

Prospecting

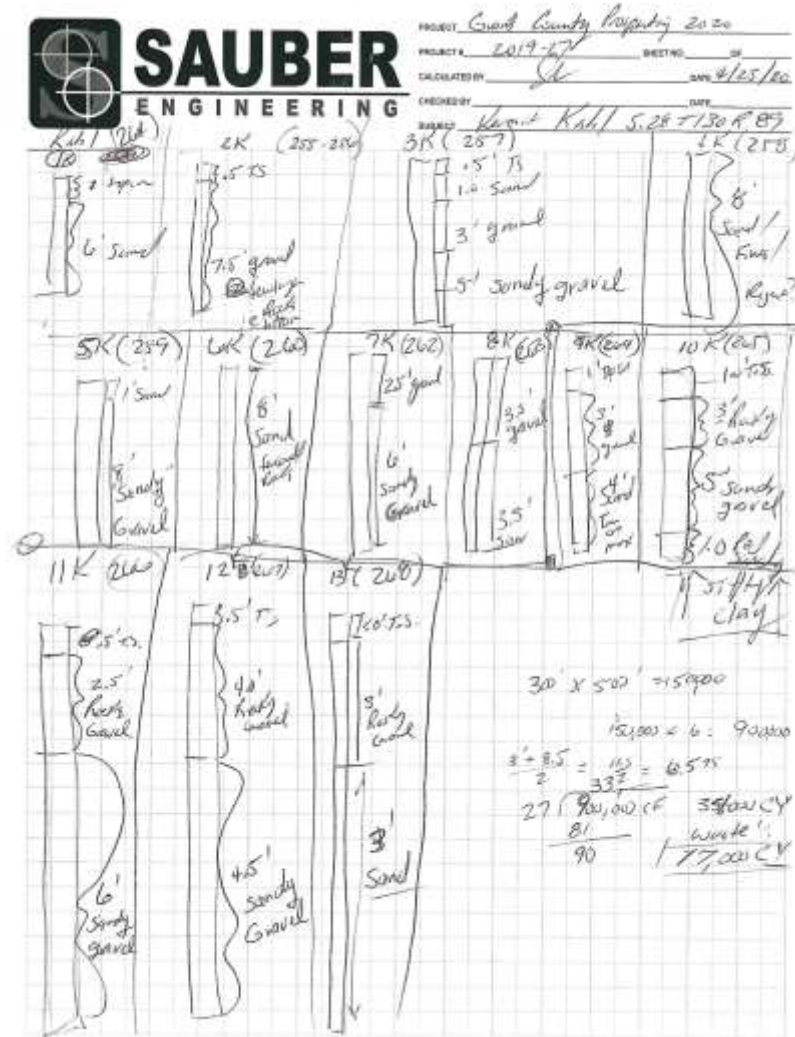
United States
Department of
Agriculture
Soil
Conservation
Service

In cooperation with
North Dakota Agricultural
Experiment Station, North
Dakota Cooperative Extension
Service, and North Dakota
State Soil Conservation
Committee

