YAKIMA REGIONAL CLEAN AIR AGENCY

Order of Approval Permit No NSRP-12-IP-22

New Source Review (NSR) Order of Approval for International Paper for the Installation of a New SUN 625 Flexographic Rotary Die Cutter (Model 625; Serial no. 398576-1)

IN THE MATTER OF approving a project which establishes a new air contaminant source at the International Paper Facility in Yakima, WA. THIS ORDER OF APPROVAL IS HEREBY ISSUED TO:

Applicant/Permittee: International Paper
Corrugated Box Plant

Located at: 600 West Ahtanum Road
Union Gap, WA 98903

Contact: International Paper
Attn: Jose Ibarra
600 West Ahtanum Road.
Union Gap, WA 98903
(509) 453-4741

IN COMPLIANCE WITH THE PROVISIONS OF THE STATE OF WASHINGTON CLEAN AIR ACT (Revised Code of Washington (RCW)) CHAPTER 70A.15.2210, WASHINGTON ADMINISTRATIVE CODE (WAC) 173-400-110 and173-460-040:

ISSUE DATE: June 2nd, 2023

THIS ORDER OF APPROVAL PERMIT IS SUBJECT TO THE FOLLOWING CONDITIONS:

Construction/Installation of the equipment must be conducted in compliance with all data and specifications submitted with the application under which this Order of Approval is issued unless otherwise specified herein. The conditions and limitations of this NSR Order of Approval are attached as follows:

1.0 Description of the Source

1.1 International Paper hereafter referred to as the Permittee, IP, the Facility or the source is the owner and operator of a corrugated box manufacturing plant, located at 600 West Ahtanum Rd., Union Gap WA. The Permittee installed a SUN 625 Flexographic Rotary Die Cutter (ID #2436), and removed an existing Martin flexographic printing press and an existing Ward flexographic Rotary Die Cutter (RDC); ID #'s 5106 and 2430 respectively, as the replacement unit without going through the permitting process. The removed units had usable parts salvaged off them and were then recycled for their metal. Thus, this Order is After the Fact.

1.2 Large rolls of brown paper are delivered to the Facility where they are combined with corn starch and caustic soda in a corrugator that creates large cardboard panels that will be used to make boxes with the customers personalized ink logos. The Google Earth view of the Facility site is shown in Figure 1. The floor plan before the SUN 625 installation is shown in Figure 2. Figure 3 shows the layout after the installation with respective maximum flows for each unit that emits to the cyclone on the roof. The trim from the new RDC portion of the SUN625 goes through a California Blower Pipe (CBP) #45 that emits to an 18 inch duct that connects to the existing cyclone on the roof while the emissions from the flexographic portion of the SUN625 goes through Twin Handling Cyclones, with an after filter connected to each cyclone that is manually serviced and emits to the interior of the Facility and to a CBP #25 blower that connects to the bottom of the Twin Cyclones that collects the PM fines and sends them to a connection right before the CBP #45 blower that is connected to an 18 inch duct that emits to the existing cyclone on the roof. Figure 4 shows a schematic of the SUN625 with the 18 inch duct that runs to the existing cyclone and baghouse are located on the roof of the building. Figures 5 through 9 are pictures of the ancillary twin cyclone and filter assemblies for each, blower fans and ducting. The trims and shredded pieces from the roof cyclone drop into a baler for baling. The bales are eventually transported to a pulp mill located in Western Washington.

1.3 The new unit and ancillary equipment will be operated in accordance with the New Source Review (NSR) application submitted to the Yakima Regional Clean Air Agency (YRCAA) and the manufacturer specifications and Operations and Maintenance (O&M) Manual for the unit. Specifications for the unit and ancillary blowers, cyclones, and filters are listed in Table 1. The Permittee submitted the specifications for the new unit with the application which shall be part of this Order of Approval (Order, Permit).

