

Br - Brookston silty clay loam, Soil Description and Characteristics:

The main soil features that adversely affect engineering uses of this soil are a seasonal high water table, high potential frost action, moderate shrink-swell potential and moderate permeability. This soil has severe limitations for building sites. The site needs to be artificially drained and protected from flooding. Dwellings with basements should not be constructed on this soil. This soil has severe limitations for local roads and streets because of seasonal high water table and high potential frost action. The base material for roads and streets should be replaced or strengthened with suitable material.

CR - Crosby silt loam, Soil Description and Characteristics:

The main soil features that adversely affect engineering uses of this soil are a seasonal high water table, high potential frost action, moderate shrink-swell potential and moderate permeability. This soil has severe limitations for building sites. The site needs to be artificially drained to prevent wetness from becoming a problem. Dwellings with basements should not be constructed on this soil. This soil has severe limitations for local roads and streets because of seasonal high water table and high potential frost action. The base material for roads and streets should be replaced or strengthened with suitable material.

MmA - Miami Silt Loam, Soil Description and Characteristics:

The main soil features that adversely affect engineering uses of this soil are moderate potential frost action, moderate shrink-swell potential and moderate permeability. This soil has moderate limitations for building sites. This soil has severe limitations for local roads and streets because of low strength. The base material for roads and streets should be replaced or strengthened with suitable material.

MmB2 - Miami Silt Loam, Soil Description and Characteristics:

The main soil features that adversely affect engineering uses of this soil are moderate potential frost action, moderate shrink-swell potential, moderate permeability and low strength. In addition, erosion is a hazard during construction. This soil is suitable for building sites, but slope, clayey texture, shrinking and swelling, and low strength are moderate limitations that need to be overcome. This soil has severe limitations for local roads and streets because of low strength. The base material for roads and streets should be replaced or strengthened with suitable material.

MoC3 - Miami Clay Loam, Soil Description and Characteristics:

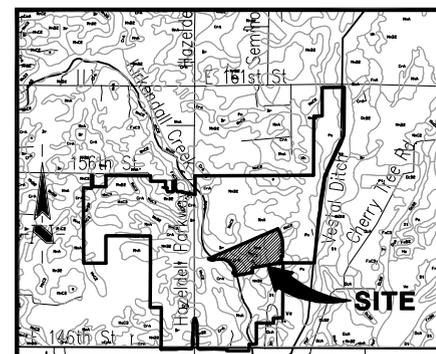
The main soil features that adversely affect engineering uses of this soil are moderate potential frost action, moderate shrink-swell potential and moderate permeability. In addition, erosion is a hazard during construction. This soil has moderate limitations for building sites. This soil has severe limitations for local roads and streets because of low strength. The base material for roads and streets should be replaced or strengthened with suitable material.

Sh - Shoals - Silt Loam, Soil Description and Characteristics:

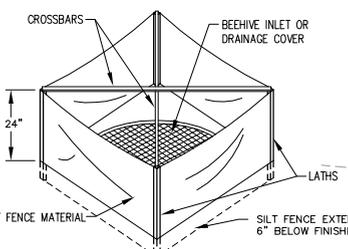
The main soil features that adversely affect engineering uses of this soil are seasonal high water table and high potential frost action. In addition, this soil is also subject to frequent flooding. This soil has severe limitations for building sites because of a seasonal high water table and flooding.

Recommendations and methods to overcome soil limitations:

Limitations for local roads, streets and dwellings because of seasonal high water table and high potential frost action can be overcome by the use of curb underdrains, sub-base strengthening or lime stabilization. Swales which sever the surface drainage can also help. High water tables can be overcome with respect to basement construction with the use of perimeter foundation drains and sump pumps. Refer to the site construction drawings and details for specific information related to the proposed infrastructure improvements on this site.