Soil Survey of Grant County, North Dakota



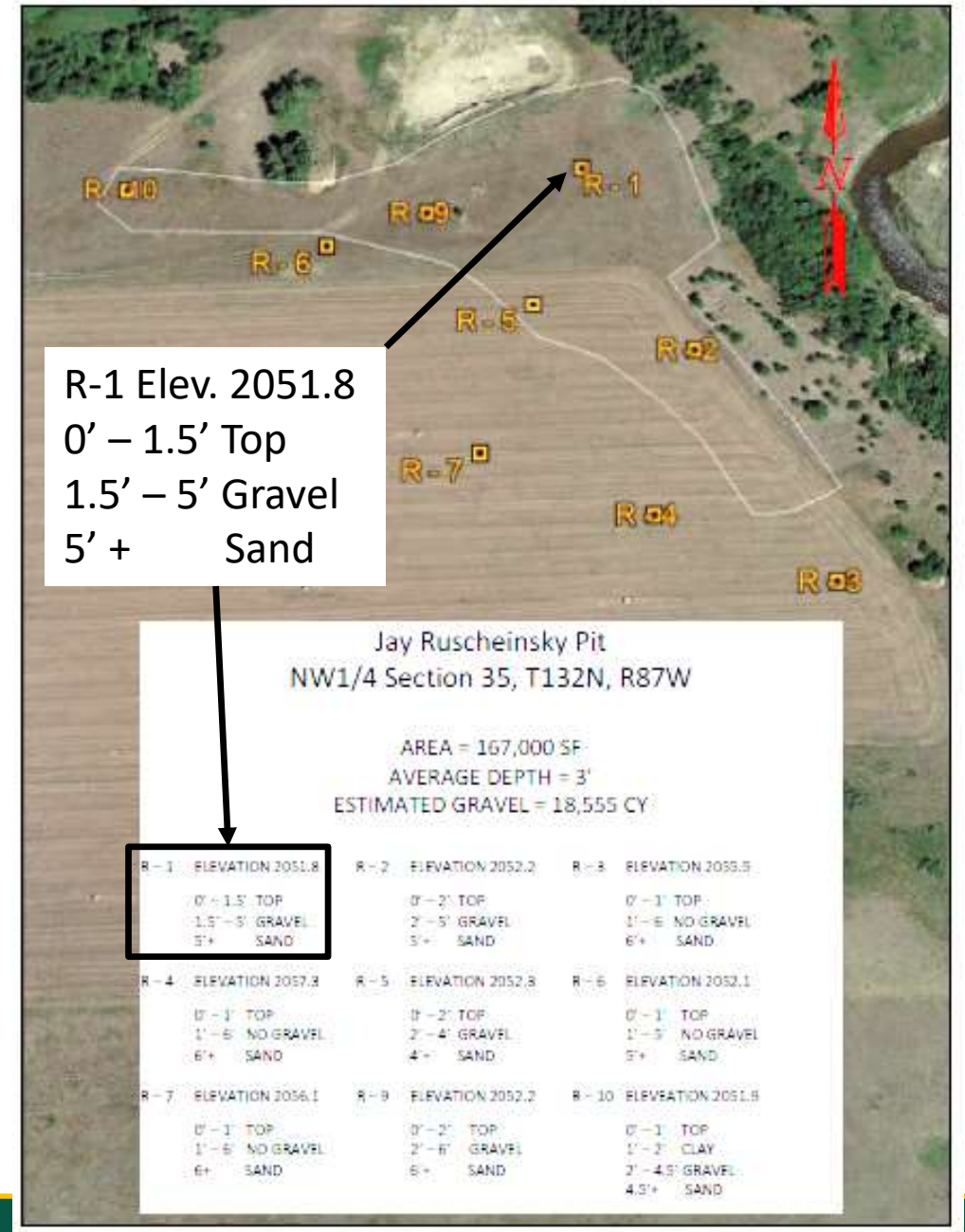
Pit Exploration



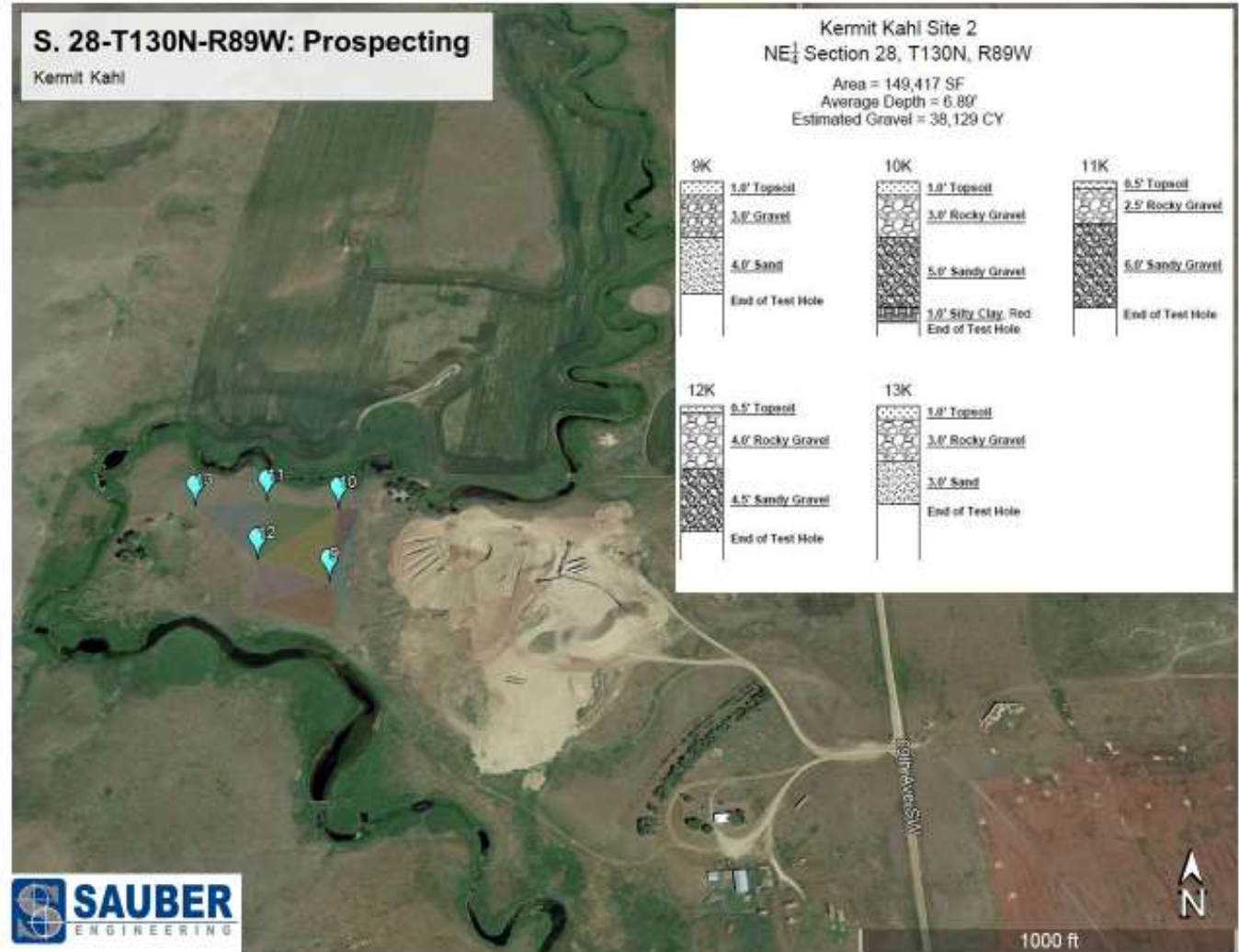
Pit Information

Location	Name	Quantity
SW 1/4, Sec. 29, T134N, R86W	Zimmerman	25,000 CY
NW 1/4, Sec. 35, T132N, R87W	Ruscheinsky	15,000 CY
	Total	40,000 CY

Grant County reserves the right to modify the overall quantity and the quantity provided at each location.



Pit Information



SOURCE:

J. Ruschienski



MECHANICAL ANALYSIS:

Passing	4"	100%
	3	89
	2	86
	1 1/2	84
	1	81
	3/4	78
	5/8	77
	1/2	74
	3/8	71
	#4	58
	8	46
	16	36
	30	28
	50	20
	100	9.3
	200	6.0