1.4 The City of Union Gap exempted this project from the State Environmental Policy Act (SEPA) review process as signed by the Building Official on March 4, 2020. A public notice for this NSR was published in accordance with the Washington Clean Air Act (RCW) 70A.15.2210 and section 173-400-171 of the Washington Administrative Code.

1.5 Installation of this new equipment is considered a source of air contaminants requiring a NSR permit pursuant to the RCW 70A.15.2210 and the WAC 173-400-110 and 173-460-040.

1.6 Air emissions from this flexographic unit are in form of small particulates (PM_{10} and $PM_{2.5}$), Volatile Organic Compounds (VOCs) some of which are Toxic Air Pollutants (TAPs) and/or Hazardous Air Pollutants (HAPs) in accordance with the Washington Administrative Code (WAC) 173-460-150 and 160 or the Federal Clean Air Act (FCAA), respectively.

1.7 The Facility has three current Orders/Permits: NC-05-94 for a 600 Horsepower (Hp) boiler. Synthetic Minor-Regulatory Order number SM. 97-001 to Synthetic Minor. NSRP-09-IP-14 for a flexographic printer – Ward model #11500 (line #5144), NSRP-10-IP16 for determination of an Air Conveying Corporation baghouse – model #7920RJAF (located at the facility's roof with a cyclone), and NSRP-20-IP-16 for four(4) gas fired heaters – Hartzell – model #A78V-446-P-STFCJ5.

2.0 Determinations

In relation to the above installation, YRCAA determines that the source shall comply with the federal and state laws and regulations including but not limited to the following determination:

2.1 This source is located in an area that is in attainment with all criteria pollutants and is under limited maintenance plan for PM_{10};

2.2 The source is subject to the New Source Review Requirements of WAC 173-400-110 and WAC 173-460-040;

2.3 The Facility is subject to WAC 173-400-099 – Registration Program and YRCAA Regulation 1; and

2.4 This Facility is a synthetic minor source and as such is not subject to 40 CFR Part 63-National Emission Standards for Hazardous Air Pollutants- Subpart KK- National Emission Standard for the Printing and Publishing Industry unless the source becomes a Title V source as defined in the Federal Clean Air Act (FCAA).

THEREFORE, it is hereby ordered that the project as described above, in the NSR application, and in detailed plans, specifications and other information submitted in reference thereto, is **APPROVED** for operation, **PROVIDED** the specification submitted with the application and the following conditions are met:

3.0 Operating Approval Conditions

3.1 This Order is for the installation of a SUN 625 Flexographic Rotary Die Cutter unit along with its ancillary equipment located at 600 West Ahtanum Rd., Union Gap WA.

3.2 This Facility is a Synthetic Minor Source with regulatory order number 97-001 issued in 1997. The conditions and limitations of this Order shall become part of a Title V Air Operating Permit (AOP) in the event that the Permittee becomes a Title V source. In addition other issued Orders/Permits are applicable and valid.

3.3 The usage for this Order of Approval is based on the Facility's actual annual usage for all of the Facilities equipment operating at 6,000 hours per year; the allowable ink usage and other products used at the Facility are based on an allowable number of hours of operation for the Facility and shall not exceed 7,488 hours per year.

3.4 This Order authorizes the installation of the following equipment:

Table 1: Authorized installation equipment list

Unit No.	Unit Type	Manufacturer and Model Number	Capacity
1	Flexographic Rotary Die Cutter (ID #2436)	Sun Automation Group Model #: SUN625 Serial #: 398576-1 *(66" x 125")*	27 Tons/hr corrugated boxes
2	Twin Handling Cyclones	California Blower Pipe (CBP) Model CBP96TC48	24,000 CFM each
3	After Filter Frame (2x)	CBP Model # AF2472	24 Filters per unit / 24,000 CFM each
4	Reusable Metal Panel Filter	McMaster-Carr Model 2150K67	2"x24"x24"/Merv 4 / 24,000 CFM
5	Dust Return Blower	Model CBP#25	1,800CFM / 15 hp
6	Upblast Scrap Blower	Model CBP#45	9,700 CFM / 40 hp

