

IRRIGATION GROUPS AND IRRIGATION INTAKE FAMILY DESCRIPTIONS

Group 1 – Intake Family 4

Sands over bedrock at 20 to 40 inches, moderately rapid or rapidly permeable, well drained to somewhat excessively drained.

Deerton
 Duel
 Furlong
 Ishpeming
 Yellowdog

Depth (In)	Texture	Available Water Capacity		
		Incremental In/In	Incremental Inches	Cumulative Inches
0-12	sand	.08	.96	.96
12-24	sand	.07	.84	1.80
24-36	sand	.04	.48	2.28
36-60	bedrock	-	-	2.28

Group 1W – Intake Family 4

Sands over bedrock 20 to 40 inches or sand over sand or gravelly sand at 20 to 40 inches, rapidly permeable, somewhat poorly to poorly drained. Drainage practices are necessary prior to installation of irrigation system. Drained soil characteristics similar to Group 1.

Altmar
 Battlefield
 Jeske
 Vestaburg
 Wheatley
 Zela

Group 1S

Sands over bedrock at less than 20 inches, moderately rapid or rapid permeability, well drained to somewhat excessively drained.

Buckroe

Depth (In)	Texture	Available Water Capacity		
		Incremental In/In	Incremental Inches	Cumulative Inches
0-12	sand	.08	.96	.96
12-19	sand	.07	.84	1.80
19-60	bedrock	-	-	1.80

Group 1SW

Burt

Sands over bedrock at less than 20 inches, moderately rapid or rapid permeability, somewhat poorly poorly to poorly drained. Drainage practices are necessary prior to installation of irrigation system. Drained soil characteristics similar to Group 1S.

Group 2 – Intake Family 4

Deep, rapidly permeable sands or gravelly sands, excessively drained to moderately well drained.

Abcosta	Kaleva
Adams	Kalkaska
Brems	Minega
Brethern	Mecosta
Covert	Pelkie ^{2/}
Croswell	Plainfield
Deer Park	Platterville
Eastport	Rubicon
East Lake	Sayner
Farquar ^{1/}	Shavenaugh
Feldtman	Shelldrake
Grattan	Springlake
Grayling	Traunik ^{1/}
Halfaday	Waiska
Hartwick	Wurthsmith
Horsehead	

Depth (In)	Texture	Available Water Capacity		
		Incremental In/In	Incremental Inches	Cumulative Inches
0-12	sand	.08	.96	.96
12-24	sand	.07	.84	1.68
24-36	sand	.06	.72	2.40
36-60	sand	.06	1.44	3.84

Group 2W – Intake Family 4

Deep, rapidly permeable sands, somewhat poorly drained or poorly drained. Drainage practices are necessary prior to installation of irrigation system. Drained soil characteristics are similar to Group 2.

Algansee	Granby
Ausable	Kinross
Au Gres	Roscommon
Dair	Winterfield ^{2/}
Evart	
Glendora ^{2/}	

^{1/} Overlain by sandy loam. Increase available water capacity by 50% in the 0 to 12 inch layer.

^{2/} Subject to flooding.

Group 3 – Intake Family 3

Deep, fine sand, loamy sand or loamy fine sand underlain by fine sand or sand with loamy bands, rapidly permeable, excessively drained to moderately well drained.

Benzonia	Liminga
Benona	Lindquist
Blue Lake	Nordhouse
Chelsea	Oakville
Chinwhisker	Omega
Coloma	Rousseau
Epworth	Saprta
Gerrish	Toogood
Graycalm	Vilas
Islandlake	Zimmerman

Depth (In)	Texture	Available Water Capacity		
		Incremental In/In	Incremental Inches	Cumulative Inches
0-12	loamy fine sand	.11	1.32	1.32
12-24	fine sand	.08	.96	2.28
24-36	fine sand	.08	.96	3.24
36-60	fine sand	.07	1.68	4.92

Group 3W – Intake Family 3

Deep, loamy fine sand, loamy sand or fine sand underlain by sand or fine sand, rapidly permeable, somewhat poorly drained to very poorly drained. Drainage practices are necessary prior to installation of irrigation system. Drained soil characteristics are similar to Group 3.

