	corrugated aluminum pipe	EL	electric locker		
BI	beehive inlet	CMES	corrugated metal end section	E Mtr	electric meter		
Beg	begin	CMP	corrugated metal pipe	EVSE	electric vehicle supply equipment		
BG	below grade	CPVCP	corrugated poly-vinyl chloride pipe	Elec	electric/al		
BM	bench mark	CSES	corrugated steel end section	EDM	electronic distance meter		
Bkwy	bikeway	CSFES	corrugated steel flared end section	Elev or El	elevation		
Bit	bituminous	CSP	corrugated steel pipe	Ellipt	elliptical		
Blk	block	CSTES	corrugated steel traversable end section	Emb	embankment		
BH	bore hole	Co	County	Emuls	emulsion/emulsified		
Bot	bottom	Crse	course	ES	end section		
Blvd	Boulevard	Ct	Court	Engr	engineer		
Bndry	boundary	Xarm	cross arm	ESS	environmental sensor station		
Brkwy	breakaway	Xbuck	cross buck	Eq	equal		
Br	bridge	Xsec	cross sections	Evgr	evergreen		
Bldg	building	Xing	crossing	Exc	excavation		
Bus.	business	Xrd	crossroad	Exst	existing		
BV	butterfly valve	Crn	crown	Exp	expansion		
Byp	bypass			Expy	Expressway		
				E	external of curve		
				Extru	extruded		

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04-23-18	General Revisions
09-20-18	General Revisions
12-18-20	General Revisions
08-16-22	General Revisions
04-14-25	General Revisions



NDDOT ABBREVIATIONS

D-101-2

Galv galvanized
Gar garage
Gs L gas line
G Reg gas line regulator
GMV gas main valve
G Mtr gas meter
GSV gas service valve
GVP gas vent pipe
GV gate valve
Ga gauge
Gov government
Grd graded/grade
Grnd ground
GWM ground water monitor
Gdrl guardrail
Gtr gutter

H Plg H piling
Hdwl headwall
Ht height
Hel helical
HDPE high density polyethylene
HM high mast
HP high pressure
HPS high pressure sodium
HTCG high tension cable guardrail
Hwy highway
Hor horizontal
HBP hot bituminous pavement
HMA hot mix asphalt
Hyd hydrant
Ph hydrogen ion content

Id identification
Incl inclinometer tube
IMH inlet manhole
ID inside diameter
Inst instrument
Intchg interchange
Intmdt intermediate
Intscn intersection
Inv invert
IP iron pipe

Ln lane
Lg large
Lat latitude
Lt left
Lens lenses
Lvl level
Lvng leveling
Lht light
LP light pole
Ltg lighting
Liq liquid
LL liquid limit
Loc location
Long. longitude
Lp loop
LD loop detector
Lum luminaire

Mb mailbox
ML main line
MH manhole
Mkd marked
Mkr marker
Mkg marking
MA mast arm
Matl material
Max maximum

Meas measure
Mdn median
MD median drain
MC medium curing
MGS Midwest Guardrail System
MM mile marker
MP mile post
Min minimum
Misc miscellaneous
Mon monument
Mnd mound
Mtbl mountable
Mtd mounted
Mtg mounting
Mk muck

Neop neoprene
Ntwk network
N North
NE Northeast
NW Northwest
NB Northbound
No. or # number

Obsc obscure(d)
Ocpd occupied
Ocpy occupy
O/s offset
OC on center
C one dimensional consolidation
OC organic content
Orig original
O To O out to out
OD outside diameter
OH overhead

PMT pad mounted transformer
Pg pages
Pntd painted
Pr pair
Pnl panel
Pk park
PSD passing sight distance
Pvmt pavement
Ped pedestal
Ped pedestrian
PPP pedestrian pushbutton post
Pen. penetration
Perf perforated
Per. perimeter
Perm permanent
PL pipeline
Pl place
P&P plan & profile
PL plastic limit
Pl or $\overline{P}$ plate
Pt point
PE polyethylene
PVC polyvinyl chloride
PCC Portland Cement concrete
PP power pole
Preempt preemption
Prefab prefabricated
Prfmd or Pref preformed
Prep preperation
Press. pressure
PRV pressure relief valve
Prestr prestressed
Pvt private
PD private drive
Prod. production/produce
Prog programmed
Prop. property
Ppsd proposed
PB pull box

Qty quantity
Qtr quarter

Rad or R radius
RR railroad
Rlwy railway
Rsd raised
RC rapid curing
Rec record
Rcy recycle
RAP recycled asphalt pavement
RPCC recycled portland cement concrete
Ref reference
R Mkr reference marker
RM reference monument
RP reference point
Refl reflectorized
RCB reinforced concrete box
RCES reinforced concrete end section
RCFES reinforced concrete flared end section
RCP reinforced concrete pipe
RCPS reinforced concrete pipe sewer
RCTES reinforced concrete traversable end section
Reinf reinforcement
Res reservation
Res residence
Ret retaining
Rev reverse
Rt right
R/W right of way
Riv river
Rd road
Rdbd road bed
Rdwy roadway
RWIS roadway weather information system
Rk rock
Rt route

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NDDOT ABBREVIATIONS

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Salv	salvage(d)	Tel	telephone
San	sanitary sewer line	Tel B	Telephone Booth
Sec	section	Tel P	telephone pole
SL	section line	Tv	television
Sep	separation	Temp	temperature
Seq	sequence	Temp	temporary
Serv	service	TBM	temporary bench mark
Sht	sheet	T	thinwall tube sample
Shtng	sheeting	Ts	topsoil
Shldr	shoulder	Traf	traffic
Sw or Sdwk	sidewalk	TSCB	traffic signal control box
SD	sight distance	Tr	trail
SN	sign number	Transf	transformer
Sig	signal	Trans	transition
Sgl	single	TT	transmission tower
SRCP	slotted reinforced concrete pipe	TES	traversable end section
SC	slow curing	Trans	transverse
SS	slow setting	Trtd	treated
Sm	small	Trmt	treatment
S	South	Qc	triaxial compression
SE	Southeast	TERO	tribal employment rights ordinance
SW	Southwest	Tpl	triple
SB	Southbound	Typ	typical
Sp	spaces		
Spcl	special	Qu	unconfined compressive strength
SA	special assembly	Ugrnd	underground
SP	special provisions	Util	utility
G	specific gravity		
Spk	spike		
SB	split barrel sample	VG	valley gutter
SH	sprinkler head	Vap	vapor
SV	sprinkler valve	Vert	vertical
Sq	square	VCP	vitrified clay pipe
Stk	stake	Vol	volume
Std	standard	VSFS	vehicle speed feedback sign
N	standard penetration test		
Std Specs	standard specifications	Wkwy	walkway
Stm L	steam line	W	water content
SEC	steel encased concrete	WGV	water gate valve
SMA	stone matrix asphalt	WL	water line
SSD	stopping sight distance	WM	water main
SD	storm drain	WMV	water main valve
St	street	W Mtr	water meter
SPP	structural plate pipe	WSV	water service valve
SPPA	structural plate pipe arch	WW	water well
Str	structure	Wrng	wearing
Subd	subdivision	WIM	weigh in motion
Sub	subgrade	W	west
Sub Prep	subgrade preperation	WB	westbound
Ss	subsoil	Wrng	wiring
SS	supplement specification	W/	with
Supp	supplemental	W/o	without
Surf	surfacing		
Surv	survey		
Sym	symmetrical		

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NDDOT UTILITY COMPANY AND ORGANIZATION ABBREVIATIONS

D-101-10

702COM 702 Communications
ACCENT Accent Communications
AGASSIZ WU Agassiz Water Users District
AGC Associated General Contractors of America
ALL PL Alliance Pipeline
ALL SEAS WU All Seasons Water Users District
AMOCO PI Amoco Pipeline Company
AMRDA HESS Amerada Hess Corporation
AT&T AT&T Corporation
B PAW Bear Paw Energy Incorporated
BAKER ELEC Baker Electric
BASIN ELEC Basin Electric Cooperative Incorporated
BEK TEL Bek Communications Cooperative
BELLE PL Belle Fourche Pipeline Company
BLM Bureau of Land Management
BNSF Burlington Northern Santa Fe Railway
BOEING Boeing
BRNS RWD Barnes Rural Water District
BURK-DIV ELEC Burke-Divide Electric Cooperative
BURL WRD Burleigh County Water Resource District
CABLE ONE Cable One
CABLE SERV Cable Services
CAP ELEC Capital Electric Cooperative Incorporated
CASS CO ELEC Cass County Electric Cooperative
CASS RWU Cass Rural Water Users District
CAV ELEC Cavalier Rural Electric Cooperative
CBLCOM Cablecom Of Fargo
CENEX PL Cenex Pipeline
CENT PL WATER DIST Central Pipe Line Water District
CENT PWR ELEC Central Power Electric Cooperative
CENTURYLINK CenturyLink
COE Corps of Engineers
CONS COMM Consolidated Communications
CONS TELCOM Consolidated Telcom
CONT RES Continental Resource Inc
CPR Canadian Pacific Railway
D O E Department Of Energy
DAK CARR Dakota Carrier Network
DAK CENT TEL Dakota Central Telephone
DAK RWD Dakota Rural Water District
DGC Dakota Gasification Company
DICKY R NET Dickey Rural Networks
DICKY WRD Dickey County Water Resource District
DICKY TEL Dickey Telephone
DNRR Dakota Northern Railroad
DOME PL Dome Pipeline Company
DVELEC Dakota Valley Electric Cooperative
DVMW Dakota, Missouri Valley & Western
E CENT REG WD East Central Water District
ENBRDG Enbridge Pipelines Incorporated
ENVENTIS Enventis Telephone
EQUINOR Equinor Pipeline
FALK MNG Falkirk Mining Company
FHWA Federal Highway Administration
G FKS-TRL WD Grand Forks-traill Water District
GETTY TRD & TRAN Getty Trading & Transportation
GLDN W ELEC Golden West Electric Cooperative

