LEGEND

State Line
County Line
Township Line
Section Line
Property Line
Paved Road
Improved Road
Dirt Road
Private or Field Road
Railroad — Active — Abandoned
Base Line
Offset Line
Center Line of Improvements
Watershed Boundary
Sub-Watershed Boundary
Fence, Existing
Fence, To be Constructed
Fence, To be Removed
Telegraph and Telephone Line (Location of Pole)
Power Line (Location of Pole)
Telephone and Power Line (Location of Pole)
High Voltage Transmission Line (Location of Towers) (Poles) or (Tower)
Pipe Line or Buried Cable (Kind or Name)
Water Pipe Line (Farm) — Water Line
Existing Tile Line
Proposed Tile Line
Junction Box
Open Ditch (4' deep or over)
Shallow Ditch (Less than 4' deep)
Open Ditch to be Cleaned Out
Terrace, Graded
Terrace, Level
Diversion
Grassed Watercourse
Stream, Large
Stream, Small
Stream, Intermittent
Stream Disappears on Flat
Stream Disappears in Sink Hole
Sink Hole or Depression
Marsh

Levee
Clearing and/or Grubbing Boundary
Building
School
Church
Cemetery
Windmill
Well — Well
Spring
Mine, Quarry, or Gravel Pit
Section Corner
Section Center
Bench Mark, Permanent — BM 70
Bench Mark, Temporary — TBM 71
Control Point, Permanent — 'AD'
Control Point, Temporary — #13
Point on Offset Line
Point of Intersection
Lake or Pond, Perennial
Lake or Pond, Intermittent
Approximate Limit of Work Area
Stock Watering System
Foundation Trench Drain — Pipe — Porous Filter
* Contours — 1240
* Gully Banks — Indicated elevation at decimal point
*(Dashed lines indicate existing contours or gully banks within areas of excavation and fill)
North Arrow (True North)
Drop Inlet — With Covered Inlet
Drop Spillway
Box Inlet Drop Spillway — With Bridge
Box Inlet Culvert
Culvert — With Hood Inlet
Culvert Extension
Inlet on Culvert — Outlet on Culvert
Sod Flume (Gutter)
Chute — With Bridge
Box Inlet Chute — With Bridge
Bridge

SOIL BORING SYMBOLS

UNCONSOLIDATED MATERIAL

1 gravel; 2 gravel, sandy; 3 gravel, silty; 4 gravel, clayey; 5 gravel, sand, silt; 6 sand; 7 sand, gravelly; 8 sand, silty; 9 sand, clayey; 10 sand, silt, clay; 11 silt; 12 silt, gravelly; 13 silt, sandy; 14 silt, clayey; 15 organic silt; 16 clay; 17 clay, gravelly; 18 clay, sandy; 19 clay, silty; 20 organic clay; 21 cobbles, boulders; 22 peat; 23 gypsiferous*; 24 calcareous*; 25

* to be added to Standard Symbol when significant amounts of dispersed gypsum or calcified zones are present in the section.

CONSOLIDATED MATERIAL

Sedimentary Rocks

26 shale; 27 calcareous shale; 28 sandy shale; 29 siltstone; 30 sandstone; 31 calcareous sandstone; 32 shaley sandstone; 33 breccia; 34 limestone; 35 cherty limestone; 36 sandy limestone; 37 dolomite; 38 chalk; 39 marl; 40 chert; 41; 42 coal; 43 gypsum; 44 conglomerate; 45

Metamorphic Rocks

46 quartzite; 47 gneiss; 48 marble; 49 slate; 50 schist; 51 soapstone talc serpentine

Igneous Rocks

52 intrusive; 53 pyroclastic; 54 extrusive; 55

Undifferentiated

56

TEST HOLE NUMBERING SYSTEM

Centerline of dam	1– 99
Borrow area	101–199
Emergency spillway	201–299
Centerline of outlet structure stream channel	301–399
	401–499
Relief wells	501–599
	601–699
	701–799

OTHER SYMBOLS

Typical Soil Boring
31 hole logged only
104 hole sampled
dip and strike
pit or trench
WL (date) groundwater level on a specified date

TYPICAL LOG

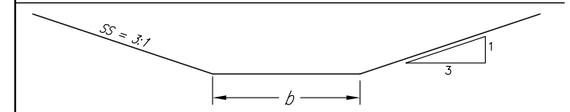
Use either description, number or symbol of the Soil Type.