Deford	Tedrow
Kingsville	Tobico
Maumee	Wainola
Moroco	Watseka
Pipestone	

Group 4 – Intake Family 2

Deep, loamy fine sand, loamy sand, sand or fine sand underlain by moderately to slowly permeable loamy or clayey subsoils, well drained or moderately well drained

Fern	Morganlake
Geels	Ocqueoc
Gilchrist ^{1/}	Okee
Kellogg	Okeefe
Manistee	Perchaney
Melita	Tustin
Menominee	Seward
Meta	Skeel

Depth (In)	Texture	Available Water Capacity		
		Incremental In/In	Incremental Inches	Cumulative Inches
0-12	loamy sand	.11	1.32	1.32
12-24	loamy sand	.08	.96	2.28
24-36	clay loam	.12	1.44	3.77
36-60	clay loam	.15	3.60	7.37

Group 4W– Intake Family 2

Deep, loamy fine sand, loamy sand, sand or fine sand underlain by loamy or clayey subsoils, moderately slowly to very slowly permeable, somewhat poorly drained or poorly drained. Drainage practices needed prior to installation of irrigation system. Drained soil characteristics similar to Group 4.

Allendale	Munuscong
Arkona	Pinconning
Assinins	Posseyville
Avoca	Rapson
Belleville	Rimer
Bixler	Rockcut ^{2/}
Brevort	Selfridge
Burleigh	Sickles
Caffey	Tacoda
Cosad	Wabun
Escanaba	Wakeley
Essexville	Wauseon
Fibre	Wautoma
Ingalls	Whittemore
Iosco	Wixom
Kosing	

^{1/} Underlain by sandy loam. Increase available water capacity by 30 percent in the 24 to 60 inch layer.

^{2/} Overlain by stoney or cobbly coarse sand. Reduce available water capacity by 60% in the 0-12 inch layer.

Group 5 – Intake Family 2

Deep, light colored loamy sand and loamy fine sands underlain by loamy or sandy subsoils, moderately or moderately rapidly permeable, well drained or moderately well drained.

Boyer ^{1/}	Montcalm
Bronson ^{1/}	Oconto ^{1/}
Coppler ^{1/}	Ormas ^{1/}
Karlin	Ottokee
Keweenaw	Perrin ^{1/}
Klacking	Southwells
Leelanau	Spinks
Mancelona ^{1/}	

Depth (In)	Texture	Available Water Capacity		
		Incremental In/In	Incremental Inches	Cumulative Inches
0-12	loamy sand	.10	1.20	1.20
12-24	loamy sand	.10	1.20	2.40
24-36	sandy loam	.12	1.44	3.84
36-60	sand	.06	1.44	5.28

Group 5W – Intake Family 2

Deep, light colored loamy fine sands, or loamy sands underlain by loamy or sandy subsoils, moderately or moderately rapidly permeable, somewhat poorly drained or poorly drained. Drainage practices needed prior to installation of irrigation system. Drained soil characteristics similar to Group 5.

Gladwin^{1/}
Otisco
Pequaming
Richter
Riverdale^{1/}
Thetford

^{1/}Underlain by gravelly sand. Reduce available water capacity by 50 percent in the 36 to 60 inch layer.

Group 6 – Intake Family 1.5

Deep, light colored sandy loam, very fine sandy loam or fine sandy loam underlain by loamy or sandy subsoils, moderately or moderately rapidly permeable, well drained or moderately well drained.

Alcona	Hodenpyl	Ossineke ^{2/}
Allouez ^{1/}	Keewaydin	Padus
Alpena ^{3/}	Kiva	Padwet
Alvin	Lapeer	Pellissier ^{3/}
Amasa	Leoni	Pemene
Arkport	Lode	Pence
Battydoe ^{2/}	Manitowish ^{4/}	Posen ^{2/}
Branch	Mcginn ^{2/}	Sagola ^{2/}
Chatam	Mcmillan	Sarona ^{2/}
Emmet	Millersburg	Sarwet ^{2/}
Feldhauser	Moltke	Sundog ^{4/}
Grace	Mossback ^{2/}	Tekenink ^{2/}
Greylock ^{2/}	Nadeau ^{4/}	Vanriper ^{2/}
Guardlake	Northland ^{1/}	Widgeon ^{2/}
Heinze ^{1/}	Omena ^{2/}	
Hillsdale	Oshtemo	

			Available Water Capacity		
			Incremental	Incremental	Cumulative
Depth (In)	Texture		In/In	Inches	Inches
0-12	sandy loam		.15	1.80	1.80
12-24	sandy loam		.14	1.68	3.48
24-36	sandy loam		.14	1.68	5.16
36-60	sand		.06	1.44	6.60

Group 6W – Intake Family 1.5

Deep, light colored, sandy loams and fine sandy loams underlain by loamy or sandy subsoils, moderately or moderately rapidly permeable, somewhat poorly drained or poorly drained. Drainage practices are necessary prior to installation of irrigation system. Drained soil characteristics similar to Group 6.