GTR RAMSEY WD Greater Ramsey Water District
GT PLNS NAT GAS Great Plains Natural Gas Company
HALS TEL Halstad Telephone Company
IDEA1 Idea1
INT-COMM TEL Inter-Community Telephone Company
KANEB PL Kaneb Pipeline Company
KEM ELEC Kem Electric Cooperative Incorporated
KOCH GATH SYS Koch Gathering Systems Incorporated
LKHD PL Lakehead Pipeline Company
LWR YELL R ELEC Lower Yellowstone Rural Electric
LUMEN Lumen Technologies Incorporated
MCKNZ CON McKenzie Consolidated Telcom
MCKNZ ELEC McKenzie Electric Cooperative
MCKNZ WRD McKenzie County Water Resource District
MCLEOD McLeod USA
MCLN ELEC McLean Electric Cooperative
MCLN-SHRDN R WAT McLean-Sheridan Rural Water District
MDU Montana-dakota Utilities
MIDCO MidContinent Communications
MIDSTATE TEL Midstate Telephone Company
MINOT CABLE Minot Cable Television
MINOT TEL Minot Telephone Company
MISS VALL COMM Missouri Valley Communications Incorporated
MISS W W S Missouri West Water System
MNKOTA PWR Minnkota Power
MOR-GRAN-SOU ELEC Mor-gran-sou Electric Cooperative
MOUNT-WILLI ELEC Mountrail-williams Electric Cooperative
MLGC Moore & Liberty - Griggs County
MUNICIPAL City Water And Sewer
MUNICIPAL City Of '.....'
N CENT ELEC North Central Electric Cooperative
N PRAIR REG WD North Prairie Regional Water District
ND PKS & REC North Dakota Parks And Recreation
ND TEL North Dakota Telephone Company
NDDOT North Dakota Department of Transportation
NE REG WD Northeast Regional Water District
NDSU SOIL SCI DEPT NDSU Soil Science Department
NEMONT TEL Nemont Telephone
NODAK R ELEC Nodak Rural Electric Cooperative
NOON FRMS TEL Noonan Farmers Telephone Company
NPR Northern Plains Railroad
NSP Northern States Power
NTHN BRDR PL Northern Border Pipeline
NTHN PLNS ELEC Northern Plains Electric Cooperative Incorporated
NTHWSTRN REF Northwestern Refinery Company
NW COMM Northwest Communication Cooperation
NWRWD Northwest Rural Water District
ONEOK Oneok gas
OSHA Occupational Safety and Health Administration
OTTR TL PWR Otter Tail Power Company
PAAP Plains All American Pipeline
P L E M Prairielands Energy Marketing
POLAR COM Polar Communications
PVT ELEC Private Electric
QWEST Qwest Communications
R&T REG WD R & T Water District

RED RIV COMM Red River Communications
RESVTN TEL Reservation Telephone
ROBRTS TEL Roberts Company Telephone
R-RIDER ELEC Roughrider Electric Cooperative
RRVW Red River Valley & Western Railroad
S CENT REG WD South Central Regional Water District
SE W U Southeast Water Users Incorporated
SCOTT CABLE Scott Cable Television Dickinson
SHERDN ELEC Sheridan Electric Cooperative
SHEYN VLY ELEC Sheyenne Valley Electric Cooperative
SKYTECH Skyland Technologies Incorporated
SLOPE ELEC Slope Electric Cooperative Incorporated
SOURIS RIV TELCOM Souris River Telecommunications
ST WAT COMM State Water Commission
STATE LN WATER State Line Water Cooperative
STER ENG Sterling Energy
STUT RWD Stutsman Rural Water District
SW PL PRJ Southwest Pipeline Project
SWWA Southwest Water Authority
SUNOCO Sunoco LP
T M C Turtle Mountain Communications
TCI TCI of North Dakota
TESORO GHG PLNS PL Tesoro High Plains Pipeline
TRI-CNTY WU Tri-County Water Users Incorporated
TRL CO WRD Traill County Water Resource District
UNTD TEL United Telephone
UPPR SOUR WD Upper Souris Water District
US SPRINT U.S. Sprint
USAF MSL CABLE U.S.A.F. Missile Cable
USFWS US Fish and Wildlife Service
USW COMM U.S. West Communications
VRNDRY ELEC Verendrye Electric Cooperative
W RIV TEL West River Telephone Incorporated
WAPA Western Area Power Administration
WAWSA Western Area Water Supply Authority
WEB W. E. B. Water Development Association
WILLI WRD Williams County Water Resource District
WILSTN BAS PL Williston Basin Interstate Pipeline Company
WLSH RWD Walsh Water Rural Water District
WOLVRTN TEL Wolverton Telephone
XLENER Xcel Energy
YSVR Yellowstone Valley Railroad

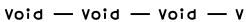
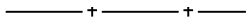
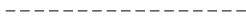
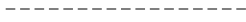
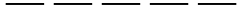
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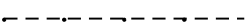
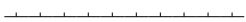
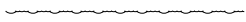
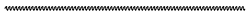
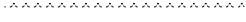
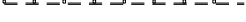
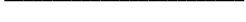


LINE STYLES

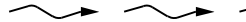
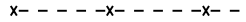
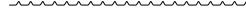
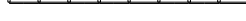
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Existing Topography

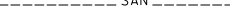
	Existing Ground Void
	Existing Cemetary Boundary
	Existing Box Culvert Bridge
	Existing Concrete Surface
	Existing Drainage Structure
	Existing Gravel Surface
	Existing Riprap
	Existing Dirt Surface
	Existing Asphalt Surface
	Existing Tie Point Line
	Existing Railroad Centerline
	Existing Guardrail Cable
	Existing Guardrail Metal
	Existing Edge of Water
	Existing Fence
	Existing Railroad
	Existing Field Line
	Exst Flow
	Existing Curb
	Existing Valley Gutter
	Existing Driveway Gutter
	Existing Curb and Gutter
	Existing Mountable Curb and Gutter

	Existing 3-Cable w Posts
	Site Boundary
	Existing Berm, Dike, Pit, or Earth Dam
	Existing Ditch Block
	Existing Tree Boundary
	Existing Brush or Shrub Boundary
	Existing Retaining Wall
	Existing Planter or Wall
	Existing W-Beam Guardrail with Posts
	Existing Railroad Switch
	Gravel Pit - Borrow Area
	Existing Wet Area-Vegetation Break
	Existing High Tension Cable Guardrail
	Existing High Tension Cable Guardrail with Posts

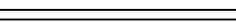
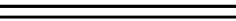
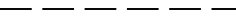
Proposed Topography

	3-Cable w Posts
	Flow
	Fence
	Remove Line
	Wall
	Retaining Wall (Plan View)
	W-Beam w Posts
	High Tension Cable Guardrail with Posts

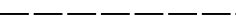
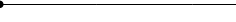
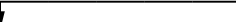
Existing Utilities

	Existing Electrical
	Existing Fiber Optic Line
	Existing TV Fiber Optic
	Existing Gas Pipe
	Existing Overhead Utility Line
	Existing Power
	Existing Fuel Pipeline
	Existing Undefined Above Ground Pipe Line
	Existing Sanitary Sewer
	Existing Sanitary Force Main
	Existing Storm Drain
	Existing Storm Drain Force Main
	Existing Culvert
	Existing Telephone Line
	Existing TV Line
	Existing Water or Steam Line
	Existing Under Drain
	Existing Slotted Drain
	Existing Conduit
	Existing Conductor
	Existing Down Guy Wire Down Guy
	Existing Underground Vault or Lift Station

Proposed Utilities

	24 Inch Pipe
	Reinforced Concrete Pipe
	Under Drain
	Edge Drain

Traffic Utilities

	Conductor
	Fiber Optic
	Existing Loop Detector
	Existing Double Micro Loop Detector
	Micro Loop Detector Double
	Existing Micro Loop Detector
	Micro Loop Detector
	Signal Head with Mast Arm
	Existing Signal Head with Mast Arm

Sign Structures

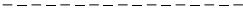
	Existing Overhead Sign Structure
	Existing Overhead Sign Structure Cantilever
	Overhead Sign Structure Cantilever

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09-23-16 12-18-20	Added and Revised Items, Organized by Functional Groups General Revisions	
12 18 2020		

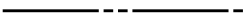
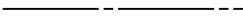
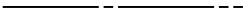
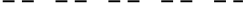
LINE STYLES

D-101-21

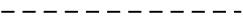
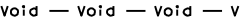
Right Of Way

	Easement
	Existing Easement
	Right of Way
	Existing Right of Way
	Existing Right of Way Railroad
	Existing Right of Way Not State Owned
	Existing Government Lot Line
	Existing Adjacent Block Lines
	Existing Adjacent Lot Lines
	Existing Adjacent Property Line
	Existing Adjacent Subdivision Lines
	Sight Distance Triangle Line
	Dimension Leader

Boundary Control

	Existing City Corporate Limits or Reservation Boundary
	Existing State or International Line
	Existing Township
	Existing County
	Existing Section Line
	Existing Quarter Section Line
	Existing Sixteenth Section Line
	Existing Centerline
	Tangent Line

Cross Sections and Typicals

	Existing Ground
	Existing Topsoil (Cross Section View)
	Existing Ground Void (Not Surveyed)
	Existing Concrete
	Existing Aggregate (Cross Section View)
	Existing Curb and Gutter (Cross Section View)
	Existing Asphalt (Cross Section View)
	Existing Reinforcement Rebar

Geotechnical

	Geotextile Fabric Type D
	Geogrid
	Geotextile Fabric Type R
	Geotextile Fabric Type R1
	Geotextile Fabric Type RR
	Geotextile Fabric Type S

