

**GREENVALE TOWNSHIP  
ROAD IMPROVEMENT PROJECT  
SUMMARY AND REPORT FOR WORK  
COMPLETED IN THE 2015  
CONSTRUCTION SEASON**

**PREPARED BY:  
Gregory Langer  
Greenvale Township Supervisor**

**March 8, 2016**

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April 24, 2015

## Greenvale Township Road Improvement Committee

The Greenvale Township Road Improvement Committee, the Township Supervisors and our Road Maintenance Contractor toured the Township to view the roads and discuss the work to be done during the 2015 construction season.

Road Improvement Committee Members that attended:

Jerry Bolton, Mark Malecha, Chuck Van Eeckhout and Richard Moore

Township Supervisors that attended:

Duane Fredrickson, David Roehl and Gregory Langer

Road Maintenance Contractors:

Bryce Otte and Jason Otte of Otte Excavating

## **2015 Greenvale Township Citizen Road Improvement Committee Members**

Jerry Bolton, Chairman 507-291-0388

Mark Malecha 507-291-0320

Chuck Van Eeckhout 507-664-9387

Richard Moore 612-290-7529

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## **2015 Road Improvement Committee meeting dates**

January 6, 2015 at 4:00 PM at the Town Hall.

April 24, 2015 at 8:00 AM at the Town Hall for the annual road inspection tour with the Town Board.

May 15, 2015 at 9:00 AM at the Town Hall.

June 17, June 19, June 20, 2015. Committee Chairman and Committee Secretary met to discuss the details and signing of the cost share Agreement with the City of Northfield and Waterford Township for the repair and pavement overlay project on Dresden Avenue.

**Copies of the meeting minutes are available at your request**

In the spring of 2014, the Road Improvement Committee suggested the requirement of an access permit for the construction or modification of driveways in the Township to assure the property owners that attention would be given to concerns of safety and water flow. The access permit form was approved by the Town Board on May 15, 2014.

A letter was written for the Township's use to inform property owners of concerns regarding the use of the Township road Right of way areas. The letter was approved for use by the Town Board on June 19, 2014. Copies of the Application for Access and the Right of Way use letter are on the following two pages.

**GREENVALE TOWNSHIP**  
**31800 Guam Avenue**  
**Northfield, MN 55057**

Phone: 507-663-9049 Email: greenvale@greenvaletwp.org

Permit No: \_\_\_\_\_

**APPLICATION FOR ACCESS**

**The Township Clerk shall be notified at least 48 hours in advance of the actual start of work.**  
**The project must be completed by the completion date or a delay penalty may apply.**

Application is hereby made for permission to excavate, grade and construct an access onto:

Road Name (#) \_\_\_\_\_ from / at \_\_\_\_\_

in accordance with the attached sketch. The project is located in Greenvale Township and the Legal Description of the Property or PID# is: \_\_\_\_\_

Purpose of Access:    \_\_\_\_\_ Residential    \_\_\_\_\_ Agricultural    \_\_\_\_\_ Other

Is a culvert necessary?    \_\_\_\_\_ Yes    \_\_\_\_\_ No    what size? \_\_\_\_\_

Is the property    \_\_\_\_\_ Platted    \_\_\_\_\_ Un-platted    Approved Anticipated Plat Name \_\_\_\_\_

Work to start on \_\_\_\_\_ and be completed by \_\_\_\_\_

The applicant in carrying out any and all of the work mentioned or referred to in this permit application, shall strictly conform to and agree to be bound by the terms of the permit, Special Provisions, Construction Specifications and regulations in applicable codes and/or Ordinances all of which are made a part of this Permit. The applicant shall comply with the regulations of all other government agencies for the protection of the public as they apply to the work performed. The work shall be accomplished in a way that will not be detrimental to the right of way and that will safeguard the public. The applicant must obtain a copy of any specifications that Dakota County may have for this proposed work.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_.

Work being done for ( owner ) \_\_\_\_\_

Contact Name \_\_\_\_\_ Telephone Number \_\_\_\_\_

Address \_\_\_\_\_ City: \_\_\_\_\_ Zip: \_\_\_\_\_

Contractor Name: \_\_\_\_\_ Contact Name: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_ State \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone Number: \_\_\_\_\_ Cell Phone Number: \_\_\_\_\_

Name and phone number of person in charge of construction: \_\_\_\_\_

Applicant's signature: \_\_\_\_\_ Date: \_\_\_\_\_

Non-refundable Inspection Fee: \$150.00, Escrow: \$100.00

**TOTAL: \$250.00**

**A COPY OF THIS PERMIT IS REQUIRED TO BE ON THE JOBSITE AND IS NOT VALID UNTIL IT IS APPROVED AND SIGNED.**

**Greenvale Township**  
**31800 Guam Avenue**  
**Northfield, Minnesota 55057**

RE: Use of Township Road Right of way

Dear Township Property Owner,

Greenvale Township needs your help in protecting travelers and improving safety. The Township has been seeing an increase in improper uses of the right of way such as the planting of crops. This type of activity can reduce visibility and cause traffic accidents and other serious consequences. Disturbing the vegetation along the road contributes to erosion, which can affect runoff water quality, drainage and plug culverts. Plowing or tilling could also damage utility lines buried in the right of way and create a potentially dangerous situation or interrupt service.