Alstad ^{2/}	Mattix ^{1/}
Beechwood	Saggining
Channing	Solona ^{2/}
Ensley	Teasdale
Esau ^{3/}	Wasepi
Glawe	Witbeck ^{2/}
Haggensville ^{2/}	

^{1/} Underlain by gravelly sand. Reduce available water capacity by 50% in the 24 to 60 inch layer.

^{2/} Underlain by sandy loam. Increase available water capacity by 75% in the 36 to 60 inch layer.

^{3/} Underlain by gravelly sand. Reduce available water capacity by 50% in the 12 to 60 inch layer.

^{4/} Underlain by gravelly sand. Reduce available water capacity by 50 percent in the 36 to 60 inch layer.

Group 7 – Intake Family 1.5

Deep, dark colored, sandy loams or loams underlain by loamy or sandy subsoils, moderately rapidly permeable, well drained and moderately well drained.

Auger
Elston
Landes^{1/}
Moquah^{1/}
Petticoat^{2/}

Depth (In)	Texture	Available Water Capacity		
		Incremental In/In	Incremental Inches	Cumulative Inches
0-12	fine sandy loam	.18	2.16	2.16
12-24	fine sandy loam	.16	1.92	4.08
24-36	sandy loam	.13	1.56	5.64
36-60	loamy sand	.08	1.92	7.56

Group 7W – Intake Family 1.5

Deep, dark colored loams, sandy loams, or fine sandy loams underlain by loamy or sandy subsoils, moderate to moderately rapidly permeable, somewhat poorly drained or poorly drained. Drainage practices are necessary prior to installation of irrigation system. Drained soil characteristics similar to Group 7.

Arnheim ^{1/}	Fabius ^{3/}
Barry ^{2/}	Gauld
Brady	Gay
Ceresco ^{1/}	Gilford ^{2/}
Chesaning ^{1/}	Lamson
Cohoctah ^{1/}	Locke
Colonville	Minocqua
Corsair	Sturgeon ^{1/}
Edmore	Tonkey
Epoufette	

^{1/} Subject to flooding.

^{2/} Underlain by gravelly sand. Reduce available water capacity by 50 percent in the 36 to 60 inch layer.

^{3/} Underlain by gravelly sand. Reduce available water capacity by 50 percent in the 24 to 60 inch layer.

Group 8 – Intake Family 1.5

Sandy loams, fine sandy loams and loams, 20 to 40 inches to bedrock, moderately to moderately rapidly permeable, excessively well drained to moderately well drained.

Abbaye	Michigamme
Carlshend	Nipissing
Chocolay	Onota
Cunard	Reade
Dishno ^{1/}	Zeba
Eleva	
Hixton	
Longrie	

Depth (In)	Texture	Available Water Capacity		
		Incremental In/In	Incremental Inches	Cumulative Inches
0-12	sandy loam	.14	1.68	1.68
12-24	sandy loam	.13	1.56	3.24
24-36	sandy loam	.05	.60	3.84
36-60	bedrock	-	-	3.84

Group 8W – Intake Family 1.5

Sandy loams and loams, 20 to 40 inches to bedrock, moderately rapidly or moderately permeable, somewhat poorly drained or poorly drained,. Drainage practices are necessary prior to installation of irrigation system. Drained soil characteristics similar to Group 8.

Bonduel
Elcajon
Kswbawgam
Gutport
Jacobsville
Nahma
Sundell
Tyre

^{1/} Underlain by loamy sand. Reduce the available water capacity by 30% in the 24 to 36 inch layer.

Group 8S

Sandy loams, fine sandy loams and loams, less than 20 inches to bedrock, moderately to moderately rapidly permeable, excessively well drained to moderately well drained.

