- *Development of a Site-Specific Impact to Ground Water (IGW) Standard for Total Nickel in Layout Area 1* (CEC, 2013a); and
- D*evelopment of a Site-Specific Impact to Ground Water (IGW) Standard for Total Nickel in Layout Area 2 and Layout Area 3* (CEC, 2013b).

1.3 Remediation Standards

For this RA, pre- and post-excavation soil analytical results were compared to NJDEP SRS, pursuant to N.J.A.C. 7:26D. However, NJDEP did not develop specific SRSs for Cr, trivalent chromium (Cr^{+3}) or Cr^{+6} at the time N.J.A.C. 7:26D was promulgated. Therefore, Cr^{+6} concentrations are compared to the NJDEP CrSCC of 20 mg/kg for soil remediation compliance during this RA. There is currently no NJDEP SRS and no NJDEP Soil Cleanup Criteria (SCC) for total Cr. Therefore, total Cr results are compared to the interim NJDEP Residential SCC for Cr^{+3} of 120,000 mg/kg. There is no non-residential SCC for Cr^{+3}.

The SRS for CCPW-related metals for the Site are based on current NJDEP RDCSRS, with the exception of V, which has a NJDEP-approved ARS. In a letter dated December 12, 2011 (NJDEP, 2011b), NJDEP accepted the use of a 370 mg/kg ARS for V (**Appendix B**). IGWSRS for Ni were developed for each remedial area (CEC, 2013a and CEC, 2013b). The elevation of the groundwater was estimated as the 50th percentile of water gauging readings from 2016 and 2017 sampling events (using wells from the shallow aquifer and excluding the well in the basement of Building No. 2 which exhibited unusual readings compared to the remainder of the wells). The estimated groundwater elevation is 0.91 feet in the North American Vertical Datum 1988 (ft NAVD 88).

The concentrations of other metals found in association with CCPW are compared to the most stringent SRS, or site-specific value, as indicated below:

Table 1 Soil Remediation Standards for CCPW Metals

Contaminant	RDCSRS (mg/kg)	NRDCSRS (mg/kg)	DIGWSSL (mg/kg)	Site-Specific IGWSRS
Antimony (Sb)	31	450	6	NA
Nickel (Ni)	1,600	23,000	48	Layout Area 1: 411 Layout Area 2: 322 Layout Area 3: 565
Thallium (Tl)	NA	NA	3	NA
Vanadium (V)	370*	1,100	NA	NA

Notes:
CCPW – Chromate Chemical Production Waste
RDCSRS – Residential Direct Contact Soil Remediation Standard
NRDCSRS – Non-Residential Direct Contact Soil Remediation Standard
DIGWSSL – Default Impact to Ground Water Soil Screening Levels
IGWSRS – Impact to Ground Water Soil Remediation Standards
NA – Standard Not Available
*Site-specific Alternative Remediation Standard (ARS)