1150.0
GP 1
3
GM 5
SP 7
SC 9 — WL (4–10–59)

UNIFIED SOIL CLASSIFICATION SYSTEM SYMBOLS

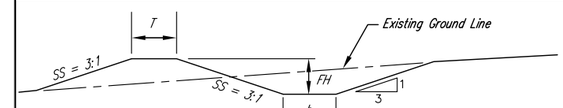
GW Well graded gravels; gravel–sand mixtures
GP Poorly graded gravels
GM Silty gravels; gravel–sand–silt mixtures
GC Clayey gravels; gravel–sand–clay mixtures
SW Well graded sands; sand–gravel mixtures
SP Poorly graded sands
SM Silty sand
SC Clayey sands; sand–clay mixture
ML Silts; silty, v.fine sands; sandy or clayey silts
CL Clays of low to medium plasticity; silty, sandy or gravelly clays
CH Inorganic clays of high plasticity; fat clays
MH Elastic silts; micaceous or diatomaceous silts
OL Organic silts and organic silty clays of low plasticity
OH Organic clays of medium to high plasticity

TYPICAL CROSS SECTIONS



IMPROVED DRAINAGEWAYS

CHANNELS, GRADED WATERCOURSES, SOD FLUMES, ETC.



DIVERSIONS & EMERGENCY SPILLWAYS

DEFINITIONS OF TERMS

s–Grade of channel in feet of drop per foot of length
b–Bottom width of channel in feet
ss–Side slope ratio, horizontal to vertical
T–Top width of dike, levee or fill in feet
FH–Fill height of dike in feet (vertical distance from bottom of channel to top of dike)

TABLE OF STANDARD DIMENSIONS

IMPROVEMENT	T	ss
Improved Drainageways	–	*3:1 or As shown on drawings*
Diversions	*6'*	*3:1 or As shown on drawings*
Levees	*8'*	*3:1 or As shown on drawings*
Drop Inlet Embankments	*10'*	*3:1 or As shown on drawings*
Chute Embankments	*8'*	*3:1 or As shown on drawings*
Drop Spillway Embankments	*8'*	*3:1 Upstream–2:1 Downstream*

NOTE:
1. Use standard dimensions unless otherwise shown on drawings
2. Use s, b, and FH as shown on drawings

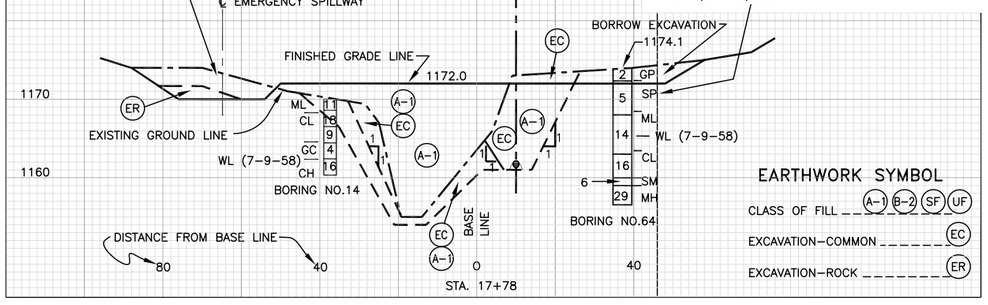
GENERAL NOTES

℄ improvements are along Base Line unless otherwise indicated
Elevations of pipes refer to invert elevations
Cross sections shown as looking downstream
Lines showing limits of structure excavation are on a 1:1 slope unless otherwise indicated

CROSS SECTION LEGEND

Note:– Excavation when not labeled will be paid for at the contract price for the class of fill in which the material is used.

NOTE:– Unified Soil Classification as determined in the field will be shown along with Soil Boring Logs as illustrated. Logs of soil borings are available for review upon request.