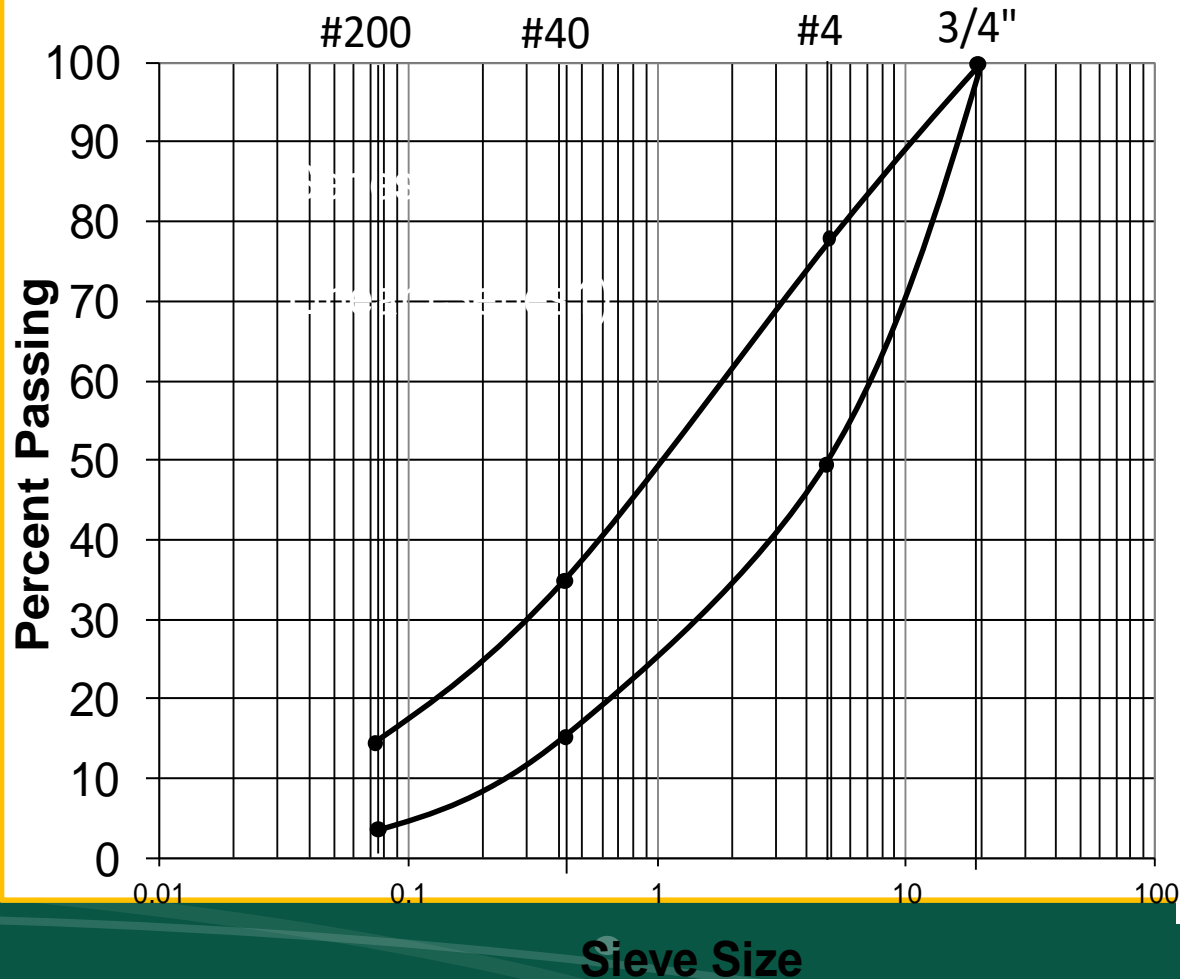
71

ATTERBERG LIMITS:

Liquid Limit	NP
Plastic Limit	NP
Plasticity Index	NP

Gradation and Quality Requirements

Gradation Plot

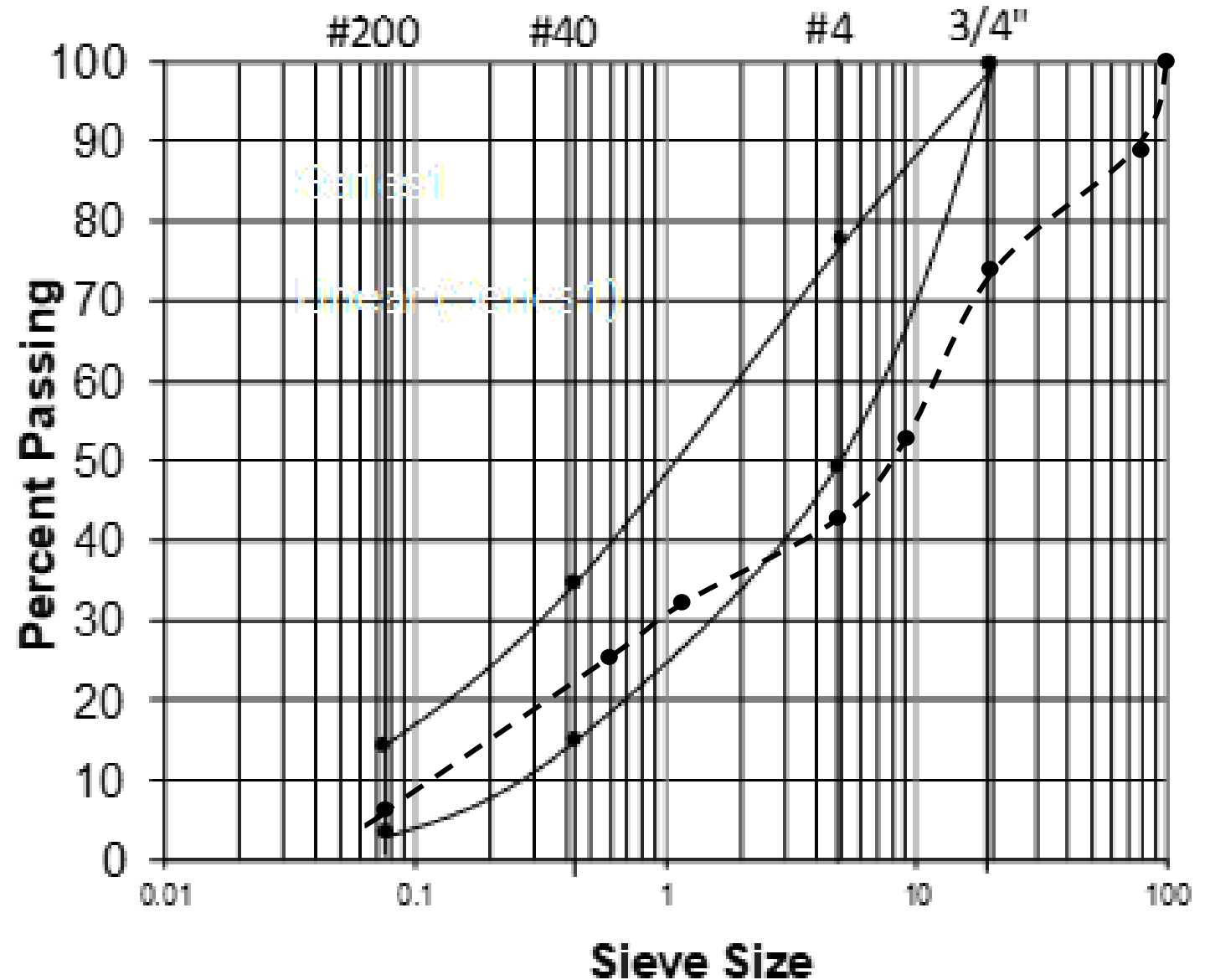


	Surface Gravel
Sieve Size	% Passing
3/4"	100
No. 4	50-78
No. 8	37-67
No. 40	13-35
No. 200	4-15
Shale (max %)	12.0
LA Abrasion (max %)	50
Fractured Faces **	10

Ruscheinsky Pit Tests

Sieve Size	Ruscheinsky Pit		
	R-2	R-9	Average
4"	100	100	100
3"	89	88	89
3/4"	78	69	74
3/8"	58.0	47	53
#4	46	39	43
#30	28	25	27
#200	6.0	7.1	6.6