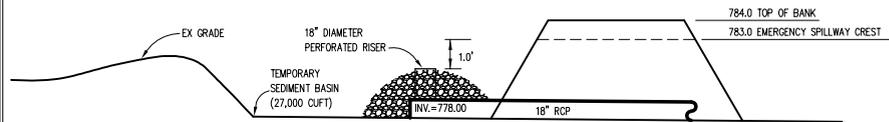


SOILS MAP NOT TO SCALE

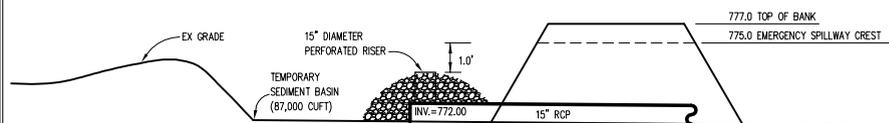


INLET PROTECTION - SILT FENCE

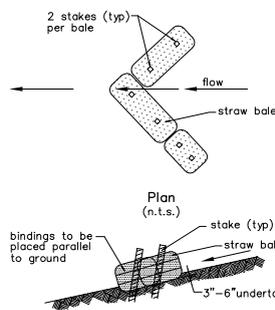
- NOTE:
1. SEE SILT FENCE DETAIL FOR MATERIAL SPECIFICATIONS.
2. SILT FENCE SHALL BE PREASSEMBLED BY SUPPLIER.



TEMPORARY SEDIMENT BASIN #1 DETAIL



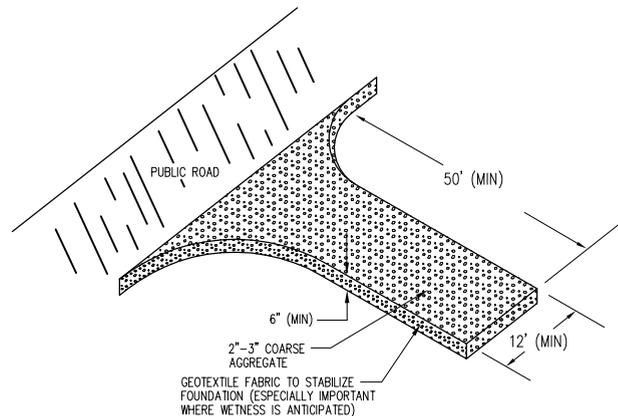
TEMPORARY SEDIMENT BASIN #2 DETAIL



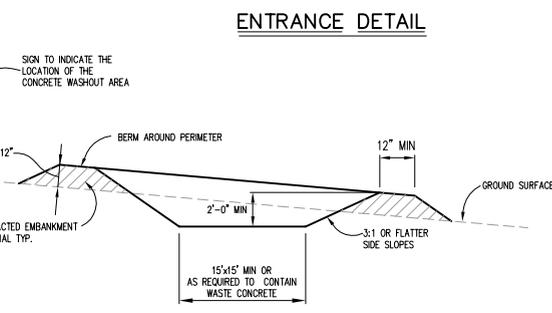
SEDIMENT FILTER DETAIL

STORMWATER POLLUTION REVENTION SCHEDULE

EROSION CONTROL MEASURE	MAINTENANCE	INSTALLATION SEQUENCE
TEMP. DIVERSION SWALE & SILT TRAPS	AS NEEDED	PRIOR TO CLEARING AND GRADING
STONE ENTRANCE	AS NEEDED	PRIOR TO CLEARING AND GRADING
SILT FENCE	WEEKLY, AFTER STORM EVENTS AND AS NEEDED	PRIOR TO CLEARING AND GRADING
EXISTING INLET PROTECTION	WEEKLY, AFTER STORM EVENTS AND AS NEEDED	PRIOR TO CLEARING AND GRADING
TREE PROTECTION	WEEKLY, AFTER STORM EVENTS AND AS NEEDED	PRIOR TO CLEARING AND GRADING
TEMPORARY DIVERSIONS	WEEKLY, AFTER STORM EVENTS AND AS NEEDED	ALONG WITH ROUGH GRADING
TEMPORARY SEEDING	WATER AS NEEDED	AFTER ROUGH GRADING
PERMANENT SEEDING	WATER AS NEEDED	AFTER FINISH GRADING
EROSION CONTROL MATTING	WEEKLY, AFTER STORM EVENTS AND AS NEEDED	AFTER FINISH GRADING
STRAW BALES	WEEKLY, AFTER STORM EVENTS AND AS NEEDED	AFTER FINISH GRADING
INLET PROTECTION	WEEKLY, AFTER STORM EVENTS AND AS NEEDED	AFTER EACH INLET IS PLACED
SEED, SOO & LANDSCAPE AROUND UNITS FINISHED	WATER AS NEEDED	AFTER FINISHED GRADING AROUND FINISHED UNITS
REMOVAL OF STRAW BALES	N/A	AFTER ALL AREAS DRAINING TO THESE AREAS ARE STABILIZED
REMOVAL OF INLET PROTECTION	N/A	AFTER ALL AREAS DRAINING TO THESE AREAS ARE STABILIZED
REMOVAL OF SILT FENCE	N/A	AFTER ALL AREAS DRAINING TO THESE AREAS ARE STABILIZED