3.5 Best Available Control Technology (BACT) or Toxic BACT (T-BACT) shall be satisfied for any proposed new facility or modified air emission source to control air emissions. YRCAA finds BACT and T-BACT to be satisfied as follows:

3.5.1 An O&M plan for the SUN 625 Flexographic Rotary Die Cutter unit shall be developed as specified in this Order and based on the manufacturers recommended standards;

3.5.2 The equipment must be operated as per manufacturer specifications and certification;

3.5.3 TAPs air emissions shall always be below the Acceptable Source Impact Levels (ASIL);

3.5.4 The ink usage is limited to meet ASIL of WAC 173-460 as specified in this Order. Figure 5 shows the volume source area and distance to the nearest property boundary used for dispersion modeling;

3.5.5 Air emissions from the Flexographic portion of the SUN 625 unit shall pass through the Twin Handling Cyclones and respective filters (when and if vented inside the facility, shown in Figures 5 to 9);

3.5.6 The PM fines are collected at the bottom of the Twin Handling Cyclone's shall pass through the CBP #25 blower and then through the CBP #45 blower that emits to the existing cyclone on the roof;

3.5.7 The RDC portion of the SUN 625 shall duct directly to the CBP #45 that emits directly to the existing cyclone on the roof;

3.5.8 The Twin Handling Cyclones and respective filter shall always be in operation while the SUN 625 is running; and

3.5.9 The existing cyclone and baghouse on the roof shall always be in operation when any portion of the Facility that is connect to them is in operation; all other equipment airflow shall pass through/discharge into the existing cyclone and baghouse located at the roof top of the building.

3.6 The ink and additives usages should be recorded and tallied every month and submitted to YRCAA annually including the actual monthly usage.

3.7 The total air emissions must be calculated and submitted to YRCAA on an annual basis.

3.8 The Permittee must develop a site-specific O&M plan for the SUN 625 Flexographic Rotary Die Cutter unit and its ancillary equipment. If an O&M is not developed yet, a plan must be completed within 60 days of the issuance of this Order and shall include, but not be limited to the following:

3.8.1 Monthly, the Permittee shall inspect the cyclones and filters to determine if they are operating properly. If the unit is not functioning within acceptable parameters, the Permittee shall stop operation and take corrective action as specified in the Facility's O&M Plan;

3.8.2 Any maintenance or change-out operations must be logged;

3.8.3 Any log shall be designed by the Permittee and shall contain at least the date, operator name and specific action taken;

3.8.4 The Safety Data Sheets (SDS) for inks, additives and all other chemicals used must be kept on site and available for inspection.

3.9 The O&M plan and all records including this Order must be maintained at the Facility's site or accessible place when requested by the YRCAA staff during inspections or upon request when deemed necessary in accordance with the rules and regulations.

3.10 The Sun 625 Flexographic Rotary Die Cutter unit must be maintained and operated as per manufacturer specifications'. It shall be the responsibility of the Permittee to check and make sure that the unit is maintained and operated as per manufacturer specifications'.

4.0 General Approval Conditions

4.1 The SUN 625 flexographic rotary die cutter, control equipment and other emission sources in the Facility must comply with all applicable Federal, State, and Local laws and regulations, including, but not limited to, RCW 70A.15 (Washington Clean Air Act), WAC 173-400 (General Regulations for Air Pollution Sources), WAC 173-460 (Controls for New Sources of Toxic Air Pollutants) and YRCAA Regulation 1.

4.2 All plans, specifications, other information and any further authorizations or approvals or denials in relation to this project, shall be incorporated herein and made a part of YRCAA file.

4.3 Except as specified in this Order, any new or additional construction, modifications or alterations not covered in this review process which will affect air emissions are subject to a NSR permitting process before it takes place as required by RCW 70A.15.2210, WAC 173-400-110 and WAC 173-460-040.