	Subgrade Reinforcement
	Failure Line

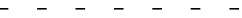
Countours

	Depression Contours
	Supplemental Contour

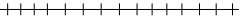
Profile

	Subgrade, Subcut or Ditch Grade
	Topsoil Profile

Striping

	Centerline Pavement Marking
	Barrier with Centerline Pavement Marking
	Barrier Pavement Marking
	Stripe 4 IN Dotted Extension White
	Stripe 8 IN Dotted Extension White
	Stripe 8 IN Lane Drop

Pavement Joints

	Doweled Joint
	Tie Bar 30 Inch 4 Foot Center to Center
	Tie Bar 18 Inch 3 Foot Center to Center
	Tie Bar at Random Spacing

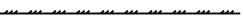
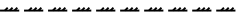
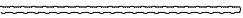
Bridge Details

	Small Hidden Object
	Large Hidden Object
	Phantom Object
	Existing Conditions Object
	Centerline Main
	Centerline Secondary
	Excavation Limits
	Proposed Ground
	Sheet Piling

Erosion Control

	Limits of Const Transition Line
	Bale Check
	Rock Check
	Floating Silt Curtain
	Silt Fence
	Excavation Limits
	Fiber Rolls

Environmental

	Wetland Mitigation
	Existing Wetland Easement USFWS
	Existing Wetland Jurisdictional
	Existing Wetland
	Tree Row

NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

07-01-14

REVISIONS

DATE	CHANGE
09-23-16	Added and Revised Items, Organized by Functional Groups General Revisions
12-18-20	

KIRK J. HOFF

REGISTERED

PROFESSIONAL

PE-4683

ENGINEER

NORTH DAKOTA

12 18 2020

SYMBOLS

D-101-30



North Arrow (Half Scale)

Alignment Data Point

Alignment Monument

Spot Elevation

Existing Miscellaneous Spot

Existing Access Control Arrow

Existing Benchmark

Reset USGS Marker

Iron Monument Found

Iron Pin R/W Monument

Property Corner

Iron Pin Reference Monument

Right of Way Marker (Exst, Ppsd, Reset)

Existing Federal Reference Corner

Existing Section Corner (Full, Quarter, Sixteenth, Meander)

Existing Witness Corner

Existing Control Point (CP, GPS-RTK, TRI)

Existing Traverse PI Aerial Panel

Existing Reference Marker Point NGS

Existing EFB Misc

Existing Bush or Shrub

Existing Large Evergreen Tree

Existing Small Evergreen Tree

Existing Large Tree

Existing Small Tree

Existing Tree Trunk

Cairn or Stone Circle

Existing Artifact

Existing Satellite Dish

Existing Weather Station

Existing Windmill or Tower

Reinforced Pavement

Continuous Split Barrel Sample

Flight Auger Sample

Split Barrel Sample

Thinwall Tube Sample

Standard Penetration Test

Inclinometer Tube

Excavation Unit

Existing Ground Water Well Bore Hole

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
07-01-14	
REVISIONS	
DATE	CHANGE
12-18-20	General Revisions

KIRK J. HOFF

REGISTERED

PROFESSIONAL

PE-4683

ENGINEER

NORTH DAKOTA

12 18 2020

SYMBOLS

D-101-31

	Flexible Delineator		Highway Sign (Exst, Ppsd)
	Flexible Delineator Type A (Exst, Ppsd)		Mile Post Type A (Exst-Ppsd-Reset)
	Flexible Delineator Type B (Exst, Ppsd)		Mile Post Type B (Exst, Ppsd)
	Flexible Delineator Type C (Exst, Ppsd)		Mile Post Type C (Exst, Ppsd)
	Flexible Delineator Type D (Exst, Ppsd)		Object Marker Type I (Exst, Ppsd)
	Flexible Delineator Type E (Exst, Ppsd)		Object Marker Type II (Exst, Ppsd)
	Delineator Type A (Exst, Ppsd, Diamond Grade-Reset)		Object Marker Type III (Exst, Ppsd)
	Delineator Type B (Exst, Ppsd, Diamond Grade-Reset)		Existing Reference Marker
	Delineator Type C (Exst, Ppsd, Diamond Grade)		Road Closure Gate 18 Ft (Exst, Ppsd)
	Delineator Type D (Exst, Ppsd, Diamond Grade)		Road Closure Gate 28 Ft (Exst, Ppsd)
	Delineator Type E (Exst, Ppsd, Diamond Grade)		Road Closure Gate 40 Ft (Exst, Ppsd)
	Barricade (Type I, Type II, Type III)		Existing Railroad Battery Box
	Arrow Panel (Caution Mode, Double Direction, Left Directional, Right Directional, Sequencing, Truck Mounted)		Existing RR Profile Spot
	Attenuation Device		Existing Railroad Crossbuck
	Truck Mounted Attenuator		Existing Railroad Frog
	Delineator Drums		Existing Mailbox (Private, Federal)
	Flagger		
	Tubular Marker		
	Traffic Cone		
	Back to Back Vertical Panel Sign		

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
07-01-14	
REVISIONS	
DATE	CHANGE
12-18-20	General Revisions



12 18 2020

SYMBOLS

D-101-32

	Existing Luminaire			High Mast Light Standard 3 Luminaire (Exst, Ppsd)		Existing Traffic Signal Standard			
	Luminaire LED			High Mast Light Standard 4 Luminaire (Exst, Ppsd)				Pull Box (Exst-Ppsd-Undefined)	
	Existing Light Standard Luminaire			High Mast Light Standard 5 Luminaire (Exst, Ppsd)				Intelligent Transportation Pull Box (Exst, Ppsd)	
	Relocate Light Standard			High Mast Light Standard 6 Luminaire (Exst, Ppsd)				Transformer (Exst, Ppsd)	
	Light Standard Light LED Luminaire			High Mast Light Standard 7 Luminaire (Exst, Ppsd)				Power Pole (Exst-Ppsd-with Transformer)	
	Light Standard 35 Watt High Pressure Sodium Vapor Luminaire			High Mast Light Standard 8 Luminaire (Exst, Ppsd)				Wood Pole (Exst, Ppsd)	
	Light Standard 50 Watt High Pressure Sodium Vapor Luminaire			High Mast Light Standard 9 Luminaire (Exst, Ppsd)				Pedestrian Push Button Post (Exst, Ppsd)	
	Light Standard 70 Watt High Pressure Sodium Vapor Luminaire			High Mast Light Standard 10 Luminaire (Exst, Ppsd)				Existing Pole	
	Light Standard 100 Watt High Pressure Sodium Vapor Luminaire			Overhead Sign Structure Load Center (Exst, Ppsd)				Existing Telephone Pole	
	Light Standard 150 Watt High Pressure Sodium Vapor Luminaire			Traffic Signal Controller (Exst, Ppsd)				Existing Post	
	Light Standard 200 Watt High Pressure Sodium Vapor Luminaire			Pad Mounted Traffic Signal Controller (Exst, Ppsd)					Connection Conductor (Ground, Neutral, Phase 1, Phase 2)
	Light Standard 250 Watt High Pressure Sodium Vapor Luminaire			Flashing Beacon (Exst, Ppsd)					
	Light Standard 310 Watt High Pressure Sodium Vapor Luminaire			Concrete Foundation (Exst, Ppsd)					
	Light Standard 400 Watt High Pressure Sodium Vapor Luminaire			Pipe Mounted Flasher (Exst, Ppsd)					
	Light Standard 700 Watt High Pressure Sodium Vapor Luminaire			Pad Mounted Feed Point (Exst, Ppsd)					
	Light Standard 1000 Watt High Pressure Sodium Vapor Luminaire			Pipe Mounted Feed Point with Pad (Exst, Ppsd)					
	Emergency Vehicle Detector			Pole Mounted Feed Point (Exst, Ppsd)					
	Video Detection Camera			Junction Box (Exst, Ppsd)					
				Existing Pedestrian Head with Number					
				Existing Signal Head					
				Pole Mounted Head					
				Existing Lighting Standard Pole					

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
07-01-14	
REVISIONS	
DATE	CHANGE
12-18-20	General Revisions



NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
07-01-14	
REVISIONS	
DATE	CHANGE
12-18-20	General Revisions



12 18 2020

SYMBOLS

D-101-33

			Existing Manhole (Electrical, Gas, Telephone)		Cap or Stub Exst Gas, Exst Sanitary, Exst Storm Drain, Ppsd Storm Drain, Exst Water
			Water Manhole (Exst, Exst with Valve)		Existing Pedestal Electrical, Telephone, Fiber Optic Telephone, TV, Fiber Optic TV, Undefined
			Sanitary Sewer Manhole (Exst, Ppsd, Exst with Valve)		Existing Pipe Vent Gas, Fuel, Sanitary, Storm Drain, Water, Undefined
			Sanitary Force Main Manhole (Exst, Ppsd, Exst with Valve)		Valve Exst Gas, Exst Water, Ppsd Water, Exst Undefined
			Storm Drain Manhole (Exst, Ppsd, Exst with Inlet, Ppsd with Inlet)		Pump Sanitary, Storm Drain, Exst Water
			Force Main Storm Drain Manhole (Exst, Exst with Valve)		Corrugated Metal End Section (18, 24, 30, 36, 42, 48, 54, 60 Inch)
			Manhole (Ppsd, Ppsd 48 Inch, Exst Undefined)		Reinforced Concrete End Section (18, 24, 30, 36, 42, 48, 54, 60 Inch)
			Existing Water Appurtenance		Existing Utility Marker
			Sprinkler Head (Exst, Ppsd)		Existing Meter
			Fire Hydrant (Exst, Ppsd)		Existing Fuel Dispensers
			Cleanout (Exst Sanitary, Underdrain)		Existing Fuel Filler Pipes
			Existing Catch Basin Inlet (Round, Square)		Existing Fuel Leak Sensors
			Existing Curb Inlet (Round, Square)		
			Existing Slotted Reinforced Concrete Pipe		
			Catch Basin (Riser 30 Inch, Beehive, Type A)		
			Inlet Mountable Curb (Type A, Type B)		
			Inlet Saddle Base (Type 1, Type 2)		
			Inlet Special (Catch Basin, Type 1, Type A)		
			Inlet (Tee, Type 1, Type 2, Type 2 Double)		
			Median Drain		
			Headwall (Exst, Ppsd, Ppsd Single with Vegetation Barrier, Ppsd Double with Vegetation Barrier)		