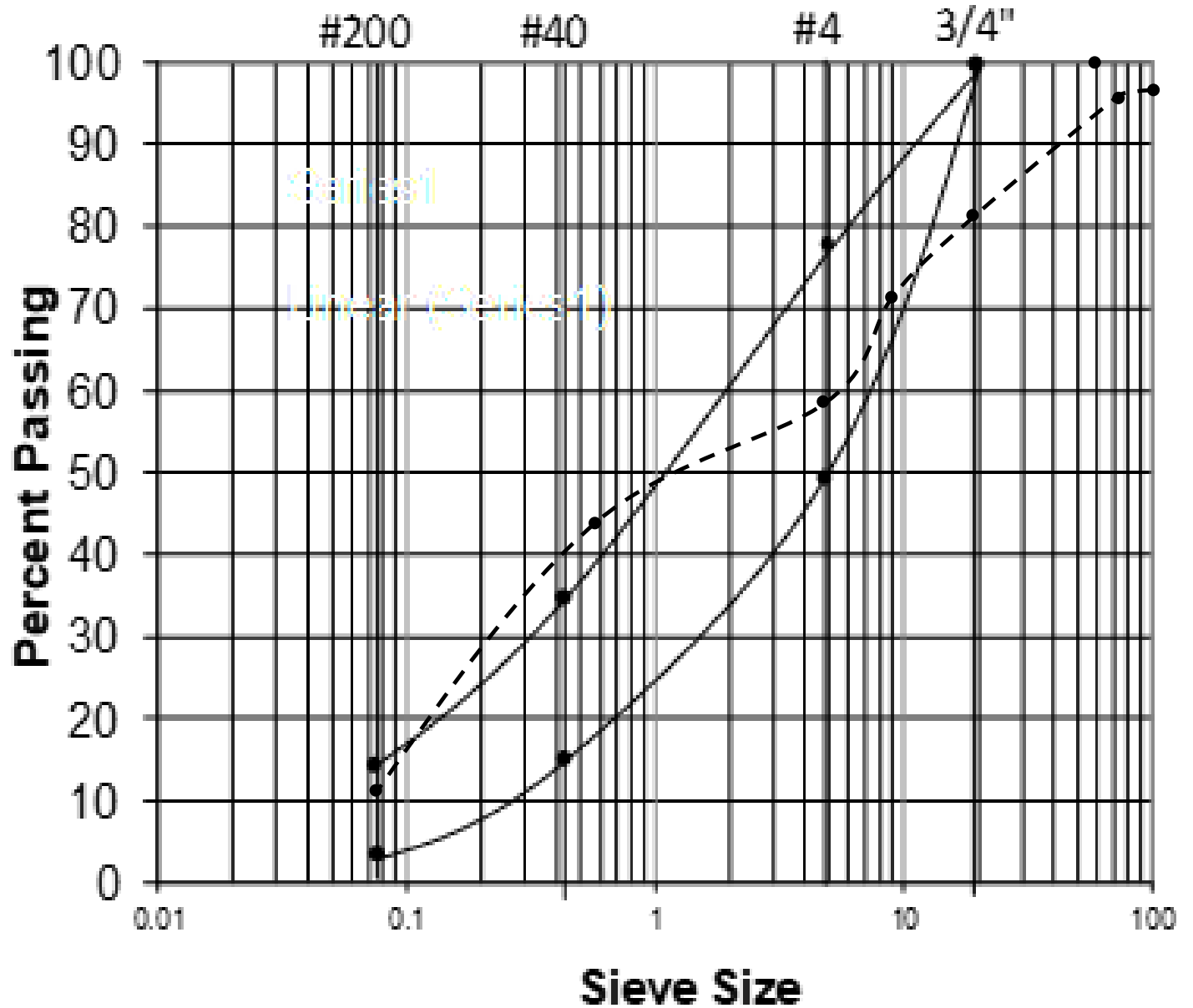
Gradation Plot



Zimmerman Pit Tests

Sieve Size	Zimmerman Pit			
	Z-1	Z-3	Z-11	Avera
4"	100	100	88	96
3"	98	100	88	95
3/4"	87	81	76	81
3/8"	74.0	71	68	71
#4	57	60	58	58
#30	39	47	47	44
#200	17.8	8.8	11	13

Gradation Plot



Specifications

SPECIAL PROVISIONS

GRANT COUNTY

2020 GRAVEL CRUSHING & STOCKPILING

1. **Governing Specifications** – 2014 Standard Specifications adopted by the North Dakota Department of Transportation.
2. **Surface Gravel** – The Contractor shall supply aggregate that meets the following requirements:

Sieve Size	Surface Gravel
	% Passing
3/4"	100
No. 4	50-78
No. 8	37-67
No. 40	13-35
No. 200	4-15
Shale (max %)	12.0
LA Abrasion (max %)	50
Fractured Faces **	10

**Minimum weight percentage allowable for the portion of the aggregate retained on a No. 4 sieve having at least one (1) fractured face.