Township right of way is defined as the roadway, shoulders and ditches up to the property or easement lines. Generally the right of way is 33 feet on each side of the road's centerline.

Greenvale Township prohibits plowing and/or planting of crops in the right of way. Fencing and other objects must be removed or the Township may remove them at the owner's expense.

Thank you for your help in maintaining the roadway safety and improving the environment along the roadsides in Greenvale Township. If you have any questions or need more information, please call the Township office at 507-663-9049 or email us at [greenvale@greenvaletwp.org](mailto:greenvale@greenvaletwp.org).

Sincerely,

*The Greenvale Township Board of Supervisors*

## Greenvale Township Road Improvement Project

### Road Aggregate Material Delivery Information Summary

May 12, 2015: 315 <sup>th</sup> Street, 7-loads .....	
May 12, 2015: 300 <sup>th</sup> Street West, 1-load, 300 <sup>th</sup> Street East, 5-loads .....	
May 12, 2015: 307 <sup>th</sup> Street, 6-loads, .....	
May 12, 2015: Garrett Avenue, 1-load .....	
May 12, 2015: Holyoke Avenue, south end by #19, 2-loads .....	
May 12, 2015: Jamaica Avenue, 2-loads south and 7-loads north, .....	
May 12, 2015: Dunbar Avenue, 7-loads .....	
	Total received on May 12, 2015: 887.60 tons.
July 9, 2015: 290 <sup>th</sup> Street, east of Foliage Avenue, various locations, 35-loads, .....	822.70 tons.
July 13, 2015: 290 <sup>th</sup> Street, west of Foliage Avenue, 9-loads, .....	203.15 tons.
July 13, 2015: Garrett Avenue, 11- loads, .....	261.15 tons.
July 13, 2015: Garrett Avenue, 11- loads, .....	268.65 tons.
July 13, 2015: Garrett Avenue, 11- loads, .....	256.40 tons.
July 14, 2015: 285 <sup>th</sup> Street, 6-loads, .....	146.00 tons.
July 14, 2015: 285 <sup>th</sup> Street, 38-loads, .....	887.25 tons.
July 15, 2015: 285 <sup>th</sup> Street, 7-loads, .....	161.30 tons.
July 15, 2015: 285 <sup>th</sup> Street, 18-loads, .....	406.05 tons.
July 16, 2015: 285 <sup>th</sup> Street, 15-loads, .....	344.90 tons.
	Total tons: 4545.15

**Greenvale Township Road Improvement Project**  
Road Aggregate Material Delivery Information Summary

July 15 <sup>th</sup> , 2015: Garrett Avenue, south of 290 <sup>th</sup> St, 11-loads, .....	269.05 tons.
July 15 <sup>th</sup> , 2015: 292 <sup>nd</sup> Street, 16-loads, .....	393.60 tons.
July 16 <sup>th</sup> , 2015: Dunbar Avenue, 12-loads, .....	274.55 tons.
July 21 <sup>st</sup> , 2015: Guam Avenue, 33-loads, .....	779.35 tons.
July 21 <sup>st</sup> , 2015: Guam Avenue, 7-loads, .....	163.95 tons.
July 22 <sup>nd</sup> , 2015: Guam Avenue, 12-loads, .....	278.50 tons.
July 22 <sup>nd</sup> , 2015: Guam Avenue, 11-loads, .....	823.40 tons.
July 22 <sup>nd</sup> , 2015: 300 <sup>th</sup> Street, 2-loads, .....	46.95 tons.
Total tons:	3029.35



# Work Sheet for Sieve Analysis of Granular Material

See Grading & Base Manual, Fig. 1 5-692.215

Project No: Greenvale	Date: 7/9/2015	Test No: 1
Material Type: CI-5 mod	Station: Anderson pit	Depth From Grading Grade: 3rd load
Total Wt. of Sample: 31.2	lbs (kg)	Tester Name or Certification No: Greg Viall

Coarse Sieves:				(1) Indiv. Weights	(2) Sieve Size	(3) Cumulative Wts. Passing	(4) Total % Passing	Gradation Requirements
*Pass	Sieve, Ret.	1 1/2" ▼	Sieve	0.0		31.1	100%	
*Pass	Sieve, Ret.	1" ▼	Sieve	0.0	1 1/2"	31.1	100%	
*Pass	Sieve, Ret.	3/4" ▼	Sieve	0.3	1"	31.1	100%	100%
*Pass	Sieve, Ret.	1/2" ▼	Sieve	4.1	3/4"	30.9	99%	90-100%
*Pass	Sieve, Ret.	3/8" ▼	Sieve	3.7	1/2"	26.8	86%	
*Pass	Sieve, Ret.	#4 ▼	Sieve	8.8	3/8"	23.1	74%	50-90%
*Pass	Sieve, Ret.	Bottom		14.3	#4	14.3	46%	35-70%
Check Total -				31.1	- Shall Check Total Wt. Within 0.2lbs (0.1 kg)			

\*Enter necessary sieve sizes for class of material to be tested.  
 Column (1) Enter weights of material between each set of sieves individually.  
 Column (2) Enter the passing sieves size.  
 Column (3) Add column (1) from the bottom up to get cumulative weights passing each sieve.  
 Column (4) Divide column (3) by check total of sample to get total % passing.

