

STANDARD SPECIFICATIONS AND STANDARD DRAWINGS

As of February 18, 2020 the 2018 Oregon Standard Specifications for Construction (Oregon Specifications) and the City of Eugene Standard Drawings, both as revised by Amendments #1 and #2 have been adopted as the Standard Specifications and Standard Drawings for the City of Eugene in accordance with City Code section 7.085. Amendment #2 is hereby made a part of the Standard Specifications and Standard Drawings of the City of Eugene as fully and completely as if it were set forth therein. The Standard Specifications, Standard Drawings and all Amendments may be examined at the Engineering office located at 99 E. Broadway, Suite 400, Eugene, OR 97401 and on-line at www.eugene-or.gov/standardspecs.

SUPPLEMENTAL SPECIFICATIONS

The section, subsection and drawing numbers of the Supplemental Specifications correlate to the section and subsection numbers of the Standard Specifications, which consist of the 2018 Oregon Standard Specifications, as amended by the City, and Standard Drawings.

00110.05(e) Reference to Websites

(ADD)

- American Traffic Safety Services Association (ATSSA)
www.atssa.com
- City of Eugene Quality Assurance Program
<https://www.eugene-or.gov/standardspecs>
- City of Eugene Field Tested Materials Assurance Guide (FTMAG)
<https://www.eugene-or.gov/standardspecs>
- City of Eugene Standard Specifications for Construction
<https://www.eugene-or.gov/standardspecs>
- City of Eugene Traffic Sign Manual
<https://www.eugene-or.gov/183/Traffic-Sign-Manual>
- Equipment Watch
<https://equipmentwatch.com/>
- ODOT Asphalt and Fuel Pricing
<https://www.oregon.gov/ODOT/Business/Pages/Asphalt-Fuel-Price.aspx>
- ODOT Construction Section
www.oregon.gov/odot/construction/pages/index.aspx
- ODOT Construction Section - Qualified Products List (QPL)
www.oregon.gov/ODOT/Construction/Pages/Qualified-Products.aspx
- Oregon Legislative Counsel
www.oregonlegislature.gov/lc
- Oregon Procurement Information Network
<https://orpin.oregon.gov/>
- Oregon Secretary of State: State Archives
<https://sos.oregon.gov/archives/Pages/default.aspx>

- ODOT Traffic Control Plans Unit
www.oregon.gov/ODOT/Engineering/Pages/Work-Zone.aspx
- ODOT Traffic Standards
www.oregon.gov/ODOT/Engineering/Pages/Signals.aspx

00120.30 Changes to Plans, Specifications, or Quantities before Opening of Bids

(REVISE) Revise all instances of “web site” to “website”.

00165.30(c) Acceptance of Field-Tested Materials

(REPLACE) The entire subsection with the following:

(c) Acceptance of Field-Tested Materials - Acceptance of field-tested Materials will be based on Agency acceptance testing according to the Quality Assurance program outlined in the MFTP as modified by the Local Public Agency Quality Assurance Program. The Materials will be analyzed for acceptance by the Engineer before the Engineer will accept them for incorporation into the Work.

If the materials do not meet specifications according to Engineer’s testing, the Contractor’s QC testing may be analyzed for acceptance according to:

- Statistically, according to 00165.40, to determine "Pay Factors" for produced Aggregate;
- Statistically, according to 00165.40, to determine "Composite Pay Factors" for mixtures; or
- Other methods determined by the Engineer.

If the Agency's verification test results do not verify the Contractor's test results, the Agency may require additional testing to determine whether the Materials meet Specifications. The Contractor shall perform additional testing or provide samples to the Agency for testing as directed. If the Materials do not meet Specifications, the Contractor shall reimburse the Agency for the cost of the additional testing, which may be deducted from monies due or to become due the Contractor under the Contract. Incorporated Materials that do not meet Specifications will be evaluated according to 00165.01 and 00150.25. If the Materials meet Specifications, the Agency will pay the cost for the additional testing.

00165.40 Statistical Analysis

(REPLACE) The entire subsection with the following:

00165.40 Statistical Analysis - When 00165.30(c) or 00165.50 applies, the Contractor shall divide the Materials into lots and sublots, randomly sample and test them as required, and analyze the results statistically to determine whether the Materials conform to the Specifications.