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
07-01-14	
REVISIONS	
DATE	CHANGE
12-18-20	General Revisions Sheet added - Continued from D-101-32

Kirk J Hoff
REGISTERED
PROFESSIONAL
PE-4683
ENGINEER
NORTH DAKOTA
12 18 2020

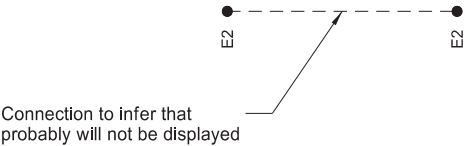
Cross Section Legend

D-101-40

Description	Longitudinal Parallel to Roadway	Transverse Perpendicular to Roadway*
Cable Line	● CBL1	● CBL2
Conduit Line	● CDU1	● CDU2
Electric Line	● E1	● E2
Fiber Optic Line	● F1	● F2
Gas Main Line	● GM1	● GM2
Gas Service Line	● GS1	● GS2
Gas Transmission Line	● GT1	● GT2
Fuel Pipeline	● PL1	● PL2
Sanitary Sewer Force Main	● SSF1	● SSF2
Sanitary Sewer	● SS1	● SS2
Steam Line	● STE1	● STE2
Storm Drain (Assumed Depth)	● SD1	● SD2
Telephone Line	● T1	● T2
TV Line	● TV1	● TV2
Water Main Line	● WM1	● WM2
Water Service Line	● WS1	● WS2

Description	Longitudinal Parallel to Roadway	Transverse Perpendicular to Roadway*
Overhead Power Transmission Line	↑ OHT1	↑ OHT2
Overhead Line	↑ OH1	↑ OH2

* Usually the transverse utilities are shown on a cross section with 2 or more symbols. The utility runs from one symbol to the other, but the connection may not be shown.



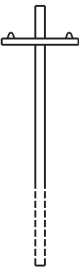
When storm drain invert elevations are NOT used to draw pipe, they will appear as shown to the left. When invert elevations are used to draw pipe, they will be a cross section similar to the graphics shown below.



Light Standard - Multiple Variations
Concrete
Steel
Wood
with Traffic Signal



Pole - Multiple Variations
Utility
Brace
Feed Point
Guy
Power
Power Structure
Power with Light
Power with Transformer



Manhole - Multiple Variations
Electric
Fiber Optic
Gas
Inlet
Sanitary Force Main
Sanitary
Sanitary with Valve
Steam
Storm
Storm Force Main
Storm with Valve
Telephone
Water
Water with Meter
Water with Valve
Water with Air Release Valve



Anchor



High Tension Cable Guardrail

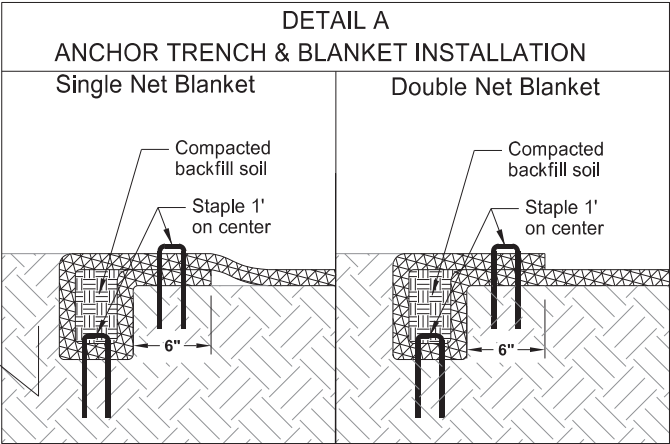
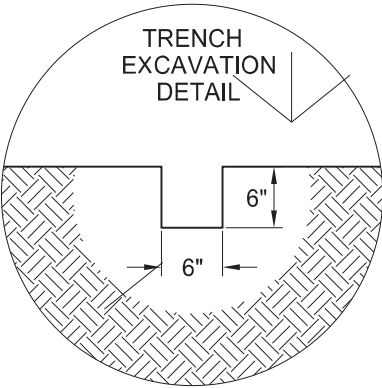


NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
9-20-18	
REVISIONS	
DATE	CHANGE
6/14/2023	CADD Standards Update

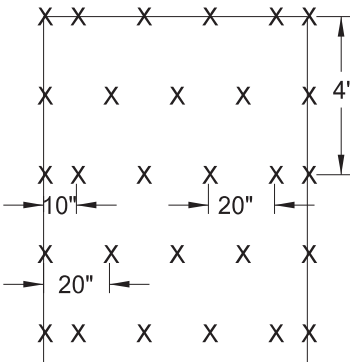
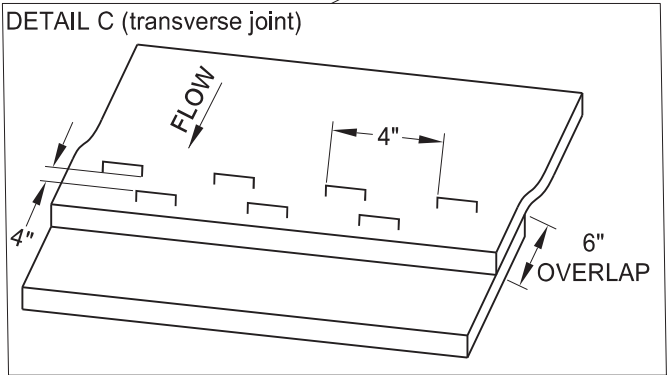
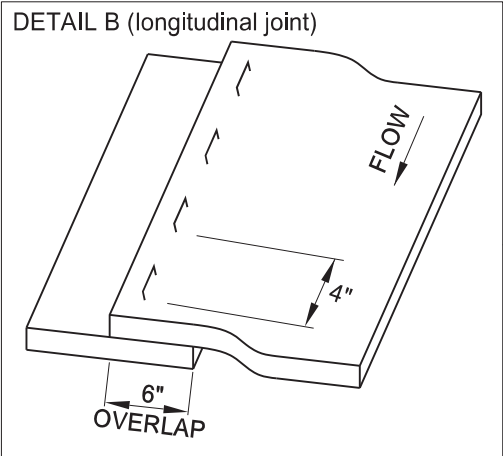


06/14/23

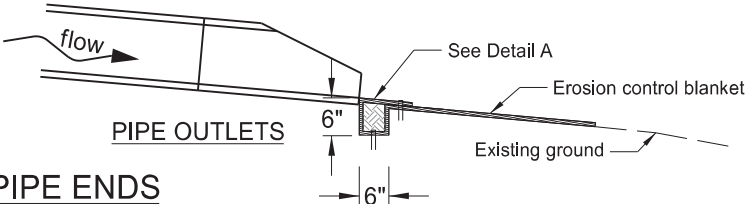
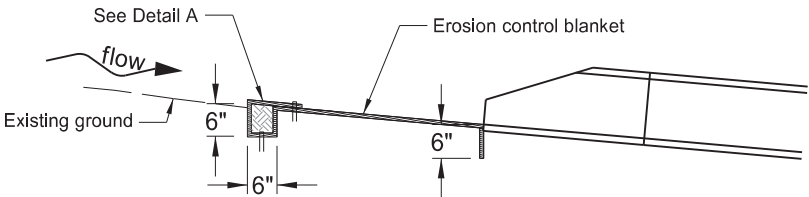
EROSION AND SILTATION CONTROL
EROSION CONTROL BLANKET INSTALLATION



NOTE:
If a Single Net Blanket is used, the side with the netting should be on the top once the blanket is installed.



STAPLE PATTERN
(3.8 staples per square yard)



PIPE INLETS

PIPE OUTLETS

INSTALLATION AT PIPE ENDS

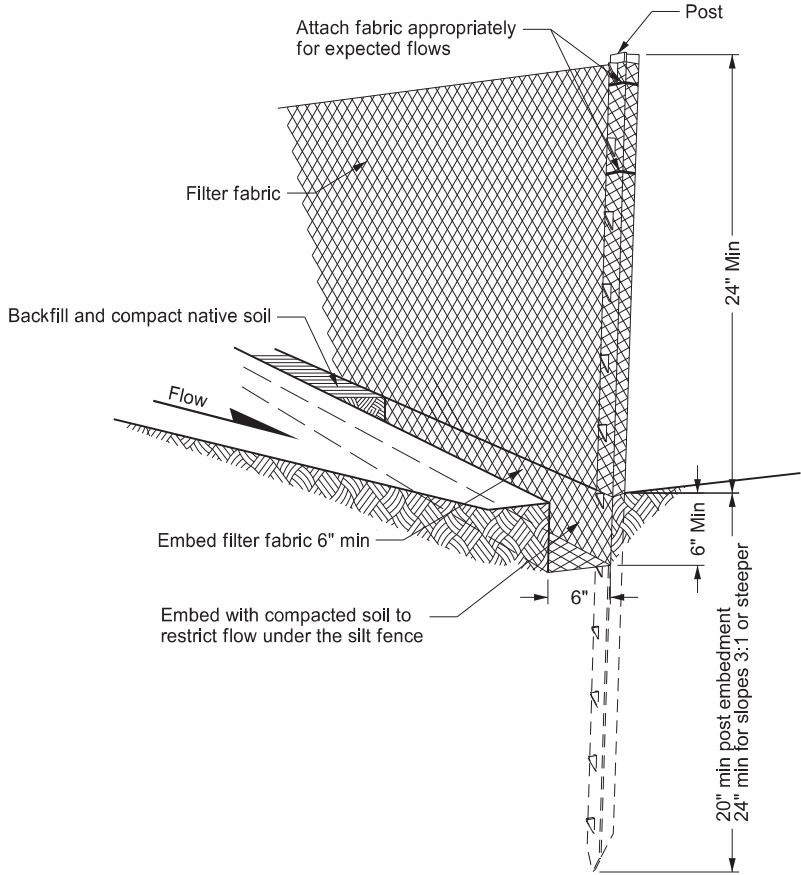
BLANKET LAYOUT
CHANNEL INSTALLATION

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
10-03-13	
REVISIONS	
DATE	CHANGE
06-26-14	Changed standard drawing number from D-708-6 to D-255-2
07-27-15	Changed installation details such as trench depth and overlap dimensions
08-27-19	New Design Engineer PE Stamp
08-27-25	Revised minor details for clarity