- Amadon
- Arcadian
- Channahon
- Peshekee
- Summerville
- St. Ignace

Depth (In)	Texture	Available Water Capacity		
		Incremental In/In	Incremental Inches	Cumulative Inches
0-12	sandy loam	.14	1.68	1.68
12-19	sandy loam	.13	1.56	3.24
19-60	bedrock	-	-	3.84

Group 8SW

Sandy loams, fine sandy loams and loams, less than 20 inches to bedrock, moderately to moderately rapidly permeable, somewhat poorly drained or poorly drained. Drainage practices are necessary prior to installation of irrigation system. Drained soil characteristics similar to Group 8S.

- Ensign
- Freda
- Lachine
- Potagannising
- Ruse

Group 9 – Intake Family 1.0

Deep, light colored sandy loams, loams and silt loams underlain by loamy material, moderately or moderately slowly permeable, well drained or moderately well drained.

Bixby ^{1/}	Kidder
Dryden ^{2/}	Krakow ^{4/}
Elmdale	Martinsville
Fox ^{1/}	Ockley
Goodman	Remus ^{1/}
Ionia ^{1/}	Rockbottom ^{5/}
Krakow ^{4/}	Satago
Isabella	Trenary
Kalamazoo ^{1/}	

Depth (In)	Texture	Available Water Capacity		
		Incremental In/In	Incremental Inches	Cumulative Inches
0-12	loam	.20	2.40	2.40
12-24	clay loam	.17	2.04	4.44
24-36	clay loam	.17	2.04	6.48
36-60	sandy loam	.12	2.88	9.36

Group 9W – Intake Family 1.0

Deep, light colored sandy loams, loams and silt loams underlain by loamy material, moderately slowly or moderately permeable, somewhat poorly drained or poorly drained. Drainage practices are necessary prior to installation of irrigation system. Drained soil characteristics similar to Group 9.

Angelica	Ermatinger	Pleine
Aubbeenaubbee	Freesoil ^{1/}	Sanillac
Belding ^{3/}	Gaastra	Shag
Brechenridge ^{3/}	Ingersoll	Sleeth
Brimley	Londo	Tula
Charlevoix	Mackinac	Tuscola
Coral	Metamora ^{3/}	Whitaker
Corunna ^{3/}	Minoa	
Dixboro	Monico	

- ^{1/} Underlain by sand or gravelly sand. Reduce available water capacity by 50 percent in the 36 to 60 inch layer
- ^{2/} Underlain by sand or gravelly sand. Reduce available water capacity by 50 percent in the 24 to 60 inch layer.
- ^{3/} Underlain by loam or clay loam. Increase available water capacity by 50 percent in the 36 to 60 inch layer.
- ^{4/} Due to flaggy texture through reduce the available water capacity by 15% throughout.
- ^{5/} Underlain by very gravelly fine sandy loam. Reduce the available water capacity by 35% in the 36 to 60 inch layer.

Group 10 – Intake Family 1.0

Deep, dark colored loams and silt loams underlain by loamy material, moderately or moderately slowly permeable, well drained.

Gagetown

Huntington^{1/}

Depth (In)	Texture	Available Water Capacity		
		Incremental In/In	Incremental Inches	Cumulative Inches
0-12	loam	.22	2.64	2.64
12-24	silty clay loam	.18	2.16	4.80
24-36	sandy clay loam	.17	2.04	6.48
36-60	sandy loam	.14	3.86	10.20

Group 10W – Intake Family 1.0

Deep, dark colored very fine sandy loams, loams and silt loam underlain by loamy material, moderately or moderately slowly permeable, somewhat poorly or poorly drained. Drainage practices are necessary prior to installation of irrigation system. Drained soil characteristics similar to Group 10.

Bach

Berville

Bruce

Colwood

Elvers^{2/}

Frankenmuth

Hessel

Keowns

Kibbie

Macomb

Pella

Rensselaer

Wallkill^{1/}

Wega

^{1/} Subject to flooding.

^{2/} Underlain by organic material. Use the available water capacity fro Group 21W for the 36 to 60 inch layer.

Group 11 – Intake Family 1.0

Deep, light colored, silt loams, sandy loams and loams, underlain by loamy material, moderately or moderately slowly permeable, well drained or moderately well drained.