### Fine Sieves:

- (A) Take two samples identical in condition and damp weight from "passing         #4         material".  
 (B) Dry one sample and record weight.         534.6          
 (C) Wash and dry other sample and record weight.         423.6          
 (D) Loss in washing (B-C) (Enter Below)         111.0

				(5) Indiv. Weights	(6) Sieve Size	(7) Cumulative Wts. Passing	(8) Cum. % Passing	(9) % Passing of Total Pass.	Gradation Requirements
*Pass	Sieve, Ret.	#10 ▼	Sieve	225.1	#4	534.6	100.0%	46%	35-70%
*Pass	Sieve, Ret.	#16 ▼	Sieve	127.9	#10	309.5	57.9%	27%	20-55%
*Pass	Sieve, Ret.	#30 ▼	Sieve		#16				
*Pass	Sieve, Ret.	#40 ▼	Sieve	18.7	#30	181.6	34.0%	16%	
*Pass	Sieve, Ret.	#50 ▼	Sieve	13.6	#40	162.9	30.5%	14%	15-35%
*Pass	Sieve, Ret.	#100 ▼	Sieve	17.7	#50	149.3	27.9%	13%	
*Pass	Sieve, Ret.	#200 ▼	Sieve	14.8	#100	131.6	24.6%	11%	
*Pass	Sieve, Ret.	Bottom		5.8	#200	116.8	21.8%	10.1%	10-15%
Loss by washing-				111.0					
Check Total -				534.6	- Shall Check total Wt. Within 5.0 grams				
Percent Passing #200 Sieve Divided by Percent Passing 1 in. Sieve (if specified)									

Column (5) Enter weights of material between each set of sieves and loss by washing (DO NOT OVERLOAD SIEVES)  
 Column (6) Enter the passing sieve size.  
 Column (7) Add column (5) from bottom up to get cumulative weights passing each sieve. Be sure to add loss by washing to weight of material pas of material passing #200 sieve to get first entry at bottom of column (7).  
 Column (8) Divide column (7) by check total dry weight of fine sample (Column 5) to get cumulative % passing.  
 Column (9) Multiply column (8) by % passing final sieve from column (4) to get "Percent Passing" based on total sample.



# Work Sheet for Sieve Analysis of Granular Material

See Grading & Base Manual, Fig. 1 5-692.215

Project No: Greenvale	Date: 7/13/2015	Test No: 2
Material Type: Cl-5 mod	Station: Garret ave	Depth From Grading Grade: Anderson pit
Total Wt. of Sample: 27.2 lbs (kg)		Tester Name or Certification No: Greg Viall

Coarse Sieves:				(1) Indiv. Weights	(2) Sieve Size	(3) Cumulative Wts. Passing	(4) Total % Passing	Gradation Requirements
*Pass	Sieve, Ret.	1 1/2" ▼	Sieve	0.0		27.0	100%	
*Pass 1 1/2" ▼	Sieve, Ret.	1" ▼	Sieve	0.0	1 1/2"	27.0	100%	
*Pass 1" ▼	Sieve, Ret.	3/4" ▼	Sieve	0.0	1"	27.0	100%	100%
*Pass 3/4" ▼	Sieve, Ret.	1/2" ▼	Sieve	2.7	3/4"	27.0	100%	90-100%
*Pass 1/2" ▼	Sieve, Ret.	3/8" ▼	Sieve	2.4	1/2"	24.4	90%	
*Pass 3/8" ▼	Sieve, Ret.	#4 ▼	Sieve	6.9	3/8"	22.0	81%	50-90%
*Pass #4 ▼	Sieve, Ret.	Bottom		15.1	#4	15.1	56%	35-70%
Check Total -				27.0	- Shall Check Total Wt. Within 0.2lbs (0.1 kg)			

\*Enter necessary sieve sizes for class of material to be tested.  
 Column (1) Enter weights of material between each set of sieves individually.  
 Column (2) Enter the passing sieves size.  
 Column (3) Add column (1) from the bottom up to get cumulative weights passing each sieve.  
 Column (4) Divide column (3) by check total of sample to get total % passing.

**Fine Sieves:**

- (A) Take two samples identical in condition and damp weight from "passing #4 material".
- (B) Dry one sample and record weight.
- (C) Wash and dry other sample and record weight.
- (D) Loss in washing (B-C) (Enter Below)