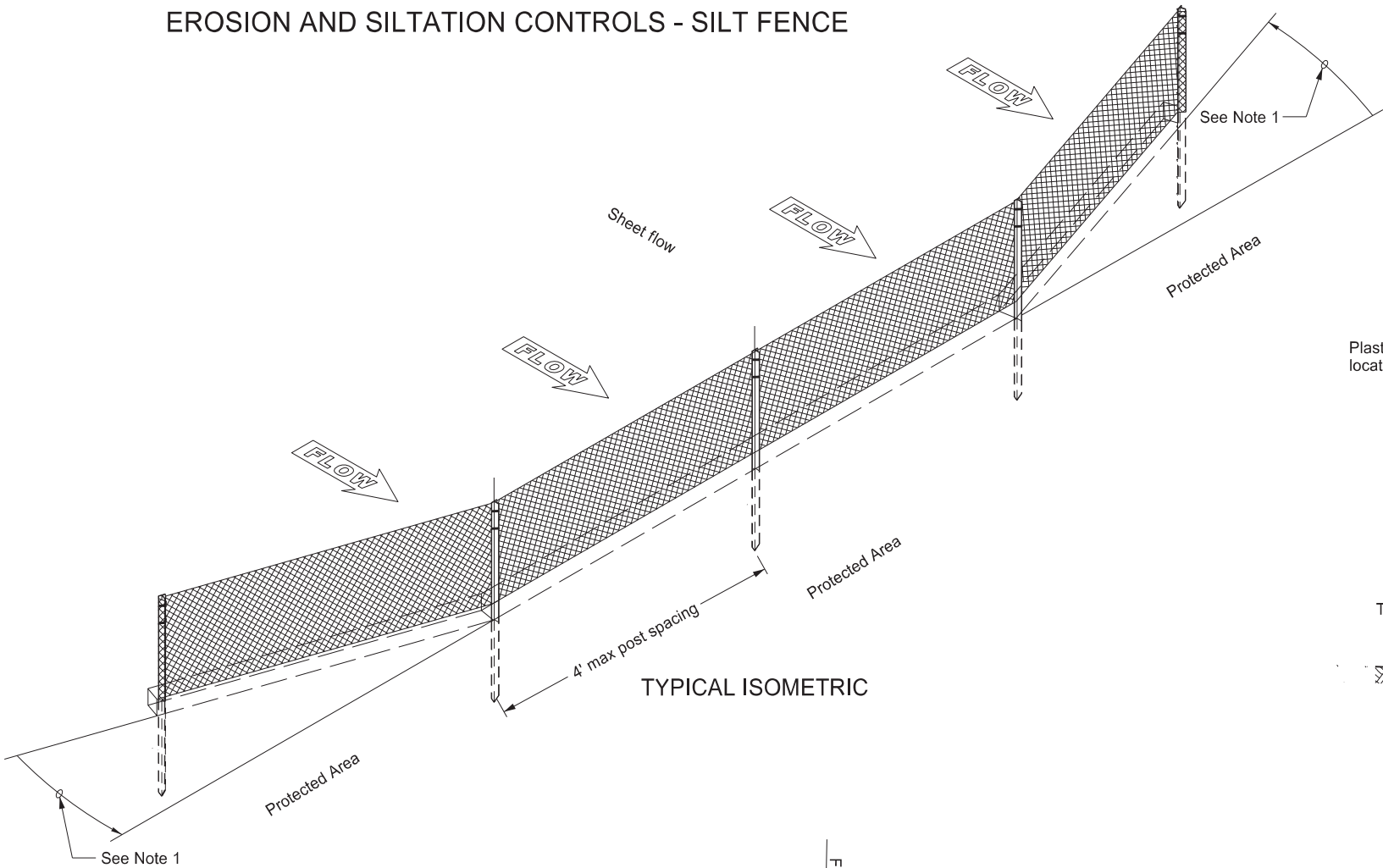


08/27/25

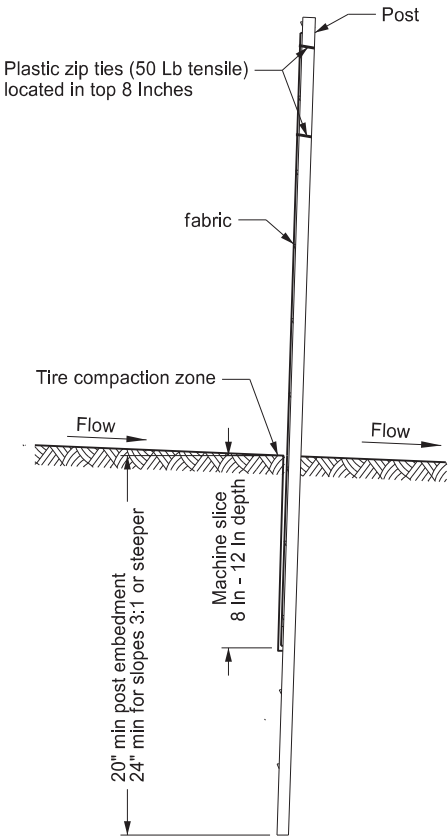
EROSION AND SILTATION CONTROLS - SILT FENCE



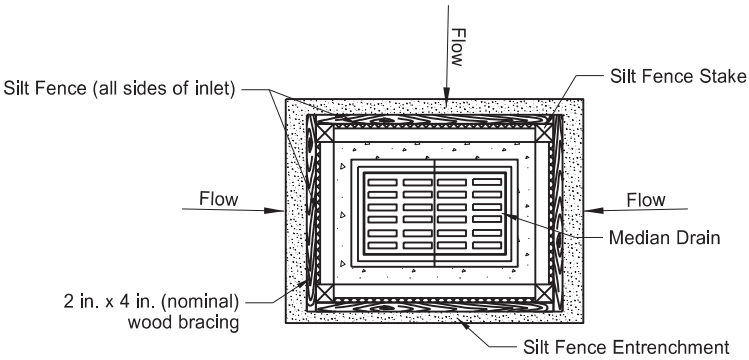
HAND PLACED INSTALLATION DETAIL
Minimize disturbance of ground around trench and smooth surface after excavation to avoid concentrating flows. Compact to prevent undercutting flows.



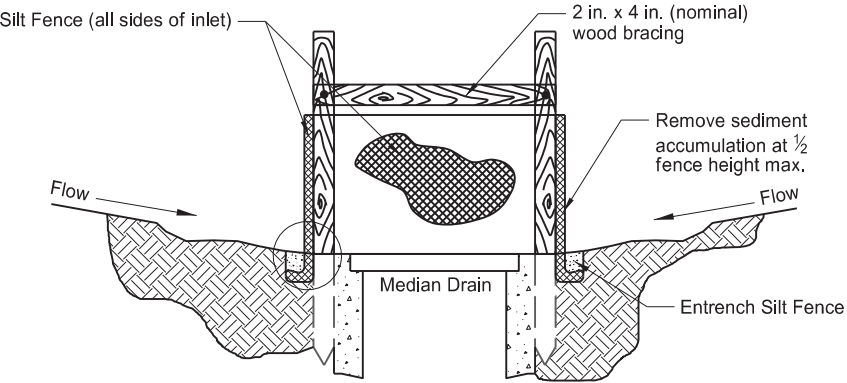
TYPICAL ISOMETRIC



MACHINE SLICED INSTALLATION DETAIL

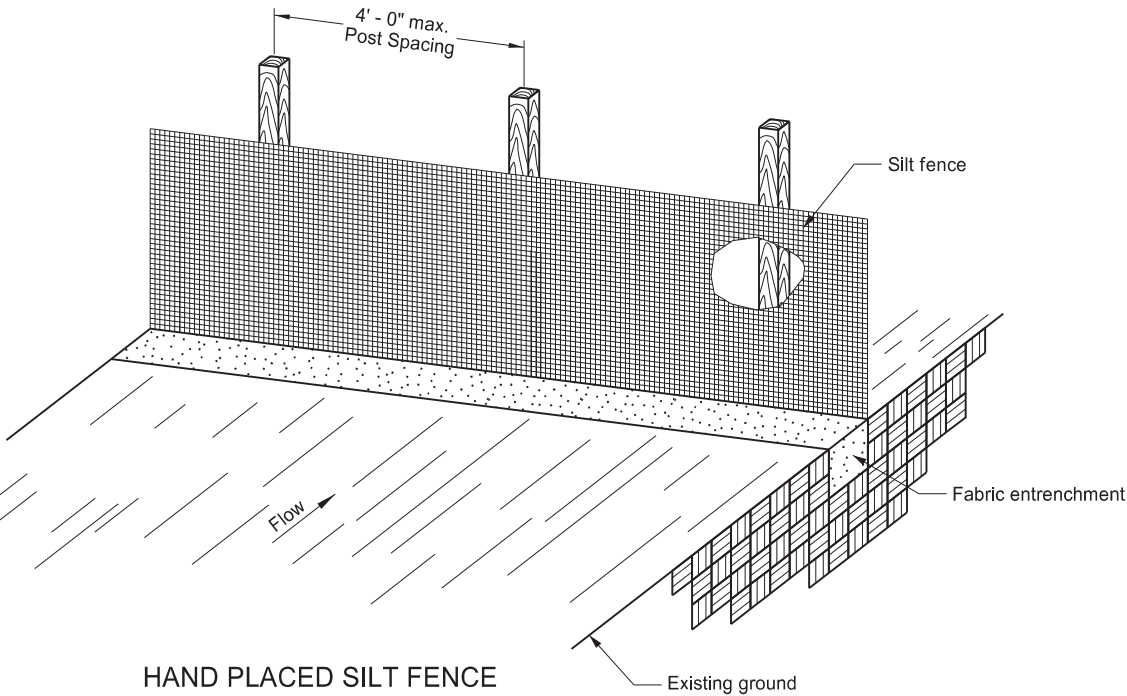


PLAN VIEW



PROFILE VIEW

SILT FENCE PROTECTION
(MEDIAN OR DITCH INLET)