Bohemian	Owosso
Cassopolis	Riddles
Celina	Scalley ^{2/}
Eel ^{1/}	Sisson
Fence	Spear
Genessee ^{1/}	Sporley
Guelph	Steamburg
Marlette	Strawn
Miami	Ubly
Millecoquins	Watton
Nunica	Williamston
Onaway	

Depth (In)	Texture	Available Water Capacity		
		Incremental In/In	Incremental Inches	Cumulative Inches
0-12	loam	.20	2.40	2.40
12-24	clay loam	.17	2.04	4.44
24-36	clay loam	.17	2.04	6.48
36-60	loam	.18	4.32	10.80

Group 11W – Intake Family 1.0

Deep, light colored, loams, fine sandy loams and silt loams, underlain by loamy material, slowly to moderately permeable, somewhat poorly drained or poorly drained. Drainage practices are necessary prior to installation of irrigation system. Drained soil characteristics similar to Group 11.

Capac
Crosier
Hendrie
Shag
Shoals ^{1/}
Sloan ^{1/}
Sumava
Twining
Washtenaw

^{1/} Subject to flooding.

^{2/} Underlain by sand. Reduce available water capacity by 50 percent in the 36 to 60 inch layer.

Group 12 – Intake Family 1.0

Deep, loams and silt loams with loamy subsoils over sandy materials, moderately permeable, well drained and moderately well drained.

- Chabenea^{2/}
- Coupee
- Dowagiac
- Dresden
- Newaygo
- Nottawa
- Schoolcraft
- Stambaugh

Depth (In)	Texture	Available Water Capacity		
		Incremental In/In	Incremental Inches	Cumulative Inches
0-12	silt loam	.22	2.64	2.64
12-24	clay loam	.15	1.80	4.44
24-36	sandy loam	.14	1.68	6.12
36-60	sand and gravelly sand	.03	0.72	6.84

Group 12W – Intake Family 1.0

Deep, dark colored loams and silt loams with loamy subsoils over sandy materials, moderately slowly or moderately permeable, somewhat poorly or poorly drained. Drainage practices are necessary prior to installation of irrigation system. Drained soil characteristics similar to Group 12.

- Banat^{2/}
- Lacota
- Matherton
- Mussey
- Sebewa
- Thunderbay^{1/}

^{1/} Subject to flooding.

^{2/} Underlain by very gravelly loamy sand . Reduce the available water capacity by 30% in the 12 to 60 inch layers.

Group 13 – Intake Family 1.0

Deep, sandy loams, loams and silt loams underlain with fragipans or very firm till soil material below 24 inches, slowly or very slowly permeable fragipan or very fir till, well and moderately well drained.

Bamfield	Hoist
Bodi	Johnswood
Champion	Mashek
Cheboygan ^{1/}	Paavola ^{1/}
Dryburg	Peavy
Glennie	Soperton
Gogebic	Trimountain
Grindstone	Yalmer ^{1/}

Depth (In)	Texture	Available Water Capacity		
		Incremental In/In	Incremental Inches	Cumulative Inches
0-12	loam	.20	2.40	2.40
12-24	sandy loam	.18	2.16	4.56
24-36	sandy loam	.10	1.20	5.76
36-60	loam	.03	0.72	6.48

Group 13W – Intake Family 1.0

Deep, sandy loams and loams underlain with fragipans or very firm till soil material below 24 inches, slowly or very slowly permeable fragipans or very firm till, somewhat poorly drained or poorly drained. Drainage practices are necessary prior to installation of irrigation system. Drained soil characteristics similar to Group 13.

Badaxe
Killmaster
Kilmanagh
Mikado
Riggsville^{1/}
Shebeon

^{1/} Surface and subsoil texture is sand. Reduce available water capacity by 50 percent in the 0 to 24 inch layer.

Group 14 – Intake Family 1.0

Deep, sands, sandy loams, fine sandy loams and silt loams underlain with firm till, fragipans or ortstein above 24 inches, moderately slowly or slowly permeable fragipans or ortstein, well drained or moderately well drained.