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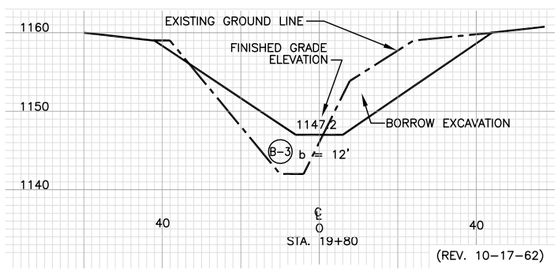
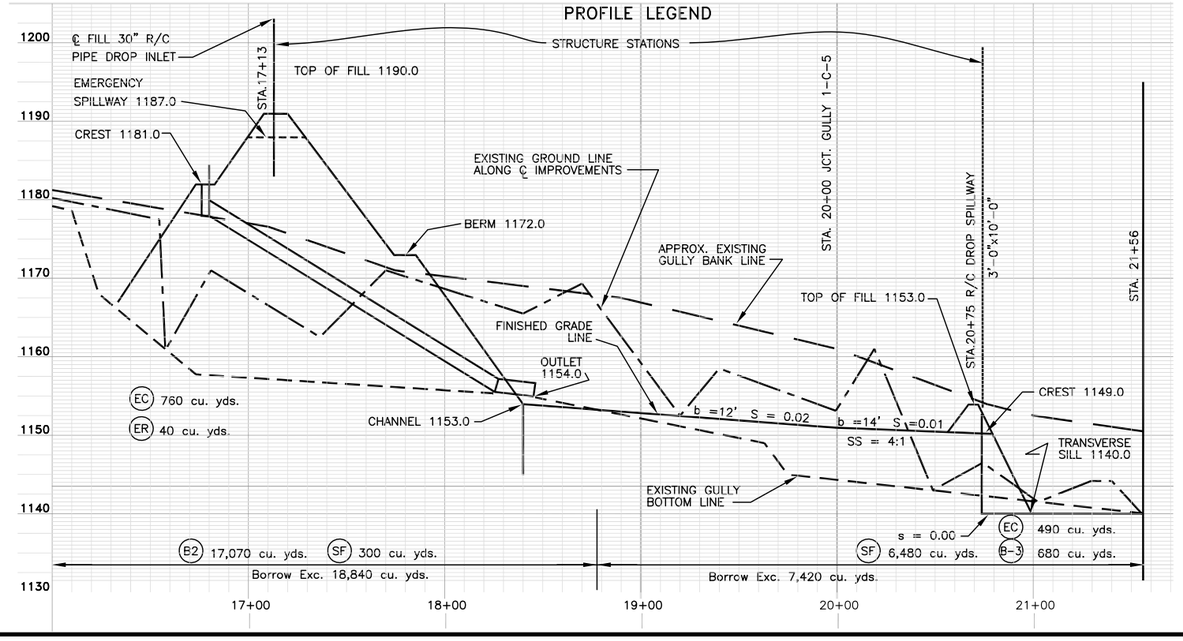


(REV. 10–17–62)

PROFILE LEGEND



MICHIGAN ENGINEERING STANDARD DRAWING	
FILE NAME MI–070–B 8–07.dwg	
STANDARD DWG. NO. MI–070–B	
DATE 8–07	SHEET 1 OF 2

Date
Designed
Drawn
Checked
Approved

LEGENDS AND INFORMATION

NRCS
Natural Resources Conservation Service
United States Department of Agriculture

File Name
Drawing Name
Sheet of

MICHIGAN ENGINEERING STANDARD DRAWING

FILE NAME MI-070-B 8-07.dwg

STANDARD DWG. NO. MI-070-B

DATE 8-07 | SHEET 2 OF 2

SOIL BORING SYMBOLS

UNCONSOLIDATED MATERIAL

1	gravel	6	sand	11	silt	16	clay	21	cobbles, boulders
2	gravel, sandy	7	sand, gravelly	12	silt, gravelly	17	clay, gravelly	22	peat
3	gravel, silty	8	sand, silty	13	silt, sandy	18	clay, sandy	23	gypsi-ferous ✱
4	gravel, clayey	9	sand, clayey	14	silt, clayey	19	clay, silty	24	calcar-eous ✱
5	gravel, sand, silt	10	sand, silt, clay	15	organic silt	20	organic clay	25	

✱ to be added to Standard Symbol when significant amounts of dispersed gypsum or calcified zones are present in the section.

CONSOLIDATED MATERIAL

Sedimentary Rocks

26	shale	30	sandstone	34	limestone	38	chalk	42	coal
27	calcareous shale	31	calcareous sandstone	35	cherty limestone	39	marl	43	gypsum
28	sandy shale	32	shaley sandstone	36	sandy limestone	40	chert	44	conglom-erate
29	siltstone	33	breccia	37	dolomite	41		45	

Metamorphic Rocks

46	quartzite	49	slate
47	gneiss	50	schist
48	marble	51	soapstone talc serpentine

Igneous Rocks

52	intrusive	54	extrusive
53	pyroclastic	55	

Undifferentiated

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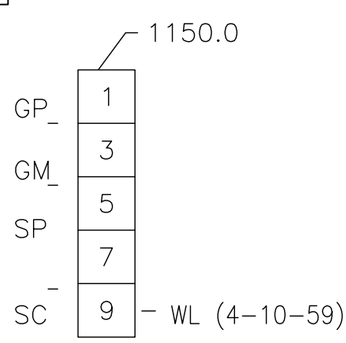

TYPICAL LOG

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CH	Inorganic clays of high plasticity; fat clays
MH	Elastic silts; micaceous or diatomaceous silts
OL	Organic silts and organic silty clays of low plasticity
OH	Organic clays of medium to high plasticity

Sheet of | Drawing Name | File Name

NRCS Natural Resources Conservation Service United States Department of Agriculture

SOIL BORING SYMBOLS

Designed ____ Date ____

Drawn ____ ____

Checked ____ ____

Approved ____ ____