4.4 The YRCAA staff shall be allowed to inspect the Facility site at reasonable times to inspect equipment and/or records specific to the control, recovery, or release of contaminants into the atmosphere, in accordance with RCW 70A.15.2500 and YRCAA Regulation 1.

4.5 Nothing in this approval shall be construed as preventing compliance with any requirement(s) of law including those imposed pursuant to the federal and state Clean Air Acts, and rules and regulations thereunder. Any violation(s) of such rules and regulations are subject to enforcement and penalty action in accordance with RCW 70A.15.3150 and YRCAA Regulation 1, Article 5.

4.6 This Order number NSRP-12-IP-22 may be modified, suspended or revoked in whole or part for cause including, but not limited to, the following:

4.6.1 Violation of any terms or conditions of this authorization; or

4.6.2 If this authorization has been obtained by misrepresentation or failure to disclose fully all relevant facts.

4.7 The provisions of this authorization are severable and, if any provision or application of any provision of this authorization to any circumstance is held invalid, the application of such provision to their circumstances, and the remainder of this authorization, shall not be affected thereby.

4.8 There must be no fallout or any fugitive emissions from this unit and other emission point in this Facility beyond the property boundary in a quantity that interferes unreasonably with the use and enjoyment of the property owner upon which the material is deposited, or is detrimental to the health, safety or welfare of any person, or causes damage to any property or business.

4.9 Deviations from these conditions are violations subject to penalties in accordance with 70A.15.3150 and 3160, WAC 173-400-230 and YRCAA Regulation 1, Article 5, Section 5.02.

4.10 Applicable laws and regulations may be superseded or revised without notice. It is the Permittee's responsibility to stay current with rules and regulations governing their business and therefore is expected to comply with all new rules and regulations immediately upon their effective date. Rules and regulation updates may be incorporated into existing permits or upon renewal or modification of said permits.

4.11 All air emissions from this Operation shall be in compliance with air emission standards at all times. It is the responsibility of the owner to make sure that air emissions are within all rules and regulations.

4.12 The requirements of this Order apply to the Facility owner and/or operator(s) and any contractor or subcontractor performing any activity authorized under this Order. Any person(s), including contractor(s) and subcontractor(s), not in compliance with this applicable Permit requirements are in violation of State and Local laws and subject to appropriate civil and criminal penalties. The Facility owner and/or operator, and all contractor(s) or subcontractor(s) are liable for the actions and violations of their employee(s). Any violation committed by a contractor or subcontractor shall be considered a violation by the Facility owner and/or operator, and is also a violation by the contractor and/or any subcontractor(s).

5.0 Emission Limits

5.1 The Permittee shall not exceed the allowable emission limits and shall not exceed a maximum of 7,488 hours per year as shown in Attachment A.

5.2 The Permittee shall also comply with all applicable general standards for maximum air emissions as specified in WAC 173-400-040 and WAC 173-460.

5.3 No visible emission, meaning zero opacity, shall be allowed from the SUN 625 unit, the Twin Handling Cyclones and respective filters or any building opening. If visible emissions are observed, the Permittee shall immediately stop the operation creating the emission and take corrective action as directed in the O&M plan until no more visible emissions are observed within 24 hours. Corrective actions shall include the following:

5.3.1 Take corrective action, which may include shutting down the unit or activity until it can be repaired, and until there are no visible emissions (or until the unit or activity is in compliance with all applicable opacity limitations in this Order using the reference test method); or

5.3.2 Alternatively, conduct opacity reading using 40CFR Part 60, Appendix A, Method 9 (point source) or Method 22 (fugitive source), as applicable within 24 hours. All observations using the opacity reference test method must be kept on-site and made available to YRCAA staff during inspection or upon request. If opacity is greater than 0%, unit must be shut down and checked. Unit shall not operate until the opacity is less than or equal than the allowable limit.