All test results of lots and sublots will be analyzed collectively using the Quality Level Analysis procedure set out in this Subsection. This procedure shall not be used for a lot with less than three sublots. Sampling of Material for a lot that contains two or fewer sublots shall be increased to obtain at least three sublots. The Engineer has discretion to either accept or reject lots originating with two or fewer sublots, even after sampling is increased.

(a) Lot - A lot is the quantity of Materials produced by a single process or JMF that is sampled, tested, and statistically evaluated, as specified in this Subsection.

(b) Sublot - A sublot is a portion of a lot, for which a sample test value may be normally obtained.

(c) Quality Level Analysis - Quality Level Analysis is a statistical procedure to determine, for each lot:

- The percentage of each constituent of the Materials meeting Specifications;
- The Pay Factor for each constituent; and
- The Composite Pay Factor, when specified.

(d) Pay Factor and Composite Pay Factor Computation - Procedures for determining the percent meeting Specifications, Pay Factors, and Composite Pay Factor for a lot of Materials are as follows:

(1) Compute lot arithmetic mean (\bar{X}) for each constituent:

$$\bar{X} = \frac{\sum X}{n}$$

Where $\sum X$ = summation of sample test values
 n = total number of samples

(2) Compute standard deviation (sd) for each constituent:

$$sd = \sqrt{\frac{\sum X^2 - n\bar{X}^2}{n-1}}$$

Where $\sum X^2$ = summation of the squares of each sample test value
 \bar{X}^2 = square of the lot arithmetic mean

(3) Compute the upper quality index (Q_U) for each constituent:

$$Q_U = \frac{USL - \bar{X}}{sd}$$

Where USL (upper specification limit) is the target value plus allowable tolerance

(4) Compute the lower quality index (Q_L) for each constituent:

$$Q_L = \frac{\bar{X} - LSL}{sd}$$

Where LSL (lower specification limit) is the target value minus allowable tolerance

(5) From Table 00165-1, for each constituent, determine the percent within the upper specification limit (P_U) which corresponds to a given Q_U . If USL is 100% or is not specified, P_U will be 100.

(6) From Table 00165-1, for each constituent, determine the percent within the lower specification limit (P_L) which corresponds to a given Q_L . If LSL is 0 or not specified, P_L will be 100.

(7) Compute the quality level, or total percent within specification limits (P_T), for each constituent:

$$P_T = (P_U + P_L) - 100$$

(8) Using the P_T from Step 7, determine the Pay Factor (PF) from Table 00165-2 for each constituent tested. A minimum PF of 1.00 will be used when all subplot test values are within the upper and lower specification limits, regardless of the calculated PF.

(9) Compute the Weighted Pay Factor (WPF) for each constituent:

$$WPF = (PF) \times (f_i)$$

Where f_i = weighting factor listed in the Specifications for each constituent tested.

(10) Compute the Composite Pay Factor (CPF) for the lot and report the results to three decimal places.

$$CPF = \frac{\sum WPF}{\sum f_i}$$

Where $\sum WPF$ = sum of the weighted pay factors for each constituent
 $\sum f_i$ = sum of the weighting factors listed in the Specifications