537.1  
 \_\_\_\_\_  
 427.6  
 \_\_\_\_\_  
 109.5  
 \_\_\_\_\_

				(5) Indiv. Weights	(6) Sieve Size	(7) Cumulative Wts. Passing	(8) Cum. % Passing	(9) % Passing of Total Pass.	Gradation Requirements
*Pass #4 ▼	Sieve, Ret.	#10 ▼	Sieve	216.7	#4	536.9	100.0%	56%	35-70%
*Pass #10 ▼	Sieve, Ret.	#16 ▼	Sieve	143.3	#10	320.2	59.6%	33%	20-55%
*Pass #16 ▼	Sieve, Ret.	#30 ▼	Sieve		#16				
*Pass #30 ▼	Sieve, Ret.	#40 ▼	Sieve	19.2	#30	176.9	32.9%	18%	
*Pass #40 ▼	Sieve, Ret.	#50 ▼	Sieve	13.3	#40	157.7	29.4%	16%	15-35%
*Pass #50 ▼	Sieve, Ret.	#100 ▼	Sieve	16.0	#50	144.4	26.9%	15%	
*Pass #100 ▼	Sieve, Ret.	#200 ▼	Sieve	12.9	#100	128.4	23.9%	13%	
*Pass #200 ▼	Sieve, Ret.	Bottom		6.0	#200	115.5	21.5%	12.0%	10-15%
Loss by washing-				109.5					
Check Total -				536.9	- Shall Check total Wt. Within 5.0 grams				
Percent Passing #200 Sieve Divided by Percent Passing 1 in. Sieve (if specified)									

Column (5) Enter weights of material between each set of sieves and loss by washing (DO NOT OVERLOAD SIEVES)  
 Column (6) Enter the passing sieve size.  
 Column (7) Add column (5) from bottom up to get cumulative weights passing each sieve. Be sure to add loss by washing to weight of material pas of material passing #200 sieve to get first entry at bottom of column (7).  
 Column (8) Divide column (7) by check total dry weight of fine sample (Column 5) to get cumulative % passing.  
 Column (9) Multiply column (8) by % passing final sieve from column (4) to get "Percent Passing" based on total sample.



# Work Sheet for Sieve Analysis of Granular Material

See Grading & Base Manual, Fig. 1 5-692.215

Project No: <b>Greenvale</b>	Date: 7/13/2015	Test No: 3
Material Type: CI-5 mod	Station: Garret ave	Depth From Grading Grade: Anderson pit
Total Wt. of Sample: 30.0 lbs (kg)		Tester Name or Certification No: Greg Viall

Coarse Sieves:				(1) Indiv. Weights	(2) Sieve Size	(3) Cumulative Wts. Passing	(4) Total % Passing	Gradation Requirements
*Pass	Sieve, Ret.	1 1/2" ▼	Sieve	0.0		29.8	100%	
*Pass	1 1/2" ▼	Sieve, Ret.	1" ▼	Sieve	0.0	1 1/2"	29.8	100%
*Pass	1" ▼	Sieve, Ret.	3/4" ▼	Sieve	0.3	1"	29.8	100%
*Pass	3/4" ▼	Sieve, Ret.	1/2" ▼	Sieve	5.9	3/4"	29.6	99%
*Pass	1/2" ▼	Sieve, Ret.	3/8" ▼	Sieve	4.2	1/2"	23.7	80%
*Pass	3/8" ▼	Sieve, Ret.	#4 ▼	Sieve	8.7	3/8"	19.6	66%
*Pass	#4 ▼	Sieve, Ret.	Bottom		10.9	#4	10.9	37%
Check Total -				29.8	- Shall Check Total Wt. Within 0.2lbs (0.1 kg)			

\*Enter necessary sieve sizes for class of material to be tested.  
 Column (1) Enter weights of material between each set of sieves individually.  
 Column (2) Enter the passing sieves size.  
 Column (3) Add column (1) from the bottom up to get cumulative weights passing each sieve.  
 Column (4) Divide column (3) by check total of sample to get total % passing.

**Fine Sieves:**

- (A) Take two samples identical in condition and damp weight from "passing #4 material".
- (B) Dry one sample and record weight. 616.0
- (C) Wash and dry other sample and record weight. 479.6
- (D) Loss in washing (B-C) (Enter Below) 136.4

				(5) Indiv. Weights	(6) Sieve Size	(7) Cumulative Wts. Passing	(8) Cum. % Passing	(9) % Passing of Total Pass.	Gradation Requirements	
*Pass	#4 ▼	Sieve, Ret.	#10 ▼	Sieve	278.7	#4	615.6	100.0%	37%	35-70%
*Pass	#10 ▼	Sieve, Ret.	#16 ▼	Sieve	131.5	#10	336.9	54.7%	20%	20-55%
*Pass	#16 ▼	Sieve, Ret.	#30 ▼	Sieve		#16				
*Pass	#30 ▼	Sieve, Ret.	#40 ▼	Sieve	17.8	#30	205.4	33.4%	12%	
*Pass	#40 ▼	Sieve, Ret.	#50 ▼	Sieve	12.7	#40	187.6	30.5%	11%	15-35%
*Pass	#50 ▼	Sieve, Ret.	#100 ▼	Sieve	16.7	#50	174.9	28.4%	11%	
*Pass	#100 ▼	Sieve, Ret.	#200 ▼	Sieve	15.0	#100	158.2	25.7%	10%	
*Pass	#200 ▼	Sieve, Ret.	Bottom		6.8	#200	143.2	23.3%	8.6%	10-15%
Loss by washing-				136.4						
Check Total -				615.6	- Shall Check total Wt. Within 5.0 grams					
Percent Passing #200 Sieve Divided by Percent Passing 1 in. Sieve (if specified)										

Column (5) Enter weights of material between each set of sieves and loss by washing (DO NOT OVERLOAD SIEVES)  
 Column (6) Enter the passing sieve size.  
 Column (7) Add column (5) from bottom up to get cumulative weights passing each sieve. Be sure to add loss by washing to weight of material pas of material passing #200 sieve to get first entry at bottom of column (7).  
 Column (8) Divide column (7) by check total dry weight of fine sample (Column 5) to get cumulative % passing.  
 Column (9) Multiply column (8) by % passing final sieve from column (4) to get "Percent Passing" based on total sample.