6.0 Monitoring, Recordkeeping and Reporting Requirements

6.1 The Permittee shall keep all records including this Order on site. Records shall include, at minimum, the monthly ink and additive usages, the number of operating hours and the O&M items performed. Forms for record keeping must be designed by the Permittee and shall include at minimum, the date and time of maintenance performed and the operator's name.

6.2 The required records, logs and a copy of the O&M plan for this Facility shall be kept on site and shall always be readily available, organized and accessible when requested by YRCAA personnel or during an inspection. The O&M plan shall be updated to reflect any changes in operating procedures and YRCAA shall be notified in writing of any changes and such changes shall be routinely implemented.

6.3 Records shall be maintained and kept at the site for any rolling three year period from the of current date, and be made available to the Air Pollution Control Officer (APCO) of the YRCAA or his designated staff during inspections or upon request.

6.4 Any application form, report, or compliance certification, monthly record and the annual consumption report submitted to YRCAA pursuant to this Order must be signed by a responsible official.

6.5 Hours of operation, total emissions for HAPs, TAPs and VOCs must be calculated and reported to YRCAA on an annual basis as specified in any Order and the annual registration provided by YRCAA to the Facility.

6.6 This Order and its conditions shall remain in effect in the event of any change in control or ownership of the Facility. In the event of any such change in control or ownership of the subject Facility, the Permittee shall notify the succeeding owner of this Order and conditions and shall notify the YRCAA of the change in control or ownership by filing an "Ownership or Name Change" form within fifteen (15) days of that change. The form can be obtained via our website or requested from YRCAA's office.

6.7 This Order is invalid without paying the complete appropriate/required fees to YRCAA, pursuant to RCW 70A.15.2210.

You may appeal this Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process and applicable requirements is governed by Chapter 43.21B RCW. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do all of the following within 30 days of the date of receipt of this Order:

- File your appeal and a copy of this Order with the PCHB, P.O. Box 40903, Olympia, WA, 98504-0903. Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Order to YRCAA in paper form - by mail or in person. E-mail is not accepted.

DATED at City of Yakima, Washington this 2nd day of June, 2023.

PREPARED BY:

Wade Porter
Engineer Specialist
Yakima Regional Clean Air Agency

REVIEWED & ISSUED BY:

Hasan M. Tahat, Ph.D.
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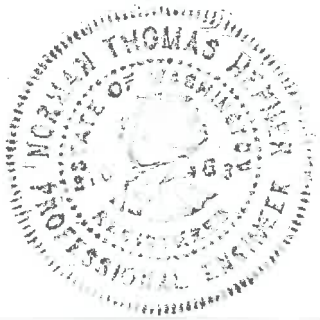
Yakima Regional Clean Air Agency
for
Marc Thornsbury
Air Pollution Control Officer
Yakima Regional Clean Air Agency

REVIEWED BY:

Norman Hepner, P.E.,
Nth Degree Engineering Solutions



Attachment A
NSRP-12-IP-22
International Paper
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SUN625 using Facility Wide Annual Maximum Material Usage from 2021 and 2022 registration.

Actual Hours of Operation 6000 hrs/yr
Allowable Hours of Operation 7488 hrs/yr

PM Emissions from cardboard trim

Particulates	Emission Factor	
PM10	3.6	lb/hr
PM2.5	0.4	lb/hr

From NSR app; NCASI PM E.F. for Mill A (including cyclone and baghouse)
(Mill A was the worst case emission results tested)

Allowable PM_{10} from Trim Emissions 26,956.8 lb/yr

Allowable $PM_{2.5}$ from Trim Emissions 2,995.2 lb/yr

PM Emission from Corregator (Corn Starch and Caustic Soda)

Silo Baghouse Efficiency 99.95% for $PM_{2.5}$
99.99% for PM_5

Actual Max (from 2021 & 2022 Registration)

Actual Quantity Corn Starch Used	2,544,165	lb/yr
Actual Quantity Caustic Soda Used	180,645	lb/yr
Allowable Quantity Corn Starch Used	3,175,118	lb/yr
Allowable Quantity Caustic Soda Used	225,445	lb/yr