Table 00165-1

QUALITY LEVEL ANALYSIS BY THE STANDARD DEVIATION METHOD								
P _U or P _L PERCENT WITHIN LIMITS FOR POSITIVE VALUES OF Q _U or Q _L	UPPER QUALITY INDEX Q_U OR LOWER QUALITY INDEX Q_L							
	n = 3	n = 4	n = 5	n = 6	n = 7	n = 8	n = 9	n = 10 to n = 11
100	1.16	1.50	1.79	2.03	2.23	2.39	2.53	2.65
99	-	1.47	1.67	1.80	1.89	1.95	2.00	2.04
98	1.15	1.44	1.60	1.70	1.76	1.81	1.84	1.86
97	-	1.41	1.54	1.62	1.67	1.70	1.72	1.74
96	1.14	1.38	1.49	1.55	1.59	1.61	1.63	1.65
95	-	1.35	1.44	1.49	1.52	1.54	1.55	1.56
94	1.13	1.32	1.39	1.43	1.46	1.47	1.48	1.49
93	-	1.29	1.35	1.38	1.40	1.41	1.42	1.43
92	1.12	1.26	1.31	1.33	1.35	1.36	1.36	1.37
91	1.11	1.23	1.27	1.29	1.30	1.30	1.31	1.31
90	1.10	1.20	1.23	1.24	1.25	1.25	1.26	1.26
89	1.09	1.17	1.19	1.20	1.20	1.21	1.21	1.21
88	1.07	1.14	1.15	1.16	1.16	1.16	1.16	1.17
87	1.06	1.11	1.12	1.12	1.12	1.12	1.12	1.12
86	1.04	1.08	1.08	1.08	1.08	1.08	1.08	1.08
85	1.03	1.05	1.05	1.04	1.04	1.04	1.04	1.04
84	1.01	1.02	1.01	1.01	1.00	1.00	1.00	1.00
83	1.00	0.99	0.98	0.97	0.97	0.96	0.96	0.96
82	0.97	0.96	0.95	0.94	0.93	0.93	0.93	0.92
81	0.96	0.93	0.91	0.90	0.90	0.89	0.89	0.89
80	0.93	0.90	0.88	0.87	0.86	0.86	0.86	0.85
79	0.91	0.87	0.85	0.84	0.83	0.82	0.82	0.82
78	0.89	0.84	0.82	0.80	0.80	0.79	0.79	0.79
77	0.87	0.81	0.78	0.77	0.76	0.76	0.76	0.75
76	0.84	0.78	0.75	0.74	0.73	0.73	0.72	0.72
75	0.82	0.75	0.72	0.71	0.70	0.70	0.69	0.69
74	0.79	0.72	0.69	0.68	0.67	0.66	0.66	0.66
73	0.76	0.69	0.66	0.65	0.64	0.63	0.63	0.62
72	0.74	0.66	0.63	0.62	0.61	0.60	0.60	0.59
71	0.71	0.63	0.60	0.59	0.58	0.57	0.57	0.57
70	0.68	0.60	0.57	0.56	0.55	0.55	0.54	0.54
69	0.65	0.57	0.54	0.53	0.52	0.52	0.51	0.51
68	0.62	0.54	0.51	0.50	0.49	0.49	0.48	0.48
67	0.59	0.51	0.47	0.47	0.46	0.46	0.46	0.45
66	0.56	0.48	0.45	0.44	0.44	0.43	0.43	0.43
65	0.52	0.45	0.43	0.41	0.41	0.40	0.40	0.40
64	0.49	0.42	0.40	0.39	0.38	0.38	0.37	0.37
63	0.46	0.39	0.37	0.36	0.35	0.35	0.35	0.34
62	0.43	0.36	0.34	0.33	0.32	0.32	0.32	0.32
61	0.39	0.33	0.31	0.30	0.30	0.29	0.29	0.29
60	0.36	0.30	0.28	0.27	0.27	0.27	0.26	0.26
59	0.32	0.27	0.25	0.25	0.25	0.24	0.24	0.24
58	0.29	0.24	0.23	0.22	0.21	0.21	0.21	0.21
57	0.25	0.21	0.20	0.19	0.19	0.19	0.18	0.18
56	0.22	0.18	0.17	0.16	0.16	0.16	0.16	0.16
55	0.18	0.15	0.14	0.14	0.13	0.13	0.13	0.13
54	0.14	0.12	0.11	0.11	0.11	0.11	0.10	0.10
53	0.11	0.09	0.08	0.08	0.08	0.08	0.08	0.08
52	0.07	0.06	0.06	0.05	0.05	0.05	0.05	0.05
51	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

NOTE: For negative values of Q_U or Q_L, P_U or P_L is equal to 100 minus the table value for P_U or P_L. If the value of Q_U or Q_L does not correspond exactly to a figure in the table, use the next higher figure.