# Work Sheet for Sieve Analysis of Granular Material

See Grading & Base Manual, Fig. 1 5-692.215

Project No: Greenvale	Date: 7/14/2015	Test No: 5
Material Type: CI-5 mod	Station: Garret Ave	Depth From Grading Grade: Anderson pit
Total Wt. of Sample: 28.6 lbs (kg)		Tester Name or Certification No: Greg Viall

Coarse Sieves:				(1) Indiv. Weights	(2) Sieve Size	(3) Cumulative Wts. Passing	(4) Total % Passing	Gradation Requirements
*Pass	Sieve, Ret.	1 1/2" ▼	Sieve	0.0		28.4	100%	
*Pass	Sieve, Ret.	1" ▼	Sieve	0.0	1 1/2"	28.4	100%	
*Pass	Sieve, Ret.	3/4" ▼	Sieve	0.3	1"	28.4	100%	100%
*Pass	Sieve, Ret.	1/2" ▼	Sieve	7.5	3/4"	28.1	99%	90-100%
*Pass	Sieve, Ret.	3/8" ▼	Sieve	4.8	1/2"	20.6	73%	
*Pass	Sieve, Ret.	#4 ▼	Sieve	7.4	3/8"	15.9	56%	50-90%
*Pass	Sieve, Ret.	Bottom		8.5	#4	8.5	30%	35-70%
Check Total -				28.4	- Shall Check Total Wt. Within 0.2lbs (0.1 kg)			

\*Enter necessary sieve sizes for class of material to be tested.  
 Column (1) Enter weights of material between each set of sieves individually.  
 Column (2) Enter the passing sieves size.  
 Column (3) Add column (1) from the bottom up to get cumulative weights passing each sieve.  
 Column (4) Divide column (3) by check total of sample to get total % passing.

**Fine Sieves:**

- (A) Take two samples identical in condition and damp weight from "passing #4 material".
- (B) Dry one sample and record weight. 501.5
- (C) Wash and dry other sample and record weight. 371.1
- (D) Loss in washing (B-C) (Enter Below) 130.4

				(5) Indiv. Weights	(6) Sieve Size	(7) Cumulative Wts. Passing	(8) Cum. % Passing	(9) % Passing of Total Pass.	Gradation Requirements
*Pass	Sieve, Ret.	#10 ▼	Sieve	206.0	#4	501.3	100.0%	30%	35-70%
*Pass	Sieve, Ret.	#16 ▼	Sieve	105.2	#10	295.3	58.9%	18%	20-55%
*Pass	Sieve, Ret.	#30 ▼	Sieve		#16				
*Pass	Sieve, Ret.	#40 ▼	Sieve	15.4	#30	190.1	37.9%	11%	
*Pass	Sieve, Ret.	#50 ▼	Sieve	11.1	#40	174.7	34.8%	10%	15-35%
*Pass	Sieve, Ret.	#100 ▼	Sieve	14.3	#50	163.6	32.6%	10%	
*Pass	Sieve, Ret.	#200 ▼	Sieve	13.9	#100	149.3	29.8%	9%	
*Pass	Sieve, Ret.	Bottom		5.0	#200	135.4	27.0%	8.1%	10-15%
Loss by washing-				130.4					
Check Total -				501.3	- Shall Check total Wt. Within 5.0 grams				
Percent Passing #200 Sieve Divided by Percent Passing 1 in. Sieve (if specified)									

Column (5) Enter weights of material between each set of sieves and loss by washing (DO NOT OVERLOAD SIEVES)  
 Column (6) Enter the passing sieve size.  
 Column (7) Add column (5) from bottom up to get cumulative weights passing each sieve. Be sure to add loss by washing to weight of material pas of material passing #200 sieve to get first entry at bottom of column (7).  
 Column (8) Divide column (7) by check total dry weight of fine sample (Column 5) to get cumulative % passing.  
 Column (9) Multiply column (8) by % passing final sieve from column (4) to get "Percent Passing" based on total sample.