HAND PLACED SILT FENCE

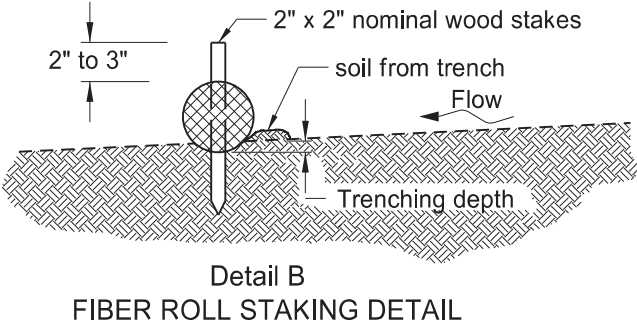
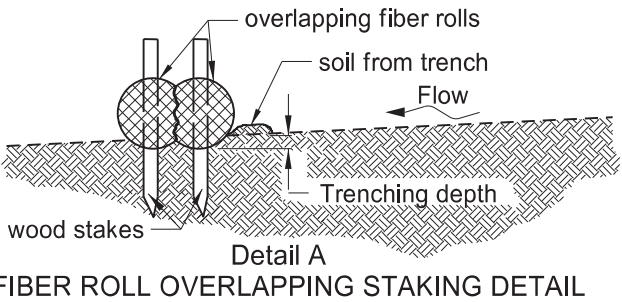
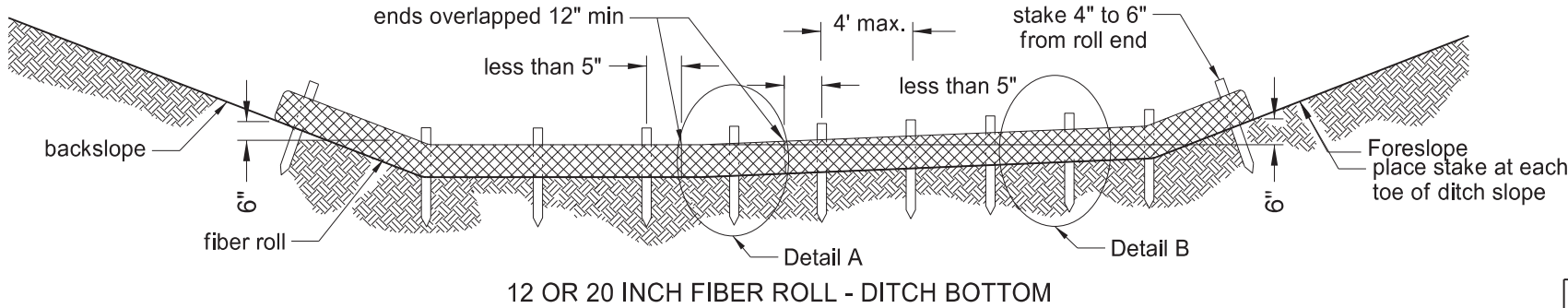
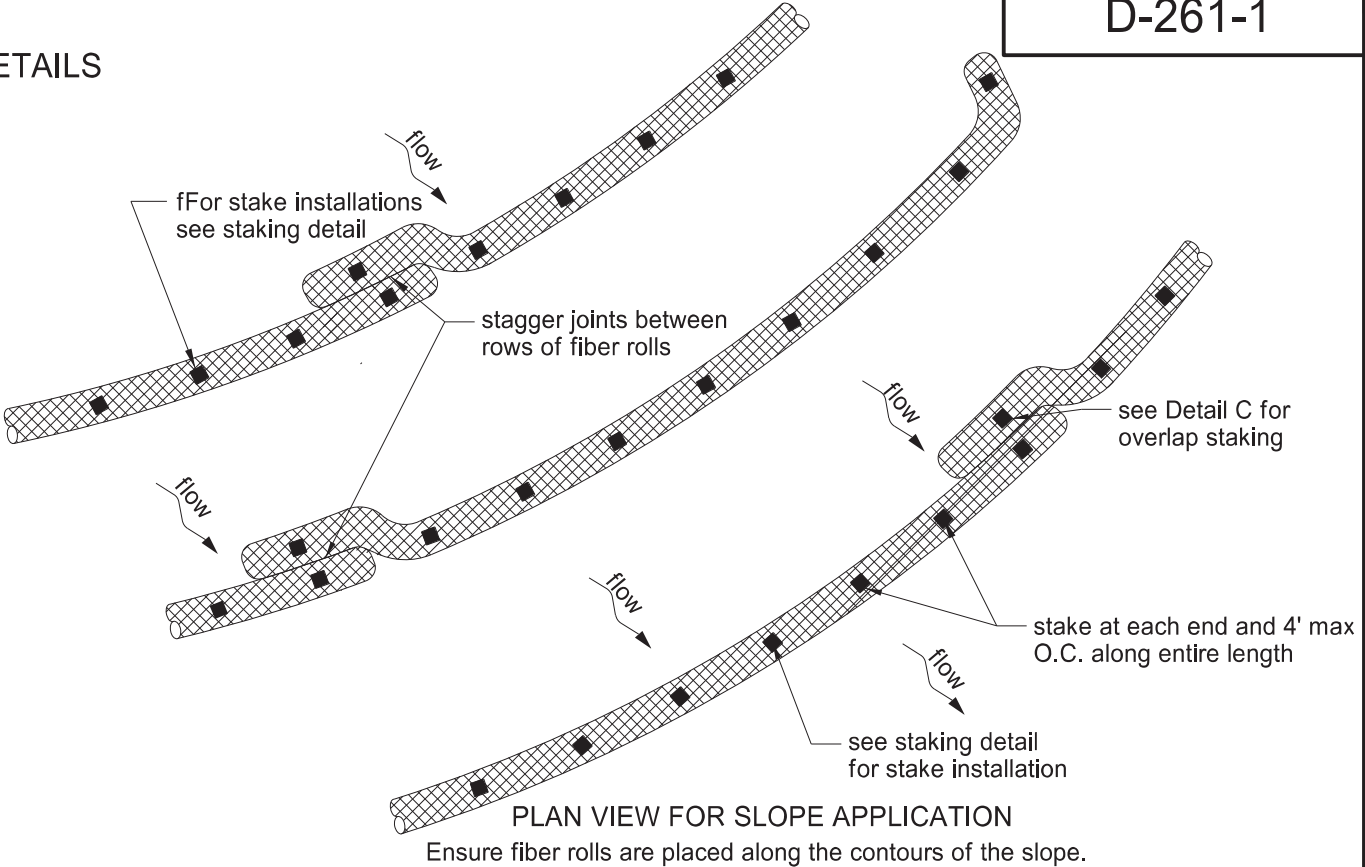
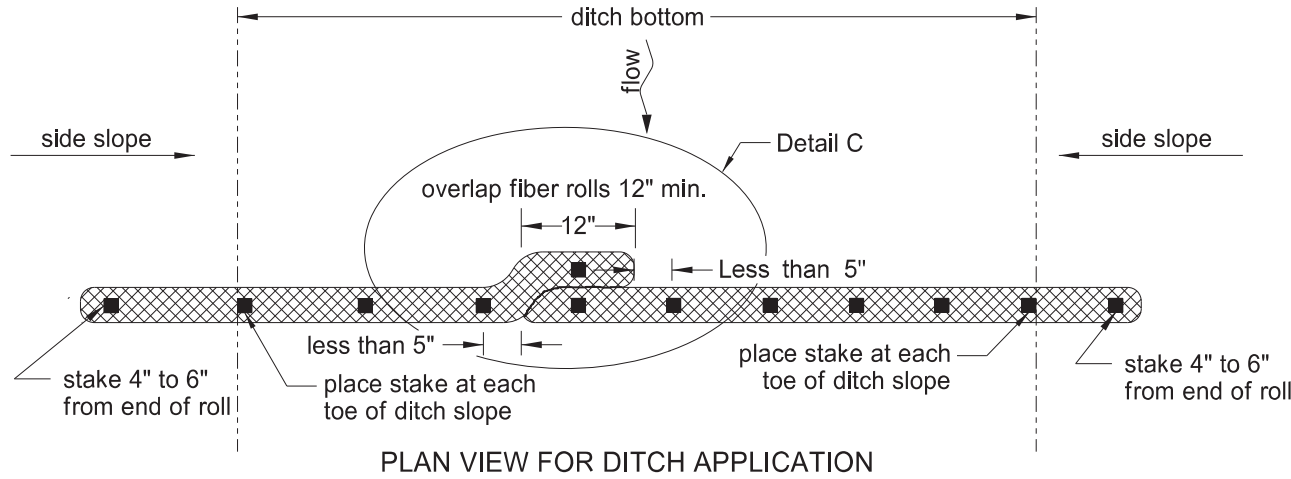
- NOTES:
1. Install the ends of the silt fence to point slightly upslope to prevent sediment from flowing around the ends of the fence.
 2. Place splices outside low spots.
 3. Do not embed silt fence placed in standing water.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
10-03-13	
REVISIONS	
DATE	CHANGE
06-26-14	Standard drawing resulted from splitting standard D-708-2
06-27-16	Revised details & added new ones
08-27-19	New Design Engineer PE Stamp
07-22-25	Matched revised silt fence specs
09-04-25	Added median-ditch inlet protection