Table 00165-1

QUALITY LEVEL ANALYSIS BY THE STANDARD DEVIATION METHOD							
P _U or P _L PERCENT WITHIN LIMITS FOR POSITIVE VALUES OF Q _U OR Q _L	UPPER QUALITY INDEX Q_U OR LOWER QUALITY INDEX Q_L						
	n = 12 to n = 14	n = 15 To n = 18	n = 19 to n = 25	n = 26 to n = 37	n = 38 to n = 69	n = 70 to n = 200	n = 201 to n = ∞
	100	2.83	3.03	3.20	3.38	3.54	3.70
99	2.09	2.14	2.18	2.22	2.26	2.29	2.31
98	1.91	1.93	1.96	1.99	2.01	2.03	2.05
97	1.77	1.79	1.81	1.83	1.85	1.86	1.87
96	1.67	1.68	1.70	1.71	1.73	1.74	1.75
95	1.58	1.59	1.61	1.62	1.63	1.63	1.64
94	1.50	1.51	1.52	1.53	1.54	1.55	1.55
93	1.44	1.44	1.45	1.46	1.46	1.47	1.47
92	1.37	1.38	1.39	1.39	1.40	1.40	1.40
91	1.32	1.32	1.33	1.33	1.33	1.34	1.34
90	1.26	1.27	1.27	1.27	1.28	1.28	1.28
89	1.21	1.22	1.22	1.22	1.22	1.22	1.23
88	1.17	1.17	1.17	1.17	1.17	1.17	1.17
87	1.12	1.12	1.12	1.12	1.12	1.13	1.13
86	1.08	1.08	1.08	1.08	1.08	1.08	1.08
85	1.04	1.04	1.04	1.04	1.04	1.04	1.04
84	1.00	1.00	1.00	1.00	0.99	0.99	0.99
83	0.96	0.96	0.96	0.96	0.95	0.95	0.95
82	0.92	0.92	0.92	0.92	0.92	0.92	0.92
81	0.88	0.88	0.88	0.88	0.88	0.88	0.88
80	0.85	0.85	0.85	0.84	0.84	0.84	0.84
79	0.81	0.81	0.81	0.81	0.81	0.81	0.81
78	0.78	0.78	0.78	0.78	0.77	0.77	0.77
77	0.75	0.75	0.75	0.74	0.74	0.74	0.74
76	0.71	0.71	0.71	0.71	0.71	0.71	0.71
75	0.68	0.68	0.68	0.68	0.68	0.68	0.67
74	0.65	0.65	0.65	0.65	0.65	0.64	0.64
73	0.62	0.62	0.62	0.62	0.62	0.61	0.61
72	0.59	0.59	0.59	0.59	0.59	0.58	0.58
71	0.56	0.56	0.56	0.56	0.56	0.55	0.55
70	0.53	0.53	0.53	0.53	0.53	0.53	0.52
69	0.50	0.50	0.50	0.50	0.50	0.50	0.50
68	0.48	0.48	0.47	0.47	0.47	0.47	0.47
67	0.45	0.45	0.45	0.44	0.44	0.44	0.44
66	0.42	0.42	0.42	0.42	0.41	0.41	0.41
65	0.39	0.39	0.39	0.39	0.39	0.39	0.39
64	0.37	0.37	0.36	0.36	0.36	0.36	0.36
63	0.34	0.34	0.34	0.34	0.33	0.33	0.33
62	0.31	0.31	0.31	0.31	0.31	0.31	0.31
61	0.29	0.29	0.28	0.28	0.28	0.28	0.28
60	0.26	0.26	0.26	0.26	0.26	0.25	0.25
59	0.23	0.23	0.23	0.23	0.23	0.23	0.23
58	0.21	0.21	0.20	0.20	0.20	0.20	0.20
57	0.18	0.18	0.18	0.18	0.18	0.18	0.18
56	0.15	0.15	0.15	0.15	0.15	0.15	0.15
55	0.13	0.13	0.13	0.13	0.13	0.13	0.13
54	0.10	0.10	0.10	0.10	0.10	0.10	0.10
53	0.08	0.08	0.08	0.08	0.08	0.08	0.08
52	0.05	0.05	0.05	0.05	0.05	0.05	0.05
51	0.03	0.03	0.03	0.03	0.03	0.03	0.02
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00

NOTE: For negative values of Q_U or Q_L, P_U or P_L is equal to 100 minus the table value for P_U or P_L. If the value of Q_U or Q_L does not correspond exactly to a figure in the table, use the next higher figure.