Borgstrom	Pacquin
Copemish	Pendleton
Crowell	Proper
Cozy	Pullup
Froling	Schweitzer
Garlic	Stuben
Graveraet	Tokiahok
Healylake	Velvet
Kallio	Voelker
Mcbride	Wabeno
Munising	Wakefield
Oldman	Wallace

Depth (In)	Texture	Available Water Capacity		
		Incremental In/In	Incremental Inches	Cumulative Inches
0-12	sandy loam	.14	1.68	1.68
12-24	loam	.07	0.84	2.52
24-36	loam	.13	0.36	2.88
36-60	loam	.04	0.96	3.84

Group 14W – Intake Family 1.0

Deep, sands, loamy sands and loams underlain with ortstein or very firm till soil material above 24 inches, slowly or very slowly permeable ortstein or very firm till, somewhat poorly drained or poorly drained. Drainage practices are necessary prior to installation of irrigation system. Drained soil characteristics similar to Group 14.

Aubarque	Ogemaw
Detour	Sautatuck
Filion	Shelter
Finch	Shizwasee
Jebavy	Skanee
Mcivor	Spot
Misery	Westbury
Net	

Group 15 – Intake Family 0.5

Deep, dark colored, loams underlain by loamy material, slowly or moderately slowly permeable, well drained or moderately well drained.

Cadmus

Depth (In)	Texture	Available Water Capacity		
		Incremental In/In	Incremental Inches	Cumulative Inches
0-12	loam	.22	2.64	2.64
12-24	clay loam	.18	2.16	4.80
24-36	clay loam	.17	2.04	6.84
36-60	loam	.18	4.32	11.16

Group 15W – Intake Family 0.5

Deep, dark colored silt loams and loams underlain by loamy material, slowly or moderately slowly permeable, somewhat poorly or poorly drained. Drainage practices are necessary prior to installation of irrigation system. Drained soil characteristics similar to Group 15.

Brookston
 Conover
 Hettinger
 Monitor
 Parkhill
 Sprinkler
 Tappan
 Wolcott

Group 16W – Intake Family 0.3

Deep, dark colored clay loams and silty clay loams with slowly or moderately slowly permeable dominantly silty clay loam subsoils, somewhat poorly or poorly drained. Drainage practices needed prior to installation of irrigation systems.

Ashkum	Slade
Gowdy	Soo
Hamre	Wisner
Lenawee	Ziegenfuss
Saranac ^{1/}	Zilwaukee
Sims	

Depth (In)	Texture	Available Water Capacity		
		Incremental In/In	Incremental Inches	Cumulative Inches
0-12	clay loam	.20	2.40	2.40
12-24	silty clay loam	.18	2.16	4.56
24-36	silty clay loam	.17	2.04	6.60
36-60	silty clay loam	.17	4.08	10.68

^{1/} Subject to flooding.

Group 17 – Intake Family 0.3

Deep, light colored silt loams and loams with slowly or moderately slowly permeable clayey or loamy subsoils, well drained or moderately well drained.

Curtisville	Nester
Deibert	Onekama
Dighton ^{1/}	Perrington
Glynwood	Saylesville
Iargo	Shinrock
Kendalville	Woodbeck ^{1/}
Kneff	Woodman
Morley	

Depth (In)	Texture	Available Water Capacity		
		Incremental In/In	Incremental Inches	Cumulative Inches
0-12	silt loam	.22	2.64	2.64
12-24	clay loam	.17	2.04	4.68
24-36	silty clay loam	.18	2.16	6.84
36-60	silty clay loam	.17	4.08	10.92

Group 17W – Intake Family 0.3

Deep, light colored silt loams, silty clay loams and loams with slowly and moderately slowly permeable clayey or loamy subsoils, somewhat poorly drained. Drainage practices are necessary prior to installation of irrigation systems. Drained soil characteristics similar to Group 17.

Algonquin	Ithaca
Blount	Kawkawlin
Bowers	Manary
Chestonia	Pinewood ^{1/}
Del Rey	Springport
Hatmaker	

^{1/} Underlain by sands. Reduce available water capacity by 75 percent in the 36 to 60 inch layer.

Group 18 – Intake Family 0.3

Moderately deep, silt loams, loams or silty clay loams over bedrock, moderately to slowly permeable, well drained or moderately well drained.

Fairport
 Millsdale
 Milton
 Mitiwanga
 Randolph
 Whalan
 Winneshiek

Depth (In)	Texture	Available Water Capacity		
		Incremental In/In	Incremental Inches	Cumulative Inches
0-12	silt loam	.22	2.64	2.64
12-24	clay loam	.16	1.92	4.56
24-36	channery loam	.05	0.60	5.16
36-60	bedrock	-	-	5.16

Group 19 – Intake Family 0.1

Deep, light colored silty clay loams, silt loams, silty clays and clay loams, slowly or very slowly permeable, well drained and moderately well drained.