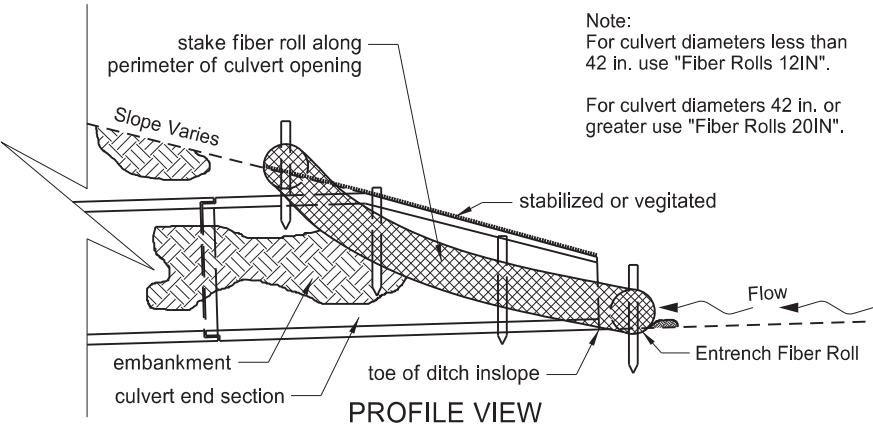
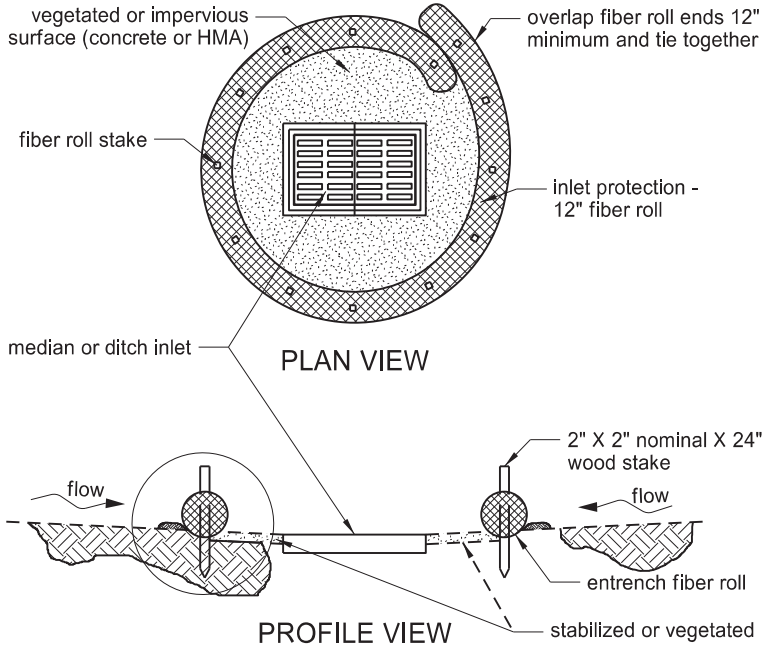


09/04/25

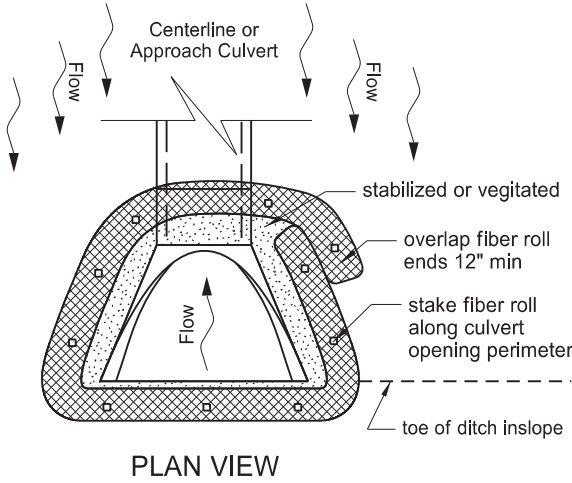
EROSION CONTROL
FIBER ROLL PLACEMENT DETAILS



NOTE: Do not allow runoff to run under or around roll.



Note:
For culvert diameters less than 42 in. use "Fiber Rolls 12IN".
For culvert diameters 42 in. or greater use "Fiber Rolls 20IN".



FIBER ROLL DIAMETER	NOMINAL STAKE SIZE	MINIMUM STAKE LENGTH	TRENCH DEPTH	
			MINIMUM	MAXIMUM
12"	2" x 2"	24"	2"	3"
20"	2" x 2"	36"	3"	5"

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
11-18-10	
REVISIONS	
DATE	CHANGE
06-10-13	Added plan view for ditch and slope application. Added table with values for stake and trench dimensions.
10-04-13	Revised fiber roll overlap detail.
06-26-14	Changed standard drawing number from D-708-7 to D-261-1.
08-27-19	New Design Engineer PE Stamp.
04-22-24	Slope Plan View-overlap change.
03-13-25	Added D-708-6 Culvert Inlet detail.
09-02-25	Added D-708-6 Inlet detail.