Table 00165-2

REQUIRED QUALITY LEVEL FOR A GIVEN SAMPLE SIZE (n) AND A GIVEN PAY FACTOR								
PAY FACTOR	n = 10 to n = 11							
	n = 3	n = 4	n = 5	n = 6	n = 7	n = 8	n = 9	n = 10 to n = 11
1.05	100	100	100	100	100	100	100	100
1.04	90	91	92	93	93	93	94	94
1.03	80	85	87	88	89	90	91	91
1.02	75	80	83	85	86	87	88	88
1.01	71	77	80	82	84	85	85	86
1.00	68	74	78	80	81	82	83	84
0.99	66	72	75	77	79	80	81	82
0.98	64	70	73	75	77	78	79	80
0.97	62	68	71	74	75	77	78	78
0.96	60	66	69	72	73	75	76	77
0.95	59	64	68	70	72	73	74	75
0.94	57	63	66	68	70	72	73	74
0.93	56	61	65	67	69	70	71	72
0.92	55	60	63	65	67	69	70	71
0.91	53	58	62	64	66	67	68	69
0.90	52	57	60	63	64	66	67	68
0.89	51	55	59	61	63	64	66	67
0.88	50	54	57	60	62	63	64	65
0.87	48	53	56	58	60	62	63	64
0.86	47	51	55	57	59	60	62	63
0.85	46	50	53	56	58	59	60	61
0.84	45	49	52	55	56	58	59	60
0.83	44	48	51	53	55	57	58	59
0.82	42	46	50	52	54	55	57	58
0.81	41	45	48	51	53	54	56	57
0.80	40	44	47	50	52	53	54	55
0.79	38	43	46	48	50	52	53	54
0.78	37	41	45	47	49	51	52	53
0.77	36	40	43	46	48	50	51	52
0.76	34	39	42	45	47	48	50	51
0.75	33	38	41	44	46	47	49	50
REJECT	QUALITY LEVELS LESS THAN THOSE SPECIFIED FOR A 0.75							

NOTE: If the computed QUALITY LEVEL does not correspond exactly to a figure in the table, use the next lower value.

Table 00165-2

REQUIRED QUALITY LEVEL FOR A GIVEN SAMPLE SIZE (n) AND A GIVEN PAY FACTOR							
PAY FACTOR	n = 12 to n = 14	n = 15 to n = 18	n = 19 to n = 25	n = 26 to n = 37	n = 38 to n = 69	n = 70 to n = 200	n = 201 to n = ∞
	1.05	100	100	100	100	100	100
1.04	95	95	96	96	97	97	99
1.03	92	93	93	94	95	95	97
1.02	89	90	91	92	93	94	95
1.01	87	88	89	90	91	93	94
1.00	85	86	87	89	90	91	93
0.99	83	85	86	87	88	90	92
0.98	81	83	84	85	87	88	90
0.97	80	81	83	84	85	87	89
0.96	78	80	81	83	84	86	88
0.95	77	78	80	81	83	85	87
0.94	75	77	78	80	81	83	86
0.93	74	75	77	78	80	82	84
0.92	72	74	75	77	79	81	83
0.91	71	73	74	76	78	80	82
0.90	70	71	73	75	76	79	81
0.89	68	70	72	73	75	77	80
0.88	67	69	70	72	74	76	79
0.87	66	67	69	71	73	75	78
0.86	64	66	68	70	72	74	77
0.85	63	65	67	69	71	73	76
0.84	62	64	65	67	69	72	75
0.83	61	63	64	66	68	71	74
0.82	60	61	63	65	67	70	72
0.81	58	60	62	64	66	69	71
0.80	57	59	61	63	65	67	70
0.79	56	58	60	62	64	66	69
0.78	55	57	59	61	63	65	68
0.77	52	56	57	60	62	64	67
0.76	51	55	56	58	61	63	66
0.75	51	53	55	57	59	62	65
REJECT	QUALITY LEVELS LESS THAN THOSE SPECIFIED FOR A 0.75						

NOTE: If the computed QUALITY LEVEL does not correspond exactly to a figure in the table, use the next lower value.

