

## Gravel Crushing Specifications

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## Outline

- Objective: better gravel for reasonable cost
- Gravel Specs
  - User Note – 2 pages
  - Spec – 3 pages
- Reviewed and edited by 5 crushing Contractors
- Procurement Options
  - Low Bid Contract - Richland Co MT (Adam Smith 406-480-9244)
  - Request For Proposals (RFP) – Lethbridge Co Alberta (Devon Thiele 403-328-3525)

## Pay Adjustment Table (Section 2.2)

- Pay Adjustment Table (pick realistic spec limits)

Pay Adjustment Factor	1.05	1.00	0.95	0.75	0.50	0.00
Sieve Size	% Passing					
5/8 inch	100	100	100	100	100	
3/8 inch (8)	69-81	67-83	65-85	63-87	61-89	<61 or >89
No. 4 (6)	50-65	48-68	46-70	44-72	42-74	<42 or >74
No 16 (4)	27-40	25-42	23-44	21-46	19-48	<19 or >48
No. 40 (3)	19-28	17-30	15-32	13-34	11-36	<11 or >36
No 200 (2)	10-16	8-18	7-19	6-20	5-20	<5 or >20
% Fracture, one face, min (15)	75	65	60	55	50	<50
Plasticity Index (5)	4-10	4-10	2-10	0-10	0-12	0 or >12
Sum of Plasticity Index plus Percent Passing #200, max (a)	20	20	22	24	26	>26

(a) As an example, if PI is 6, percent passing #200 must not exceed 14 to achieve 1.05 Pay Factor  
( ) Values within parenthesis are maximum allowable differences between Consultant & Contractor test results

- Acceptance
  - Stockpiling: based on average test result
  - Placed on Road: Based on Daily Acceptance Sample

## Daily Composite Acceptance Sampling (Section 2.3A)

- Process
  - Bucket Load every 2 hours in sampling stockpile
  - Sample small pile at end of day
  - County and Contractor each get samples
- Benefits
  - Reduces sampling bias
  - Reduces sampling and testing costs
  - Not a “snapshot” sample
  - Preferred by Contractors and Consultants
  - County or their consultants do not have to be on-site each day

### Additional Spec Features

- Provision for checking Contractor QC (Section 3.1A)
- Stockpiling without Segregation (Section 3.1B)
- Options for adding various types of clay (Section 3.2A)
- Materials source disclaimer (Section 3.2C)

### Quantity Assurance, Method of Measurement (Section 4.1)

- Cubic Yards in Stockpile
- Measured by drone
- Measurement by licensed engineer paid by Contractor, info verified by County
- Stockpile Quantity between 90 and 110% is acceptable

### Payment Provisions (Section 4.2)

- Actual measured quantity
- Pay adjustment for gradation, PI, % Fracture
- 5% bonus for stockpiles built in 3 or more layers or with telescoping rotary stacking conveyors

### Need for Feedback

- Spec is a work in progress
- Direct Spec Comments to
  - Steve Monlux, [stevemonlux@gmail.com](mailto:stevemonlux@gmail.com)
  - 406-544-1919