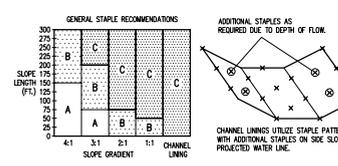
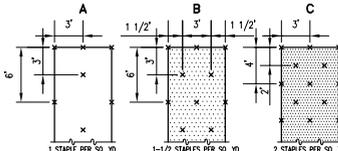
TEMPORARY CONSTRUCTION ENTRANCE DETAIL



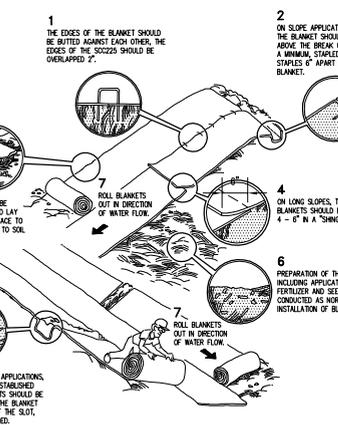
EROSION CONTROL MATTING DETAIL

- NOTES:
1. CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
2. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
3. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
4. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.
5. WHEN THE CONCRETE WASHOUT ARE IS REMOVED, THE DISTURBED AREA SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE INSPECTOR.

CONCRETE WASHOUT DETAIL



STAPLE PATTERNS APPLY TO ALL NORTH AMERICAN EROSION CONTROL BLANKETS. STAPLE PATTERNS MAY VARY DEPENDING UPON SOIL TYPE AND AVERAGE ANNUAL RAINFALL.
AT SLOPE LENGTHS GREATER THAN 300 FEET OR WHERE DRAINAGE OVER LARGE AREAS IS DIRECTED ONTO THE BLANKETS, STAPLE PATTERN "C" SHOULD BE UTILIZED.



EROSION BLANKET INSTALLATION

Seedbed Preparation

Apply lime to raise the pH to the level needed for species being seeded. Apply 23 pounds of 12-12-12 analysis fertilizer (or equivalent) per 1000 sq. ft. (approximately 1000 pounds per acre) or fertilize according to test. Application of 150 lbs. of ammonium nitrate on areas low in organic matter and fertility will greatly enhance vegetative growth.

Work the fertilizer and lime into the soil to a depth of 2-3 inches with a harrow, disk or rake operated across the slope as much as possible.

Seeding

Select a seed mixture based on projected use of the area (Figure 5-2), while considering best seeding dates. See Figure 5-3 this sheet. If tolerances are a problem, such as soil tolerance of seedings adjacent to streets and highways, see Figure 5-4 this sheet before final selection.

Figure 5-2: Permanent Seed Mixtures

Species	Seeding Rate lbs/acre	Suitable pH lbs/1000 sq. ft.	Site Suitability*		
			well	Droughty	Drained Wet
Level and Sloping, Open Areas					
1. Tall Fescue	35 .8	5.5-8.3	2	1	2
2. Tall Fescue Red Clover**	25 .6	5.5-8.3	1		
	5 .12				
3. Kentucky Bluegrass Creeping Red Fescue	15 .4	5.5-7.5	2	1	
	15 .4				
Steep Banks and Cuts					
4. Tall Fescue	15 .4	5.8-7.5	2	1	2
5. Kentucky Bluegrass	25 .6				
6. Kentucky Bluegrass Creeping Red Fescue	40 .9	5.8-7.5	2	1	
7. Perennial Ryegrass (Turf Type)	170 4.0	5.0-7.5	1		
8. Tall Fescue	170 4.0	5.5-8.3	2	1	2
Lawns and High Maintenance Areas					
9. Kentucky Bluegrass	40 .9	5.8-7.5	2	1	
10. Kentucky Bluegrass Creeping Red Fescue	40 .9				
11. Perennial Ryegrass (Turf Type)	170 4.0	5.0-7.5	1		
12. Tall Fescue	170 4.0	5.5-8.3	2	1	2

* 1 - Preferred 2 - Will Tolerate ** Inoculate with specific Inoculant.