# Work Sheet for Sieve Analysis of Granular Material

See Grading & Base Manual, Fig. 1 5-692.215

Project No: Greenvale	Date: 7/14/2015	Test No: 6
Material Type: CI-5 mod	Station: 285th	Depth From Grading Grade: Anderson pit
Total Wt. of Sample: 30.4	lbs (kg)	Tester Name or Certification No: Greg Viall

Coarse Sieves:				(1) Indiv. Weights	(2) Sieve Size	(3) Cumulative Wts. Passing	(4) Total % Passing	Gradation Requirements
*Pass	Sieve, Ret.	1 1/2" ▼	Sieve	0.0		30.4	100%	
*Pass	Sieve, Ret.	1" ▼	Sieve	0.0	1 1/2"	30.4	100%	
*Pass	Sieve, Ret.	3/4" ▼	Sieve	0.0	1"	30.4	100%	100%
*Pass	Sieve, Ret.	1/2" ▼	Sieve	2.9	3/4"	30.4	100%	90-100%
*Pass	Sieve, Ret.	3/8" ▼	Sieve	2.3	1/2"	27.6	91%	
*Pass	Sieve, Ret.	#4 ▼	Sieve	6.8	3/8"	25.3	83%	50-90%
*Pass	Sieve, Ret.	Bottom		18.5	#4	18.5	61%	35-70%
Check Total -				30.4	- Shall Check Total Wt. Within 0.2lbs (0.1 kg)			

\*Enter necessary sieve sizes for class of material to be tested.  
 Column (1) Enter weights of material between each set of sieves individually.  
 Column (2) Enter the passing sieves size.  
 Column (3) Add column (1) from the bottom up to get cumulative weights passing each sieve.  
 Column (4) Divide column (3) by check total of sample to get total % passing.

### Fine Sieves:

- (A) Take two samples identical in condition and damp weight from "passing #4 material".  
 (B) Dry one sample and record weight. 443.9  
 (C) Wash and dry other sample and record weight. 354.3  
 (D) Loss in washing (B-C) (Enter Below) 89.6

				(5) Indiv. Weights	(6) Sieve Size	(7) Cumulative Wts. Passing	(8) Cum. % Passing	(9) % Passing of Total Pass.	Gradation Requirements
*Pass	Sieve, Ret.	#10 ▼	Sieve	171.0	#4	443.8	100.0%	61%	35-70%
*Pass	Sieve, Ret.	#16 ▼	Sieve	120.1	#10	272.8	61.5%	37%	20-55%
*Pass	Sieve, Ret.	#30 ▼	Sieve		#16				
*Pass	Sieve, Ret.	#40 ▼	Sieve	17.7	#30	152.7	34.4%	21%	
*Pass	Sieve, Ret.	#50 ▼	Sieve	12.6	#40	135.0	30.4%	19%	15-35%
*Pass	Sieve, Ret.	#100 ▼	Sieve	15.2	#50	122.4	27.6%	17%	
*Pass	Sieve, Ret.	#200 ▼	Sieve	11.8	#100	107.2	24.2%	15%	
*Pass	Sieve, Ret.	Bottom		5.8	#200	95.4	21.5%	13.1%	10-15%
Loss by washing-				89.6					
Check Total -				443.8	- Shall Check total Wt. Within 5.0 grams				
Percent Passing #200 Sieve Divided by Percent Passing 1 in. Sieve (if specified)									

Column (5) Enter weights of material between each set of sieves and loss by washing (DO NOT OVERLOAD SIEVES)  
 Column (6) Enter the passing sieve size.  
 Column (7) Add column (5) from bottom up to get cumulative weights passing each sieve. Be sure to add loss by washing to weight of material pas of material passing #200 sieve to get first entry at bottom of column (7).  
 Column (8) Divide column (7) by check total dry weight of fine sample (Column 5) to get cumulative % passing,  
 Column (9) Multiply column (8) by % passing final sieve from column (4) to get "Percent Passing" based on total sample.



# Work Sheet for Sieve Analysis of Granular Material

See Grading & Base Manual, Fig. 1 5-692.215

Project No: Greenvale	Date: 7/16/2015	Test No: 7
Material Type: Cl-5 mod	Station: 285th	Depth From Grading Grade: Anderson pit
Total Wt. of Sample: 37.1 lbs (kg)		Tester Name or Certification No: Greg Viall

Coarse Sieves:				(1) Indiv. Weights	(2) Sieve Size	(3) Cumulative Wts. Passing	(4) Total % Passing	Gradation Requirements
*Pass	Sieve, Ret.	1 1/2" ▼	Sieve	0.0		36.9	100%	
*Pass	Sieve, Ret.	1" ▼	Sieve	0.0	1 1/2"	36.9	100%	
*Pass	Sieve, Ret.	3/4" ▼	Sieve	0.2	1"	36.9	100%	100%
*Pass	Sieve, Ret.	1/2" ▼	Sieve	5.2	3/4"	36.7	100%	90-100%
*Pass	Sieve, Ret.	3/8" ▼	Sieve	4.1	1/2"	31.5	85%	
*Pass	Sieve, Ret.	#4 ▼	Sieve	9.0	3/8"	27.4	74%	50-90%
*Pass	Sieve, Ret.	Bottom		18.5	#4	18.5	50%	35-70%
Check Total -				36.9	- Shall Check Total Wt. Within 0.2lbs (0.1 kg)			

\*Enter necessary sieve sizes for class of material to be tested.  
 Column (1) Enter weights of material between each set of sieves individually.  
 Column (2) Enter the passing sieves size.  
 Column (3) Add column (1) from the bottom up to get cumulative weights passing each sieve.  
 Column (4) Divide column (3) by check total of sample to get total % passing.

