



KING COUNTY

1200 King County Courthouse
516 Third Avenue
Seattle, WA 98104

Signature Report

December 12, 2017

Ordinance 18628

Proposed No. 2017-0429.2

Sponsors Kohl-Welles and Lambert

1 AN ORDINANCE providing for an implementation plan
 2 and reports related to implementation of recommendations
 3 of the West Point Treatment Plant Independent Assessment
 4 Final Report and the administrative order of the
 5 Washington state Department of Ecology, and requiring
 6 capital project oversight of the execution of the
 7 implementation plan.

8 STATEMENT OF FACTS:

- 9 1. In response to the February 9, 2017, system failure event at the West
 10 Point Treatment Plant, the council passed Motion 14826, commissioning
 11 an independent assessment of circumstances leading to the event, and
 12 identification of appropriate responses.
- 13 2. AECOM Technical Services, the selected consultant, delivered the
 14 West Point Treatment Plant Independent Assessment Final Report on July
 15 18, 2017.
- 16 3. The executive was consulted extensively in preparation of the report,
 17 and the development of recommendations. The executive has indicated
 18 support of the report's recommendations.
- 19 4. There were several concerns and recommendations that the report

20 emphasized, including:

21 a. The need for systems redundancy. Major West Point Treatment Plant
22 systems, such as influent and effluent pumping, sedimentation tanks,
23 contact channels, weir gates and other systems, operate with little or no
24 margin for error during major storms. If an operational unit of one of
25 these systems fails, the hydraulic processing capacity of the larger plant
26 can be significantly impacted, requiring that staff either attempt to quickly
27 restore the system or to initiate emergency bypass. The federal
28 Environmental Protection Agency encourages building in a safety margin
29 through system redundancy in wastewater treatment facilities. The report
30 recommends significantly strengthened redundancy throughout the plant;

31 b. Strengthened emergency response training. The report found
32 shortcomings in the training provided to staff, noting that current training
33 does not clearly define when emergency bypass is appropriate, and further
34 noting that current emergency response training does not anticipate the
35 kind of event that occurred on February 9, 2017. The report recommends
36 strengthened emergency response training; and

37 c. Management of complexity. The report notes that, as demands have
38 increased, the West Point Treatment Plant has grown to be a large,
39 complex treatment facility with numerous complex mechanical, chemical,
40 biological and electrical systems. In such systems, the report notes that
41 the impact of single plant elements on overall operability is not readily
42 apparent and that interdependency between systems and communications

43 between operating teams is critical. The report recommends a thorough,
44 systemic evaluation of the function, performance and safety of plant
45 systems, to improve vertical and horizontal communications regarding
46 plant risks, strengthen decision documentation and improve maintenance
47 levels. This recommendation is based on approaches used in the chemical
48 industry, and is referred to in the report as life safety management.

49 5. The recommendations are presented in two formats:

50 a. Summary recommendations:

51 (1) Implement a life safety management system;

52 (2) Conduct comprehensive emergency response training; and

53 (3) Conduct an integrated evaluation to address plant constraints and
54 improve redundancy.

55 (4) Optimize a capital improvement plan to maximize redundancy; and

56 b. System evaluation recommendations: potential failure mechanisms
57 and mitigation strategies:

58 (1) Plant hydraulics;

59 (2) Process and mechanical;

60 (3) Preliminary treatment;

61 (4) Raw sewage pump station;

62 (5) Preaeration and primary sedimentation tanks;

63 (6) Flow diversion structure;

64 (7) Effluent pump station;

65 (8) Electrical;

- 66 (9) Instrumentation and control;
- 67 (10) Operations;
- 68 (11) Staffing;
- 69 (12) Operator performance;
- 70 (13) Operator training;
- 71 (14) Equipment and systems testing procedures; and
- 72 (15) Maintenance procedures.

73 6. On September 12, 2017, the Washington state Department of Ecology
74 issued an administrative order, WDOE Administrative Order Docket No.
75 15325, requiring King County to comply with specified provisions of the
76 Revised Code of Washington, the Washington Administrative Code and
77 National Pollution Discharge Elimination System Permit No.
78 WA0029181. The order includes findings regarding the February 9, 2017,
79 system failure event.

80 7. The council's oversight and accountability function requires that, for
81 major system failure events such as the February 9 West Point Treatment
82 Plant event, a comprehensive monitoring and reporting process,
83 addressing progress in implementing corrective recommendations, be
84 instituted. Motion 14826 provides that the council, by subsequent council
85 action, is to provide for reporting on the implementation of the
86 recommendations of the independent assessment.

87 BE IT ORDAINED BY THE COUNCIL OF KING COUNTY:

88 SECTION 1. The executive shall develop an implementation plan addressing the

89 recommendations of the West Point Treatment Plant Independent Assessment Final
90 Report, including both the Summary Recommendations and the Mitigation Strategies
91 provided in the final report as well as the requirements of the administrative order against
92 King County wastewater treatment division issued on September 12, 2017, by the
93 Washington state Department of Ecology. The plan shall include a timeline for
94 accomplishment of the recommendations and the requirements of the administrative
95 order. If the executive believes that a given recommendation is impractical or
96 inappropriate, the plan shall so indicate and shall provide an explanation supporting the
97 executive's reasoning.

98 SECTION 2. The executive shall prepare and transmit quarterly reports
99 describing progress in implementing the West Point Treatment Plant Independent
100 Assessment Final Report Implementation Plan and the requirements of the administrative
101 order against King County wastewater treatment division issued on September 12, 2017,
102 by the Washington state Department of Ecology. The reports shall address both the
103 summary recommendations and the mitigation strategies of the independent assessment;
104 they shall also address the corrective action requirements of the Washington state
105 Department of Ecology administrative order. The executive shall prepare and transmit an
106 implementation plan by February 15, 2018, with quarterly reports transmitted no later
107 than forty-five days after the close of each fiscal quarter thereafter, through the date that
108 the implementation plan timeline required by section 1 of this ordinance indicates
109 completion of accomplishment of recommendations.

110 SECTION 3. The reports and plan required under sections 1 and 2 of this
111 ordinance, respectively, may be combined with the quarterly reports required by Motion

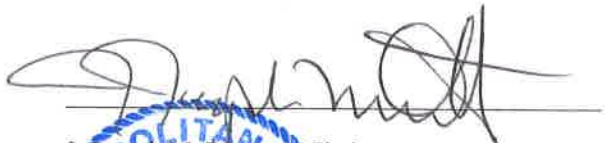
112 14813, through the end of the reporting period required by that motion. Following that
113 date, the quarterly reports shall separately continue through the end of the timeline for
114 accomplishment required by section 1 of this ordinance.

115 SECTION 4. The county auditor shall conduct oversight of the executive's
116 execution of the implementation plan required by section 1 of this ordinance, and prepare
117 a report describing the results of this oversight. The report shall be provided to the
118 council by March 1, 2019.

119 SECTION 5. The plan and reports required by section 1, section 2 and section 4
120 of this ordinance shall be transmitted in the form of a paper original and an electronic
121 copy to the clerk of the council, who shall retain the original and provide an electronic
122 copy to all councilmembers, the council chief of staff and the lead staff for the

123 transportation, economy and environment committee and regional water quality
124 committee, or their successors.
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KING COUNTY COUNCIL
KING COUNTY, WASHINGTON



J. Joseph McDermott, Chair

ATTEST:



Melani Pedroza, Clerk of the Council



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CLERK

APPROVED this 21st day of DECEMBER, 2017



Dow Constantine, County Executive

Attachments: None