Allowable $PM_{2.5}$ from Starch & Soda Emissions 1,700.3 lb/yr

VOC Emissions from Ink, Adhesives and Additives; Actual Max (from 2021 & 2022 Registration) **- VOC content from NSR app**

	Inks (from Registration)				Additives (from NSR Application)				Adhesives (from Registration)			
	Ink Used (lb/yr)	Ink VOC Content (%)	VOC's emitted (lb/yr)	VOC's emitted (ton/yr)	Additives Used (lb/yr)	Additives VOC Content (%)	VOC's emitted (lb/yr)	VOC's emitted (ton/yr)	Adhesives Used (lb/yr)	Adhesives VOC Content (%)	VOC's emitted (lb/yr)	VOC's emitted (ton/yr)
Actual	248,243	0.33	819	0.41	9,100	1.46	132.9	0.07	47,369	0.01	4.7	0.0024
Allowable (mid VOC content)	309,807	0.33	1,022	0.51	11,357	1.46	165.809	0.08	59,117	0.01	5.9	0.0030

Inks, Additives, and Adhesives from Current NSR application: 'Printing and Graphic Arts Registration' and max usage from past Registrations

Allowable Total VOC's Emitted: 0.6 tpy

Allowable Total $PM_{2.5}$ Emitted: 2.3 tpy

Allowable Total PM_{10} Emitted: 13.5 tpy

TAP Emissions from Inks Inks TAP Name	CAS-No.	Actual Usage (lb/yr)	Actual Emissions (lb/yr)	Allowable Usage (lb/yr)	Allowable Emissions (lb/yr)	Average Period	Allowable Emissions (lb/Ave P)	SQER (lb/Ave P)	Allowable Emissions Exceed SQER	Allowable Conc. (g/sec)	ASIL ($\mu g/m^3$)	Scaled Model Conc. ($\mu g/m^3$)	Scaled Model Conc. Exceeds ASIL
1,2-propanediol	57-55-6	1.07E+05	6.80E+00	133,536	8.4864	24 hr	0.0272	2.1	NO				
2-methoxyaniline; o-anisidine	90-04-0	4.37E+03	6.68E-02	5,454	0.08337	year	0.083366	4.1	NO				
3,3'-dichlorobenzidine	91-94-1	5.64E+04	3.09E-02	70,387	0.03856	year	0.038563	0.48	NO				
acrylic acid	79-10-7	1.03E+05	8.25	128,196	10.3	24 hr	0.032993	0.074	NO				
Hydrogen Cyanide	74-90-8	3.43E+03	25.45	4,276	31.8	24 hr	0.101818	0.059	YES	0.00053	0.8	0.2730	NO
mercury	7439-97-6	8.86E+03	0.00257	11,062	0.00321	24 hr	1.03E-05	0.0022	NO				
polychlorobiphenyls; PCB	1336-36-3	9.66E+04	3.60E-02	120,557	0.04493	year	0.044928	0.28	NO				
silicon dioxide, amorphous	7631-86-9	1.36E+05	1.87E+00	169,728	2.33376	24 hr	0.00748	0.22	NO				
sodium hydroxide, conc=25/50 %, aqueous solution	1310-73-2	1.03E+05	3.07E+00	128,544	3.83136	1 hr	0.000512	0.015	NO				
ethylene oxide	75-21-8	6.14E+04	1.14E-04	76,627	0.00014	year	0.000142	3.30E-02	NO				
hexachlorobenzene	118-74-1	1.42E+04	4.58E-03	17,722	0.00572	year	0.005716	0.35	NO				
o-toluidine	95-53-4	5.49E+04	2.98E-02	68,515	0.03719	year	0.03719	3.2	NO				
styrene oxide	96-09-3	1.47E+05	5.58E-01	183,456	0.69638	year	0.696384	3.5	NO				

from excel file "TAP Data -1.20.23", 'TAP Actual -2' worksheet **totals.**
Provided by the permittee. (annual usage 2022)