**Fine Sieves:**

- (A) Take two samples identical in condition and damp weight from "passing         #4         material".
- (B) Dry one sample and record weight.         595.6
- (C) Wash and dry other sample and record weight.         449.4
- (D) Loss in washing (B-C) (Enter Below)         146.2

				(5) Indiv. Weights	(6) Sieve Size	(7) Cumulative Wts. Passing	(8) Cum. % Passing	(9) % Passing of Total Pass.	Gradation Requirements
*Pass	Sieve, Ret.	#10 ▼	Sieve	224.6	#4	595.3	100.0%	50%	35-70%
*Pass	Sieve, Ret.	#16 ▼	Sieve	143.3	#10	370.7	62.3%	31%	20-55%
*Pass	Sieve, Ret.	#30 ▼	Sieve		#16				
*Pass	Sieve, Ret.	#40 ▼	Sieve	22.0	#30	227.4	38.2%	19%	
*Pass	Sieve, Ret.	#50 ▼	Sieve	16.4	#40	205.4	34.5%	17%	15-35%
*Pass	Sieve, Ret.	#100 ▼	Sieve	20.5	#50	189.0	31.7%	16%	
*Pass	Sieve, Ret.	#200 ▼	Sieve	16.6	#100	168.5	28.3%	14%	
*Pass	Sieve, Ret.	Bottom		5.7	#200	151.9	25.5%	12.8%	10-15%
Loss by washing-				146.2					
Check Total -				595.3	- Shall Check total Wt. Within 5.0 grams				
Percent Passing #200 Sieve Divided by Percent Passing 1 in. Sieve (if specified)									

Column (5) Enter weights of material between each set of sieves and loss by washing (DO NOT OVERLOAD SIEVES)  
 Column (6) Enter the passing sieve size.  
 Column (7) Add column (5) from bottom up to get cumulative weights passing each sieve. Be sure to add loss by washing to weight of material passing #200 sieve to get first entry at bottom of column (7).  
 Column (8) Divide column (7) by check total dry weight of fine sample (Column 5) to get cumulative % passing.  
 Column (9) Multiply column (8) by % passing final sieve from column (4) to get "Percent Passing" based on total sample.





# Work Sheet for Sieve Analysis of Granular Material

See Grading & Base Manual, Fig. 1 5-692.215

Project No: Greenvale	Date: 7/21/2015	Test No: 9
Material Type: CI-5 mod	Station: Guam Ave	Depth From Grading Grade: Anderson pit
Total Wt. of Sample: 27.5 lbs (kg)		Tester Name or Certification No: Greg Viall

Coarse Sieves:				(1) Indiv. Weights	(2) Sieve Size	(3) Cumulative Wts. Passing	(4) Total % Passing	Gradation Requirements
*Pass	Sieve, Ret.	1 1/2" ▼	Sieve	0.0		27.3	100%	
*Pass 1 1/2" ▼	Sieve, Ret.	1" ▼	Sieve	0.0	1 1/2"	27.3	100%	
*Pass 1" ▼	Sieve, Ret.	3/4" ▼	Sieve	0.0	1"	27.3	100%	100%
*Pass 3/4" ▼	Sieve, Ret.	1/2" ▼	Sieve	2.2	3/4"	27.3	100%	90-100%
*Pass 1/2" ▼	Sieve, Ret.	3/8" ▼	Sieve	2.3	1/2"	25.1	92%	
*Pass 3/8" ▼	Sieve, Ret.	#4 ▼	Sieve	7.2	3/8"	22.8	83%	50-90%
*Pass #4 ▼	Sieve, Ret.	Bottom		15.6	#4	15.6	57%	35-70%
Check Total -				27.3	- Shall Check Total Wt. Within 0.2lbs (0.1 kg)			

\*Enter necessary sieve sizes for class of material to be tested.  
 Column (1) Enter weights of material between each set of sieves individually.  
 Column (2) Enter the passing sieves size.  
 Column (3) Add column (1) from the bottom up to get cumulative weights passing each sieve.  
 Column (4) Divide column (3) by check total of sample to get total % passing.

**Fine Sieves:**

- (A) Take two samples identical in condition and damp weight from "passing #4 material".
- (B) Dry one sample and record weight. 510.8
- (C) Wash and dry other sample and record weight. 410.5
- (D) Loss in washing (B-C) (Enter Below) 100.3

				(5) Indiv. Weights	(6) Sieve Size	(7) Cumulative Wts. Passing	(8) Cum. % Passing	(9) % Passing of Total Pass.	Gradation Requirements
*Pass #4 ▼	Sieve, Ret.	#10 ▼	Sieve	215.7	#4	510.7	100.0%	57%	35-70%
*Pass #10 ▼	Sieve, Ret.	#16 ▼	Sieve	130.1	#10	295.0	57.8%	33%	20-55%
*Pass #16 ▼	Sieve, Ret.	#30 ▼	Sieve		#16				
*Pass #30 ▼	Sieve, Ret.	#40 ▼	Sieve	18.7	#30	164.9	32.3%	18%	
*Pass #40 ▼	Sieve, Ret.	#50 ▼	Sieve	13.4	#40	146.2	28.6%	16%	15-35%
*Pass #50 ▼	Sieve, Ret.	#100 ▼	Sieve	16.1	#50	132.8	26.0%	15%	
*Pass #100 ▼	Sieve, Ret.	#200 ▼	Sieve	12.5	#100	116.7	22.9%	13%	
*Pass #200 ▼	Sieve, Ret.	Bottom		3.9	#200	104.2	20.4%	11.6%	10-15%
Loss by washing-				100.3					
Check Total -				510.7	- Shall Check total Wt. Within 5.0 grams				
Percent Passing #200 Sieve Divided by Percent Passing 1 in. Sieve (if specified)									