3. **Pit Locations** – The Contractor shall produce the surface gravel at the following locations and in the following quantities:

<u>Location</u>	<u>Name</u>	<u>Quantity</u>
NE 1/4, Sec. 28, T130N, R89W	Kahl	20,000 CY
S 1/2, Sec. 17, T135N, R90W	Haase	20,000 CY

Total 40,000 CY

Specifications

Testing maps and test reports of samples taken from the two locations are included with these special provisions for informational purposes. The estimated depths, quantities and material type are not guaranteed.

Grant County reserves the right to modify the overall quantity and the quantity provided at each location.

4. **Material Testing** – The contractor will be required to conduct daily production tests utilizing an independent testing laboratory. The test results shall be provided to the Engineer the day following the production that the sample represents. The Engineer may take random samples for quality assurance.
5. **Material Measuring** - Grant County will measure the material stockpiles. The Contractor can request a re-measure, however if the re-measure of an individual stockpile is within 10% of the original, the Contractor shall pay for the cost of the re-measure.
6. **Payment** –
 - Deductions for material not meeting the required specifications will be applied in accordance with the Governing Specifications.
 - The Contractor shall be responsible for reclaiming the reject material and the pit location. The costs associated with the reclaiming, including seeding, of the reject material and the pit location shall be included in the unit bid price for "Surface Gravel".
 - Prior to receiving final payment for the work, the Contractor shall provide a pit release from each of the pit land owners. Grant County will provide the pit release form.
 - All costs associated with the work to produce and stockpile the surface gravel except royalty payments to the landowner, shall be included in the unit bid item for "Surface Gravel".
 - Grant County will make royalty payments directly to the landowner.