Claybanks
Froberg
Hottis
Kent
Mongo
Negwegon
Ontonagon
Shoepac
St. Clair
Sugar^{1/}
Superior

Depth (In)	Texture	Available Water Capacity		
		Incremental In/In	Incremental Inches	Cumulative Inches
0-12	silty clay loam	.16	1.92	1.92
12-24	clay	.10	1.20	3.12
24-36	clay	.09	1.08	4.20
36-60	clay	.09	2.16	6.36

Group 19W – Intake Family 0.1

Deep, light colored clays, silty clay loams and silt loams, slowly or very slowly permeable, somewhat poorly drained to poorly drained. Drainage practices are necessary prior to installation of irrigation system. Drained soil characteristics similar to Group 19.

Alabaster	Misteguay
Bergland	Nappanee
Biscuit ^{1/}	Paulding
Charity	Pert
Deerheart	Pickford
Engadine	Roselms
Fulton	Rudyard
Gogomain	Selkirk
Jeddo	Ypsi
Latty	

^{1/} Overlain by sandy loam. Decrease the available water capacity by 50% for the 0 to 24 inch layer.

^{2/} Overlain by sandy loam. Decrease the available water capacity by 50% for the 0 to 36 inch layer.

Group 20 – Intake Family 0.1

Deep, dark colored clay loams and clays, slowly or very slowly permeable, poorly drained. Drainage practices needed prior to installation of irrigation system.

Bono
 Hoytville
 Kokomo
 Pewamo
 Poy
 Toledo

Depth (In)	Texture	Available Water Capacity		
		Incremental In/In	Incremental Inches	Cumulative Inches
0-12	clay	.14	1.68	1.68
12-24	clay	.12	1.44	3.12
24-36	clay	.11	1.32	4.44
36-60	clay	.10	2.40	6.84

Group 21W – Organic Soils

Very poorly drained organic soils or very poorly drained mineral soils overlain by organic materials less than 8 inches thick. Drainage is needed prior to installation of irrigation systems.

Adrian ^{1/}	Grousehaven	Napoleon
Aurelius ^{2/}	Henrietta ^{9/}	Olentangy ^{2/}
Beavertail ^{6/}	Houghton	Palms ^{2/}
Boots	Kanotin ^{5/}	Pinnebog
Bowstring ^{1/}	Kerston ^{1/}	Rifle
Carbondale	Leavriver	Rollaway ^{5/}
Carlisle	Linwood ^{1/}	Rondeau
Cathro ^{2/}	Loxley	Roundhead ^{8/}
Chippeny	Lumley	Skandia
Dawson	Lupton	Tacoosh ^{2/}
Dinke ^{1/}	Makinen	Tawas ^{1/}
Dora	Markey ^{1/}	Thomas ^{7/}
Dorval	Martisco ^{3/}	Warners ^{3/}
Edwards ^{3/}	Merwin	Waucedah ^{2/}
Greenwood	Minong	Willette ^{4/}

		Available Water Capacity		
		Incremental	Incremental	Cumulative
Depth (In)	Texture	In/In	Inches	Inches
0-12	sapric	.40	4.80	4.80
12-24	sapric	.40	4.80	9.6
24-36	sapric	.40	4.80	14.4
36-60	sapric	.40	9.6	24.0

- ^{1/} For the 36 to 60 inch layer use the AWC for Group 3.
- ^{2/} For the 36 to 60 inch layer use the AWC for Group 11.
- ^{3/} For the 36 to 60 inch layer use the AWC for Group 12.
- ^{4/} For the 36 to 60 inch layer use the AWC for Group 20.
- ^{5/} For the 12 to 60 inch layer use the AWC for Group 4W.
- ^{6/} For the 12 to 60 inch layer use the AWC for Group 13W.
- ^{7/} For the 12 to 60 inch layer use the AWC for Group 15W.
- ^{8/} For the 12 to 60 inch layer use the AWC for Group 17W.
- ^{9/} For the 12 to 60 inch layer use the AWC for Group 10W.