Column (5) Enter weights of material between each set of sieves and loss by washing (DO NOT OVERLOAD SIEVES)  
 Column (6) Enter the passing sieve size.  
 Column (7) Add column (5) from bottom up to get cumulative weights passing each sieve. Be sure to add loss by washing to weight of material passing #200 sieve to get first entry at bottom of column (7).  
 Column (8) Divide column (7) by check total dry weight of fine sample (Column 5) to get cumulative % passing.  
 Column (9) Multiply column (8) by % passing final sieve from column (4) to get "Percent Passing" based on total sample.

CC: Project File



# Work Sheet for Sieve Analysis of Granular Material

See Grading & Base Manual, Fig. 1 5-692.215

Project No: Greenvale	Date: 8/6/2015	Test No: 10
Material Type: CI-5 mod	Station: shouldering	Depth From Grading Grade: Anderson pit
Total Wt. of Sample: 39.6	lbs (kg)	Tester Name or Certification No: Greg Viall

Coarse Sieves:			(1) Indiv. Weights	(2) Sieve Size	(3) Cumulative Wts. Passing	(4) Total % Passing	Gradation Requirements
*Pass	Sieve, Ret. 1 1/2" ▼	Sieve	0.0		39.4	100%	
*Pass 1 1/2" ▼	Sieve, Ret. 1" ▼	Sieve	0.0	1 1/2"	39.4	100%	
*Pass 1" ▼	Sieve, Ret. 3/4" ▼	Sieve	0.0	1"	39.4	100%	100%
*Pass 3/4" ▼	Sieve, Ret. 1/2" ▼	Sieve	4.7	3/4"	39.4	100%	90-100%
*Pass 1/2" ▼	Sieve, Ret. 3/8" ▼	Sieve	4.3	1/2"	34.7	88%	
*Pass 3/8" ▼	Sieve, Ret. #4 ▼	Sieve	9.0	3/8"	30.5	77%	50-90%
*Pass #4 ▼	Sieve, Ret. Bottom		21.5	#4	21.5	55%	35-70%
Check Total -			39.4	- Shall Check Total Wt. Within 0.2lbs (0.1 kg)			

\*Enter necessary sieve sizes for class of material to be tested.  
 Column (1) Enter weights of material between each set of sieves individually.  
 Column (2) Enter the passing sieves size.  
 Column (3) Add column (1) from the bottom up to get cumulative weights passing each sieve.  
 Column (4) Divide column (3) by check total of sample to get total % passing.

**Fine Sieves:**

- (A) Take two samples identical in condition and damp weight from "passing \_\_\_\_\_ #4 \_\_\_\_\_ material".
- (B) Dry one sample and record weight. 543.1
- (C) Wash and dry other sample and record weight. 407.8
- (D) Loss in washing (B-C) (Enter Below) 135.3

			(5) Indiv. Weights	(6) Sieve Size	(7) Cumulative Wts. Passing	(8) Cum. % Passing	(9) % Passing of Total Pass.	Gradation Requirements
*Pass #4 ▼	Sieve, Ret. #10 ▼	Sieve	138.5	#4	542.9	100.0%	55%	35-70%
*Pass #10 ▼	Sieve, Ret. #16 ▼	Sieve	92.4	#10	404.4	74.5%	41%	20-55%
*Pass #16 ▼	Sieve, Ret. #30 ▼	Sieve		#16				
*Pass #30 ▼	Sieve, Ret. #40 ▼	Sieve	26.4	#30	312.0	57.5%	32%	
*Pass #40 ▼	Sieve, Ret. #50 ▼	Sieve	35.2	#40	285.6	52.6%	29%	15-35%
*Pass #50 ▼	Sieve, Ret. #100 ▼	Sieve	66.1	#50	250.4	46.1%	25%	
*Pass #100 ▼	Sieve, Ret. #200 ▼	Sieve	40.2	#100	184.3	33.9%	19%	
*Pass #200 ▼	Sieve, Ret. Bottom		8.8	#200	144.1	26.5%	14.6%	10-15%
Loss by washing-			135.3					
Check Total -			542.9	- Shall Check total Wt. Within 5.0 grams				
Percent Passing #200 Sieve Divided by Percent Passing 1 in. Sieve (if specified)								

Column (5) Enter weights of material between each set of sieves and loss by washing (DO NOT OVERLOAD SIEVES)  
 Column (6) Enter the passing sieve size.  
 Column (7) Add column (5) from bottom up to get cumulative weights passing each sieve. Be sure to add loss by washing to weight of material passing #200 sieve to get first entry at bottom of column (7).  
 Column (8) Divide column (7) by check total dry weight of fine sample (Column 5) to get cumulative % passing.  
 Column (9) Multiply column (8) by % passing final sieve from column (4) to get "Percent Passing" based on total sample.