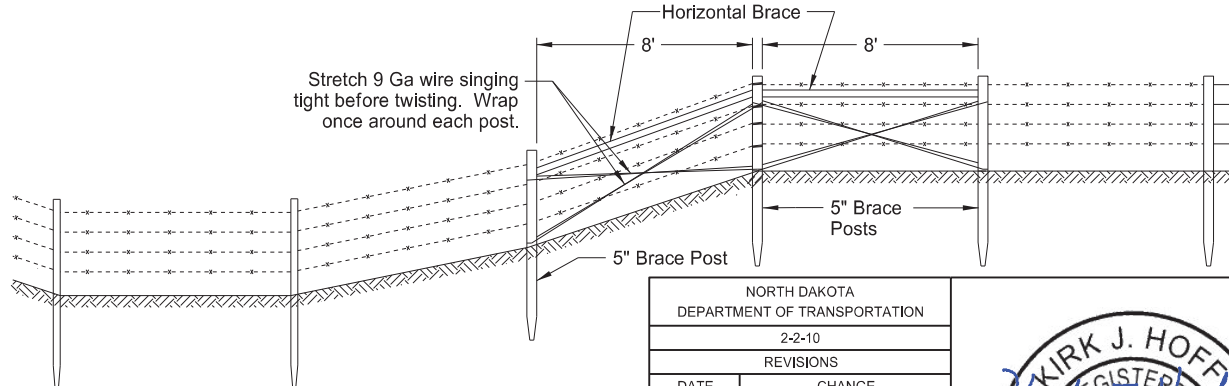
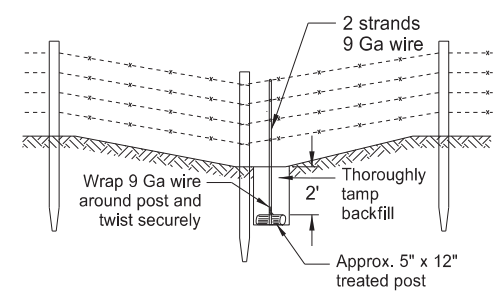
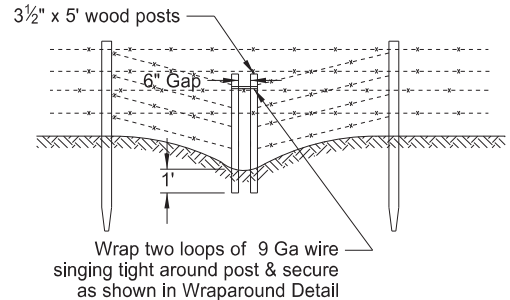
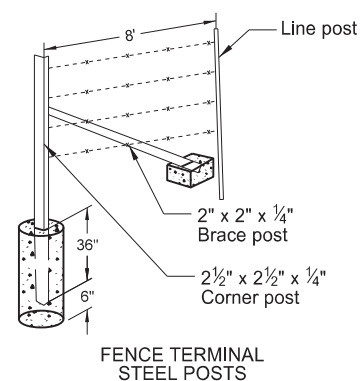
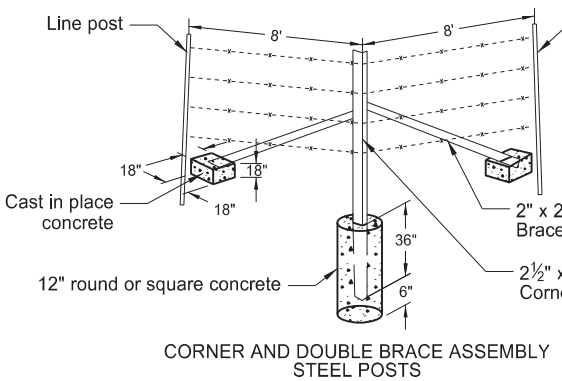
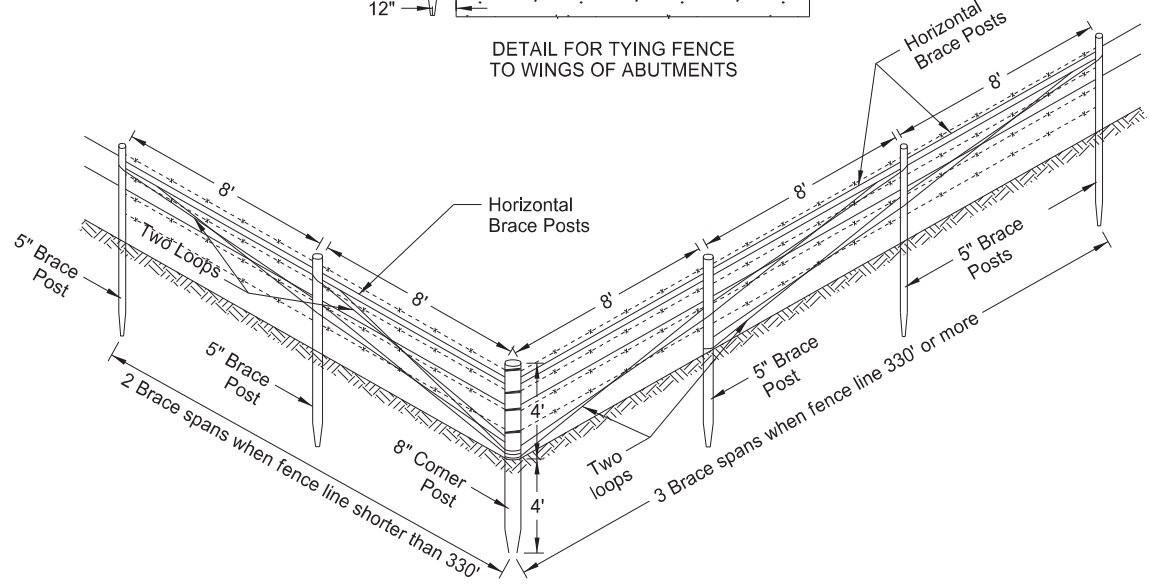
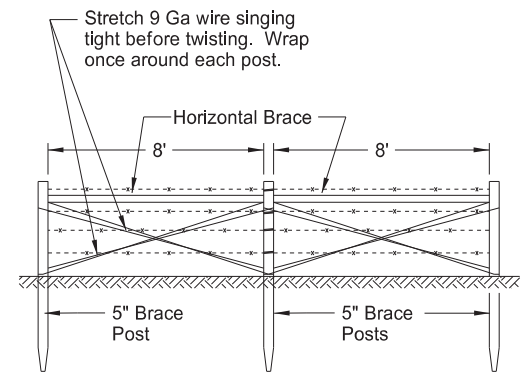
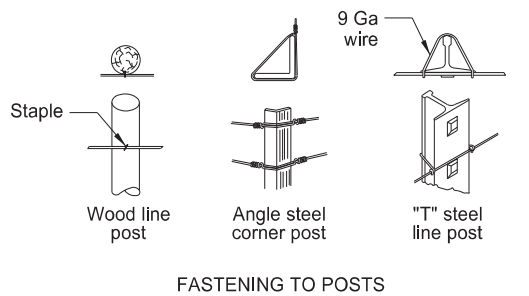
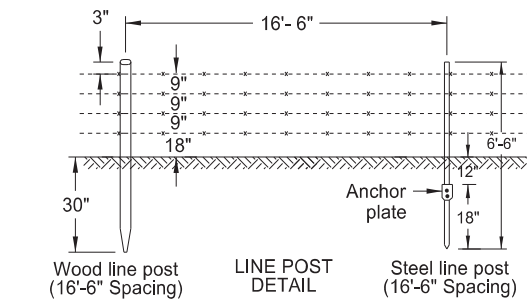
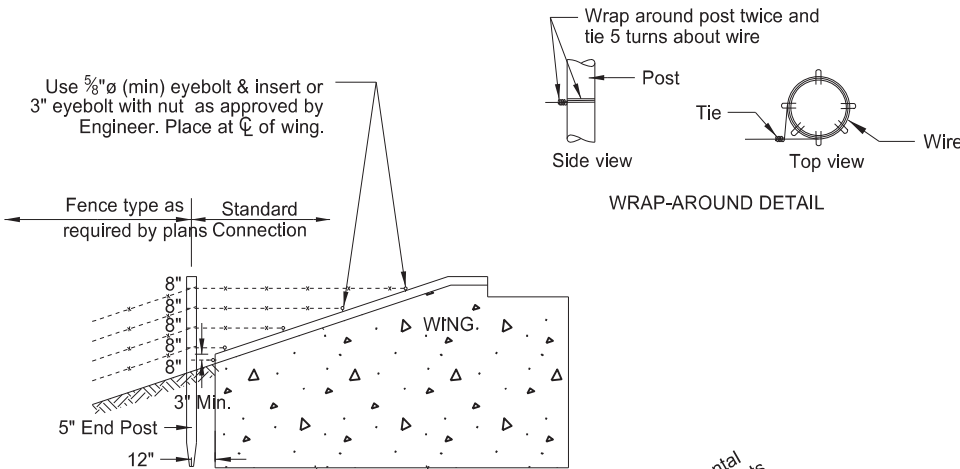
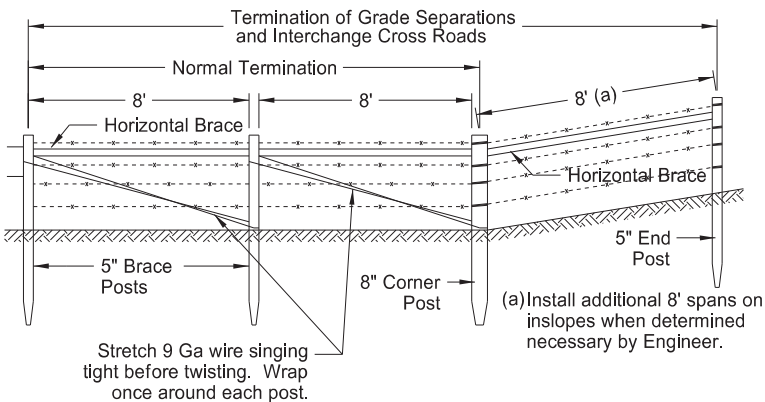
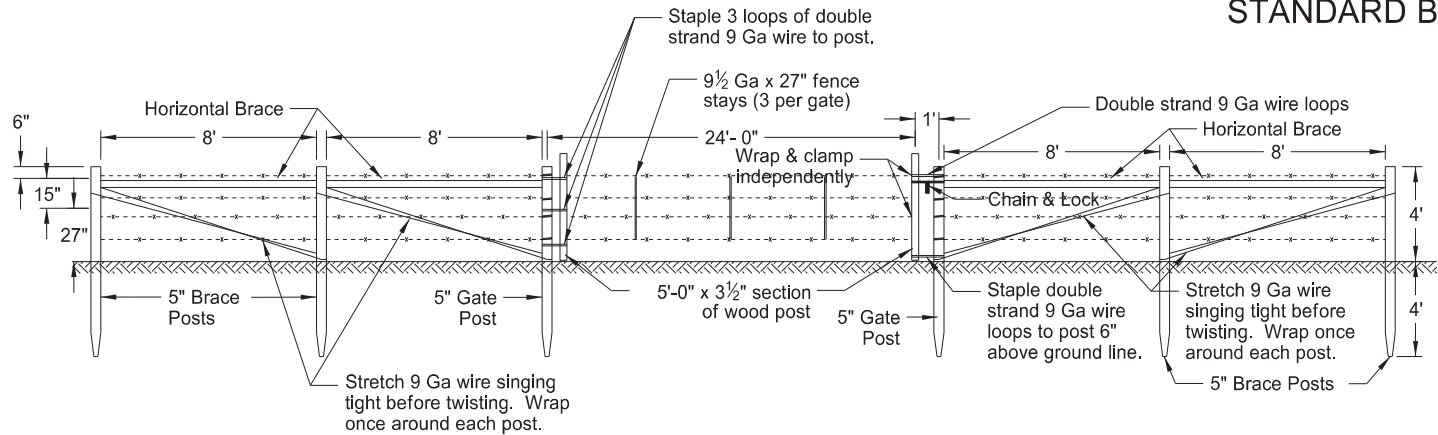


STANDARD BARBED WIRE FENCE

NOTES

1. No deduction in measured pay length of fence made for gates, corner assemblies, double brace assemblies, fence terminals, or depression fencing. Include all costs for abutment fencing in the price bid for fencing bid items.
2. Install double brace assemblies at locations shown on the plans or established by the Engineer. Place adjacent fence terminals, corner assemblies, or double brace assemblies at a maximum spacing of 1,320 feet.
3. Include all costs of furnishing and installing inserts and eyebolts in the unit price bid for fencing bid items. Use eyebolts galvanized according to AASHTO designation M-30; inserts of corrosion resistant material do not require galvanization. Use concrete inserts capable of developing the full strength of the 5/8" diameter threaded eyebolt, when installed in concrete.
4. Determine post type used, either wood or steel, unless otherwise specified in the plans.
5. Include the cost of bracing at vehicle gates in the price bid for "Vehicle Gate."

POST SIZES					
USE OF POST	TREATED WOOD		STEEL		
	Post dia.	Post length	Post length	Post wt. Lbs./Ft.	Anchor wt. Lbs.
Line post	3 1/2"	6'-6"	6'-6"	1.33	0.67
Corner post	8"	8'	7'	4.10	(Conc.)
End post	5"	8'			
Brace post	5"	8'	7'	3.19	(Conc.)
Gate post	5"	8'			
Horizontal brace	4"	8'	As approved by the Engineer		



Use double brace installation, as shown, on opposite side of depression.

Decrease line post spacing as needed due to terrain.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION	
2-2-10	
REVISIONS	
DATE	CHANGE
10-02-12	Notes, steel assemblies/posts.
11-25-13	Revised Vehicle Gate.
10-17-17	Updated to active voice.
02-23-23	Revised post spacing/brace size.

