

**Limiting Soil Characteristics**  
**Sunoco - Pennsylvania Pipeline Project: South East Region**  
**Construction Spread 6**

**Chester County**

MAP UNIT SYMBOL	SOIL NAME	EASILY ERODIBLE	CUTBANKS CAVE	CORROSIVE TO CONCRETE/ STEEL	DEPTH TO SATURATED ZONE/ SEASONAL HIGH WATER TABLE	LOW STRENGTH/ LANDSLIDE PRONE	PIPING	POOR SOURCE OF TOPSOIL	HYDRIC/ HYDRIC INCLUSIONS	POTENTIAL SINKHOLE
Ba	Baile	X	X	C/S	X	X	X	X	X	
CaB	Califon		X	C/S	X	X				
ChB	Chrome		X	C/S		X		X		
Co	Codorus		X	C/S	X	X	X		X	
CpA, CpB	Cokesbury		X		X		X			
CtB	Conestoga		X	C/S		X	X			X
EdB, EdC, EdD	Edgemont		X	C				X	X	
GdA, GdB, GdC, GdD, GdE, GdF, GdG, GdH, GdI, GdJ, GdK, GdL, GdM, GdN, GdO, GdP, GdQ, GdR, GdS, GdT, GdU, GdV, GdW, GdX, GdY, GdZ	Gladstone	X	X	C					X	
GgA, GgB, GgC	Glenelg	X	X	C		X	X	X	X	
GIB	Glenville		X	C/S	X	X	X	X	X	
Ha	Hatboro		X	C/S	X	X	X	X	X	
Ln	Lindside		X	S	X	X	X		X	X
MaC	Manor	X	X	C		X	X	X		
NvB, NvC, NxD, NxF	Neshaminy		X	C/S	X	X	X	X	X	
PaB, PaC, PaD, PaE, PaF, PaG, PaH, PaI, PaJ, PaK, PaL, PaM, PaN, PaO, PaP, PaQ, PaR, PaS, PaT, PaU, PaV, PaW, PaX, PaY, PaZ	Parker		X	C				X		
PdA, PdB	Penlaw	X	X	C/S	X	X	X	X	X	X
UrB, UrC, UrD, UrE, UrF, UrG, UrH, UrI, UrJ, UrK, UrL, UrM, UrN, UrO, UrP, UrQ, UrR, UrS, UrT, UrU, UrV, UrW, UrX, UrY, UrZ	Urban Land				X					

**Actions taken to counteract soil limitations**

- (1) Erodible Soils - E&S BMPs will be in place and functional prior to earth disturbance. Prompt stabilization practices will be implemented.
- (2) Cut Banks Caves -Almost all Pennsylvania soils are susceptible to caving of cut banks. Cut slopes will be stabilized as soon as possible with seed and mulch or erosion control blankets to prevent sliding. Slopes are designed to not exceed 2H:1V.
- (3) Corrosive to concrete or steel pipe - Pipes to be used on site shall be either HDPE or coated steel.
- (4) High Water Table -Should a high ground water table be encountered during construction, water will be drained away from disturbed areas to a well vegetated area or a placed compost filter sock prior to being discharged off site. Saturated soils the require compaction will be dried prior to being used on site.
- (5) Low Strength - Most of Pennsylvania soils (73%) have relatively low strength. Precautions will be taken to prevent slope failures due to improper construction practices. Soils will be evaluated during construction to determine whether additional measures will need to be taken.
- (6) Piping Tendencies -Piping is the erosion by percolating waters or seepage in layer of subsoil resulting in caving and the formation of tunnels or pipes through which the soluble or granular material is removed. Where necessary, anti-seep collars will be used to prevent piping.
- (7) Poor Topsoil -Soil amendments will be added to site soils to promote vegetative growth.
- (8) Potentially Hydric -A wetland delineation has been performed to determine the presence of wetlands.
- (9) Should a sinkhole be encountered during construction, repair should be done under the direct observation and supervision of a professional geologist or licensed geotechnical engineer. Site specific sinkhole repairs should be developed on a case by case basis.

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**Delaware County**

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BeA, BeB2	Beltsville	X	X	C/S	X	X	X		X	
ByA, ByB2	Butlertown	X	X	C/S	X	X	X		X	
CdB, CdC	Chester	X	X	C/S	X	X	X		X	
Ch	Chewacla		X	C/S	X	X	X		X	
CoB2	Conowingo	X	X	C/S	X	X	X			
GeB, GeB3, GeC, GeC2, GeC3, GeD, GeD2, GeD3	Glenelg	X	X	C		X	X	X	X	
GnA, GnB, GnB2, GsB	Glenville		X	C/S	X	X	X	X	X	
MgB2, MgC, MgD, MgD2, MgD3, MhE, MhE3, MkF, MmD	Manor	X	X	C		X	X	X		
Mn	Melvin	X	X	S	X	X	X	X	X	X
NaB2, NaC3, NaD3, NsD	Neshaminy		X	C/S	X	X	X	X	X	
OtA	Othello		X	C/S	X	X	X	X	X	
We	Wehadkee		X	C/S	X	X	X			
WoA	Worsham	X	X	C/S	X	X	X	X	X	

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