Temporary Seeding and Stabilization Dates

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Wheat or Rye												
Oats												
Annual Ryegrass												
Non-Irrigated*												
Irrigated												
Dormant Seeding**												

Irrigation needed during this period. To control erosion at times other than in the shaded areas, use mulch.
* Late summer seedings dates may be extended 5 days if mulch is applied.
** Increase seeding application by 50%.
NOTE: MULCHING REQUIRED WHEN ACTUAL CONDITIONS HAMPER THE ESTABLISHMENT OF VEGETATIVE GROUND COVER.

FIGURE 5-3

Kind of Seed	1000 Sq. Ft.	Acres	Remarks
Wheat or Rye	3.5 lbs.	2 bu.	Cover seed 1" to 1 1/2" deep
Spring Oats	2.3 lbs.	3 bu.	Cover seed 1" deep
Annual ryegrass	1 lb.	40 lbs.	Cover seed 1/4" deep*

* Not necessary where mulch is applied.

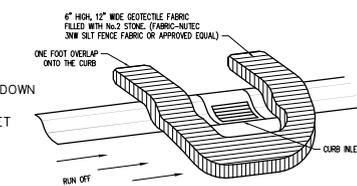
SILT FENCE

Silt Fence shall be a machine produced, non-woven geotextile of 100% polypropylene meeting the physical properties below.

All stakes shall be 2" X 2" hardwood 36" tall with 24" tall lath stapled to stakes over fabric as reinforcement.

All silt fence shall be prefabricated by the supplier. No field assembly will be accepted.

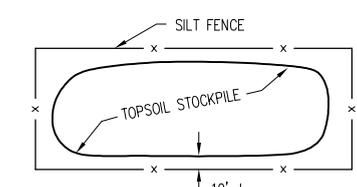
Fabric Weight.....	4 oz/syd
Grab Strength.....	Warp 125 lbs.
Elongation.....	Warp 50 %
Trapezoidal Tear Strength.....	50 lbs.
Burst Strength.....	200 psi
UV Resistance.....	> 70 %
A.O.S.....	50-80
Slurry Flow Rate.....	225 gpm/sq. ft.
Sediment Retention.....	75 %



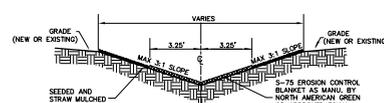
CURB INLET SEDIMENT BARRIER

NOTE:

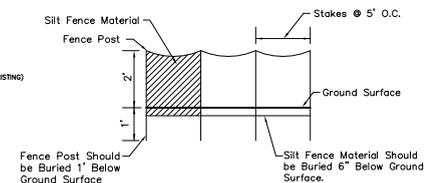
START BLANKET AT TOP OF THE SWALE AND ROLL IN THE DIRECTION OF THE WATER FLOW IN THE SWALE. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR CHANNEL PLACEMENT AND STAPLE PATTERNS.