57.6 (lb/yr) Allowable TAP Emission

AERSCREEN Modeling Results (Volume Source) for 1 g/s at 157 Ft (47.9 m) from PL		
concentration (1 hour)	851.2	ug/m3
(24-hr)	510.7	ug/m3
(Annual)	85.12	ug/m3

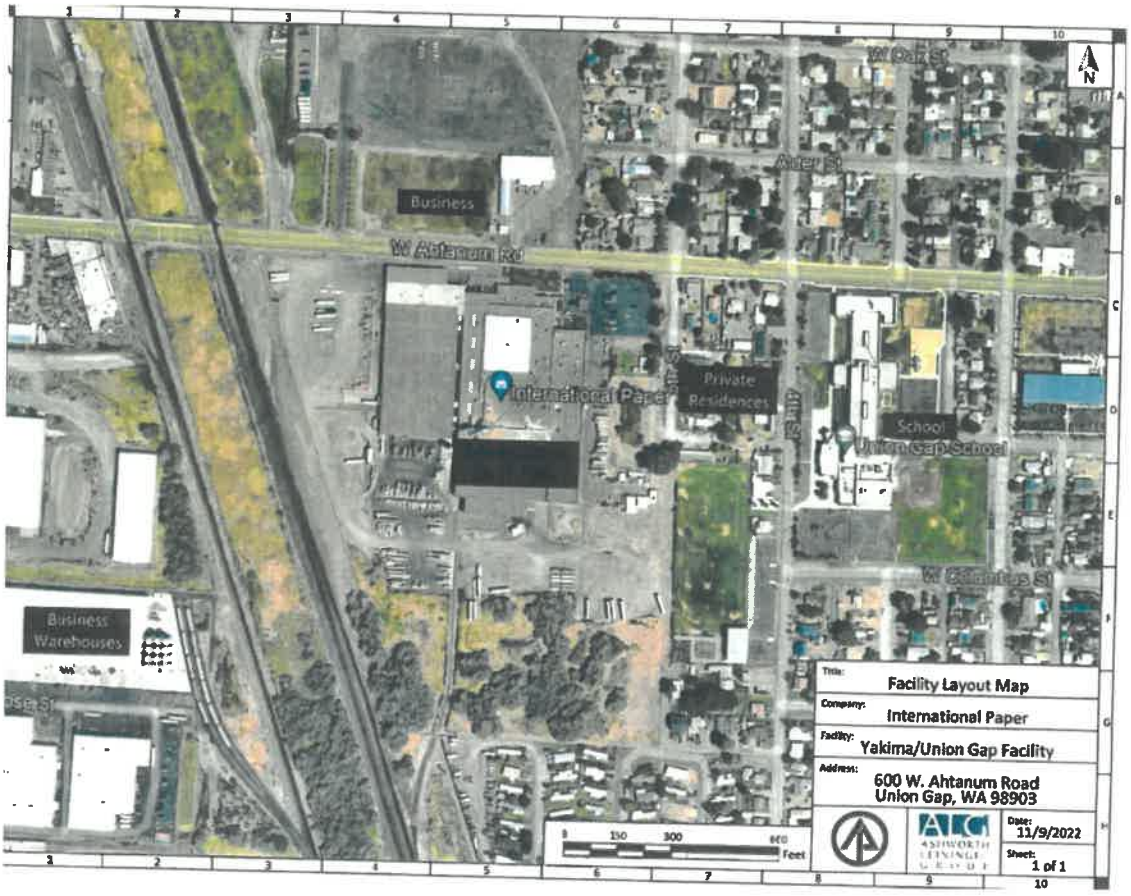

Figure 1: Site location as provided by the Permittee.