(ADD) **00165.50 Statistical Acceptance Sampling and Testing** - The Contractor shall sample and test Materials for quality control, as required by the Contract. The Contractor may statistically evaluate test results for purposes of quality control or to predict a Pay Factor or Composite Pay Factor. The following apply:

(a) Statistical Acceptance -- No statistical analysis will be performed for acceptance, except as described in 00165.30(c).

(b) Pay Adjustments – No adjustment of pay will be made, except as described in 00165.30(c).

(1) Specification Materials - For Materials evaluated by a PF, when all constituents of a Material have a PF of 1.00 or greater, that Material will be considered specification Materials. For Materials accepted by a CPF, all Materials with a CPF of 1.0000 or greater will be considered specification Materials.

(2) Non-specification Materials - For Materials evaluated by a PF, when any constituent of a Material has a PF of less than 1.00, that Material will be considered non specification Material. For Materials accepted by a CPF, all Materials with a CPF less than 1.0000 will be considered non specification Materials. A lot containing non specification Materials will be evaluated as described in 00165.50(c).

(c) Non-specification Materials:

(1) Isolation of a Partial Sublot - The Engineer may isolate from a sublot or adjoining sublots any Material that the Contractor's test results show to be non specification. The Contractor shall perform additional testing or provide samples to the Agency as directed. The Engineer will accept or reject the Material according to 00150.25.

(2) Isolation of an Entire Sublot - The Engineer may isolate a sublot or a series of sublots in which the Contractor's test results show the Material to be non specification. The Contractor shall perform additional testing or provide samples to the Agency as directed. The isolated Material will be evaluated as a separate lot. The Engineer will accept or reject the Material according to 00150.25.

(3) A Lot-in-Progress - The Contractor shall shut down production when any of the following occurs:

- The CPF for a lot-in-progress drops below 1.0000, and the Contractor is taking no corrective action;
- The CPF is less than 0.7500; or
- Any constituent test is continually out of specification limits, regardless of whether or not the CPF is below 0.7500.

The Contractor shall not resume production until the Engineer has determined that Specification Materials can be produced, and has given approval to resume.

(4) An Entire Lot - The Engineer may reject an entire lot of Materials with a CPF between 0.7500 and 1.0000, or may take action according to 00150.25.

For a lot of Material with a CPF below 0.7500, the Engineer will take one or more of the following actions:

a. Remain in Place - Allow Materials to remain in place with an appropriate price reduction that may range from 25% to 100% (no payment);

b. Corrective Work - Require corrective work, at the Contractor's expense, with an appropriate price reduction that may range from zero (full payment) to 100% (no payment); or

c. Remove and Replace - Require complete removal and replacement with Specification Materials. No payment will be made for the rejected Materials, the cost of removal, or for the costs of sampling and testing.

00180.21(d) Terms of Subcontracts

(REPLACE) The paragraph that begins, “Subcontracts shall provide that work performed under...” with the following paragraph:

All Subcontracts shall provide that work performed under the subcontract shall be conducted and performed according to, and shall include, the pertinent requirements, provisions, terms, and conditions of the Contract, including but not limited to the requirements of Subsection 00170.72. Compliance with 00170.07 is required. All subcontracts, including Contractor's with the first tier Subcontractors and those of the first tier Subcontractors with their Subcontractors, and any other lower tier subcontracts shall contain a clause or condition that if the Contractor or a Subcontractor fails, neglects, or refuses to make payment to an Entity furnishing labor or Materials in connection with the Contract, the Entity may file a complaint with the Construction Contractors Board, unless payment is subject to a good-faith dispute as defined in ORS 279C.580. Additionally, according to the provisions of ORS 279C.580, subcontracts shall include:

00195.20 (b) Significant Changed Work

(DELETE) For purposes of this Section, “Significant” is defined as:

- a) An increase or decrease of more than 25 percent of the total cost of the Work calculated from the original proposal quantities and the unit contract prices; or,
- b) An increase or decrease of more than 25 percent in the quantity of any one major contract item.

For condition b) above, a major item is defined as any item that amounts to 10 percent or more of the original total contract price.

By: 
Jenifer Willer (Apr 13, 2020)

Jenifer M. Willer, P.E.
AIC City Engineer