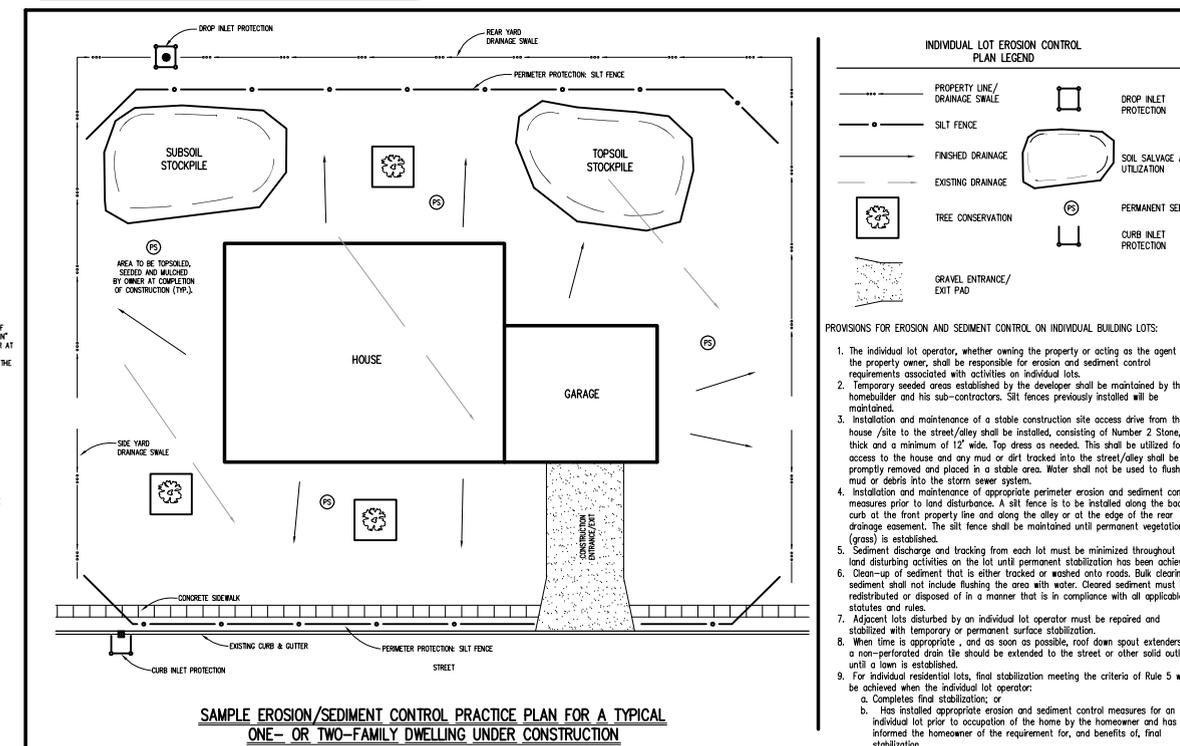
TYPICAL TOPSOIL STOCKPILE



EROSION CONTROL MATTING DETAIL FOR REAR YARD SWALE



SILT FENCE DETAIL



SAMPLE EROSION/SEDIMENT CONTROL PRACTICE PLAN FOR A TYPICAL ONE- OR TWO-FAMILY DWELLING UNDER CONSTRUCTION

INDIVIDUAL LOT EROSION CONTROL PLAN LEGEND

PROPERTY LINE/ DRAINAGE SWALE	DROP INLET PROTECTION
SILT FENCE	SOIL SALVAGE AND UTILIZATION
FINISHED DRAINAGE	PERMANENT SEEDING
EXISTING DRAINAGE	CURB INLET PROTECTION
TREE CONSERVATION	
GRAVEL ENTRANCE/ EXIT PAD	

PROVISIONS FOR EROSION AND SEDIMENT CONTROL ON INDIVIDUAL BUILDING LOTS:

- The individual lot operator, whether owning the property or acting as the agent of the property owner, shall be responsible for erosion and sediment control requirements associated with activities on individual lots.
- Temporary seeded areas established by the developer shall be maintained by the homeowner and his sub-contractors. Silt fences previously installed will be maintained.
- Installation and maintenance of a stable construction site access drive from the house/site to the street/alley shall be installed, consisting of Number 2 Stone, 6" thick and a minimum of 12' wide. Top dress as needed. This shall be utilized for access to the house and any mud or dirt tracked into the street/alley shall be promptly removed and placed in a stable area. Water shall not be used to flush silt, mud or debris into the storm sewer system.
- Installation and maintenance of appropriate perimeter erosion and sediment control measures prior to land disturbance. A silt fence is to be installed along the back of curb at the front property line and along the alley or at the edge of the rear drainage easement. The silt fence shall be maintained until permanent vegetation (grass) is established.
- Sediment discharge and tracking from each lot must be minimized throughout the land disturbing activities on the lot until permanent stabilization has been achieved.
- Clean-up of sediment that is either tracked or washed onto roads. Bulk clearing of sediment shall not include flushing the area with water. Cleared sediment must be redistributed or disposed of in a manner that is in compliance with all applicable statutes and rules.
- Adjacent lots disturbed by an individual lot operator must be repaired and stabilized with temporary or permanent surface stabilization.
- When time is appropriate, and as soon as possible, roof down spout extenders of a non-perforated design should be extended to the street or other solids outlet until a lawn is established.
- For individual residential lots, final stabilization meeting the criteria of Rule 5 will be achieved when the individual lot operator:
 - Completes final stabilization, or
 - Has installed appropriate erosion and sediment control measures for an individual lot prior to occupation of the home by the homeowner and has informed the homeowner of the requirement for, and benefits of, final stabilization.

HOLEY MOLEY SAYS

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FOR CALLS OUTSIDE OF INDIANA

PER INDIANA STATE LAW IS-69-1991, IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.