Pit Information

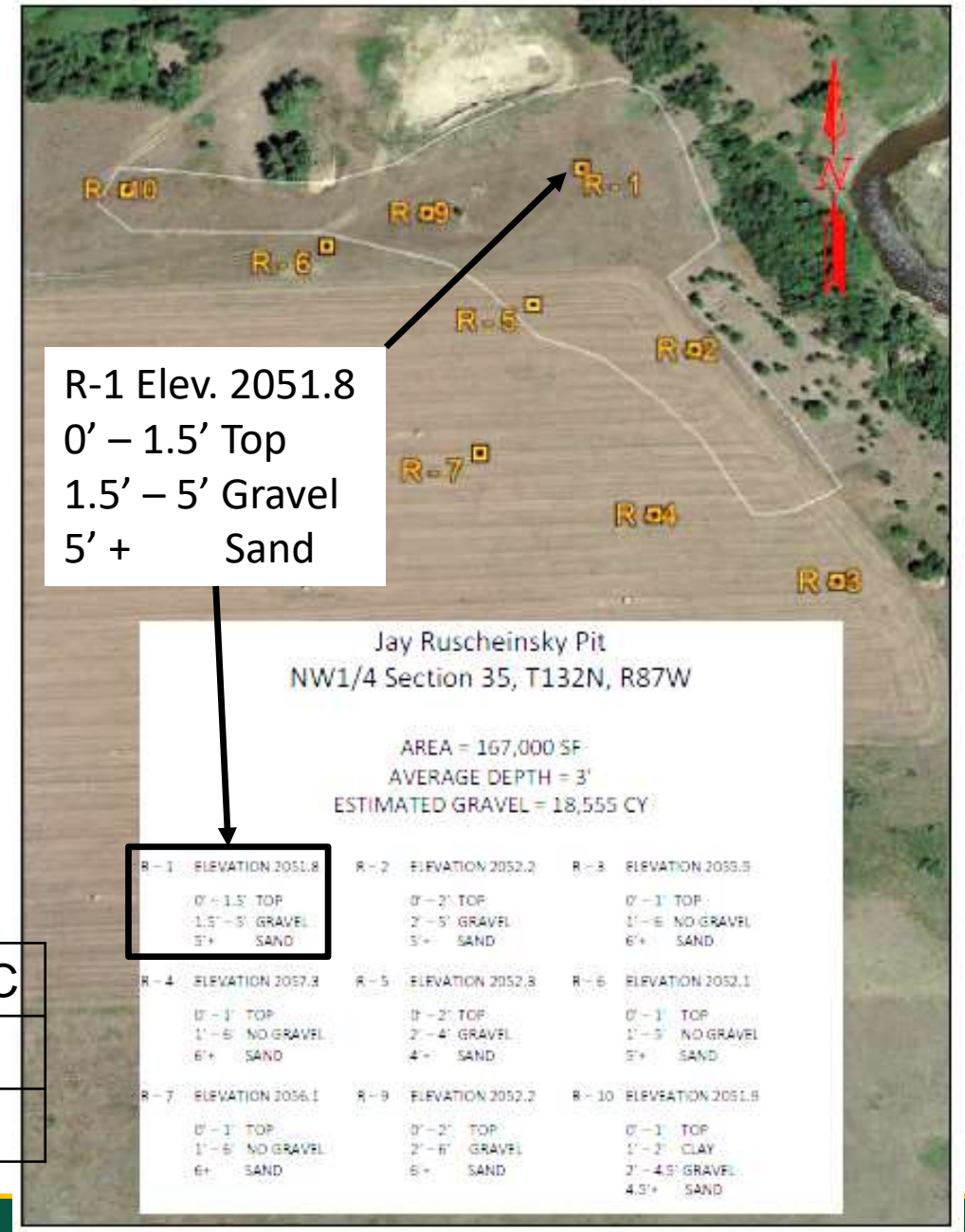
Location	Name	Quantity
SW 1/4, Sec. 29, T134N, R86W	Zimmerman	25,000 CY
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		Total 40,000 CY

Grant County reserves the right to modify the overall quantity and the quantity provided at each location.

This statement may raise bids because contractor cannot base bid off of the 40,000 CY. What if they change to 20,000 CY?

The approach shown below is an option to help the bidder.

Pit	Bid Option A	Bid Option B	Bid Option C
Zimmerman	15,000 CY	20,000 CY	25,000 CY
Ruscheinsk	10,000 CY	12,500 CY	15,000 CY



Disclaimer for Pit Investigation Information

106.02 AGGREGATE SOURCES (only part of this subsection is printed below)

A. General.

The proposal package may contain a materials pit list that references and describes possible sources of materials. The Contractor is not obligated to use any of these sources.

Work pits in a manner that conserves the available aggregate within the source.

B. Department Controlled Sources. (only part of this subsection is printed below)

1. General.

The materials pit list generally will show the gradation of the material, percent shale, and other characteristics of the material.

The Department will not interpret the test results and will not be responsible for interpretations of the test results made by the Contractor.

The water tables shown on the boring logs may change with the seasons.

Because variations in quantity or quality of material from sample test results are usual and expected, and because it is difficult to determine the exact quantity or quality of material from an entire source based on sample test results, the Department does not warrant the quantity or quality of material from Department controlled sources.

Determine the quantity of equipment, processing, blending, and all other operations required to produce material that meets the relevant contract requirements.

Gravel Source Pit Plan Notes (Ref. A-5)

- Disclaimer for Test Results on Gravel Pit:
 - “The quality of material in the provided pit is acceptable in general, but may contain layers or pockets of unacceptable materials. It is not feasible to ascertain from samples the quality of material for an entire deposit, and variations may be expected.”
- Suitability of the Gravel Pit.
 - “The Contractor may have to selectively utilize materials from different areas of the source, blend, sort, reject, re-screen or import materials (clay, sand, etc.), as well as use special crushing, screening, excavation and other types of equipment to meet specifications. No additional compensation will be given for these efforts.”