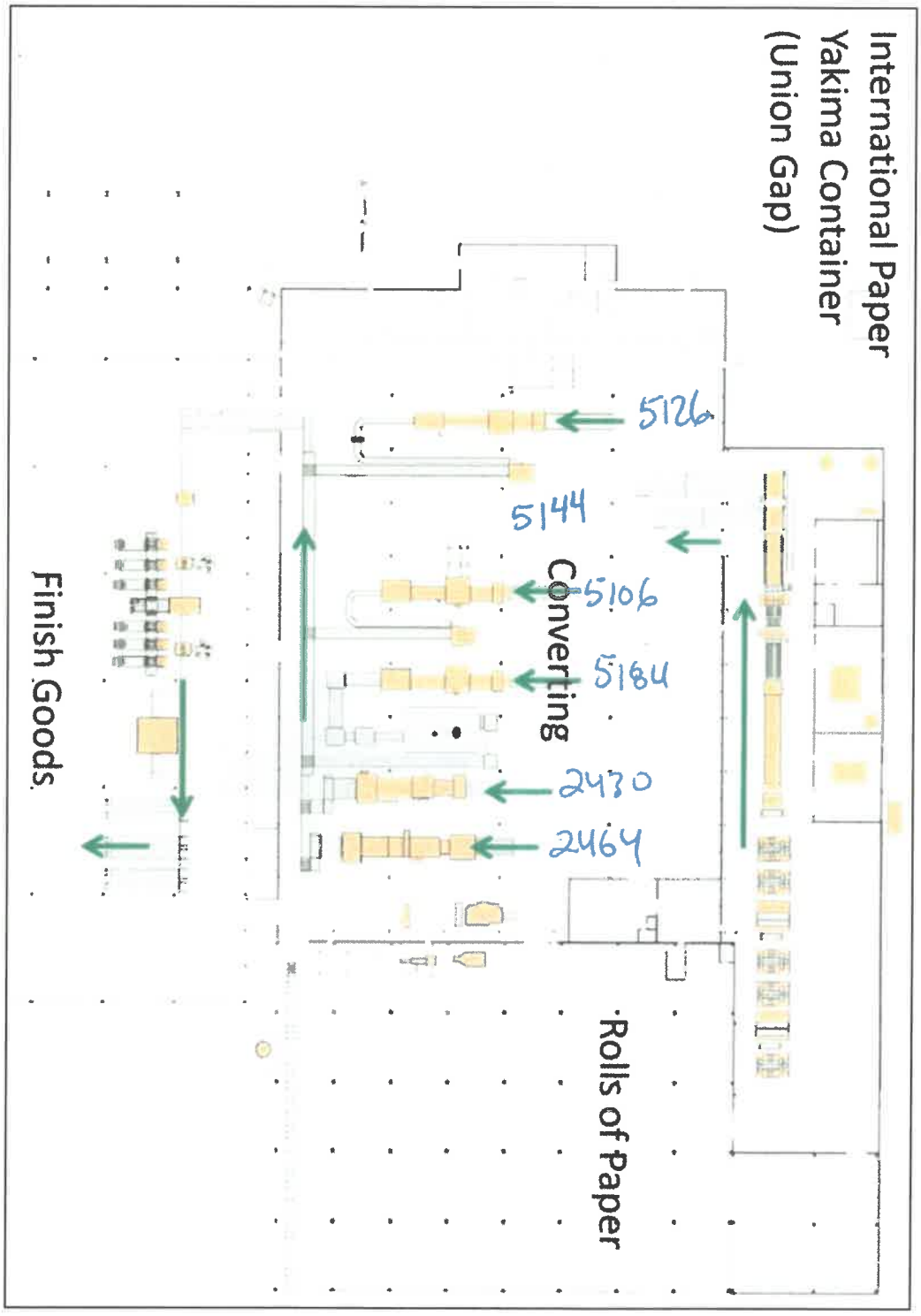

Figure 2: Floor Plan, before installation of the SUN625, including the numbering of the rotary die cutters (2464, 2430); Flexo units (5184, 5106, 5144, and 5126). Units 5106 and 2430 will be removed and Unit 5184 relocated to make room for the new Sun 625 unit (#2436).

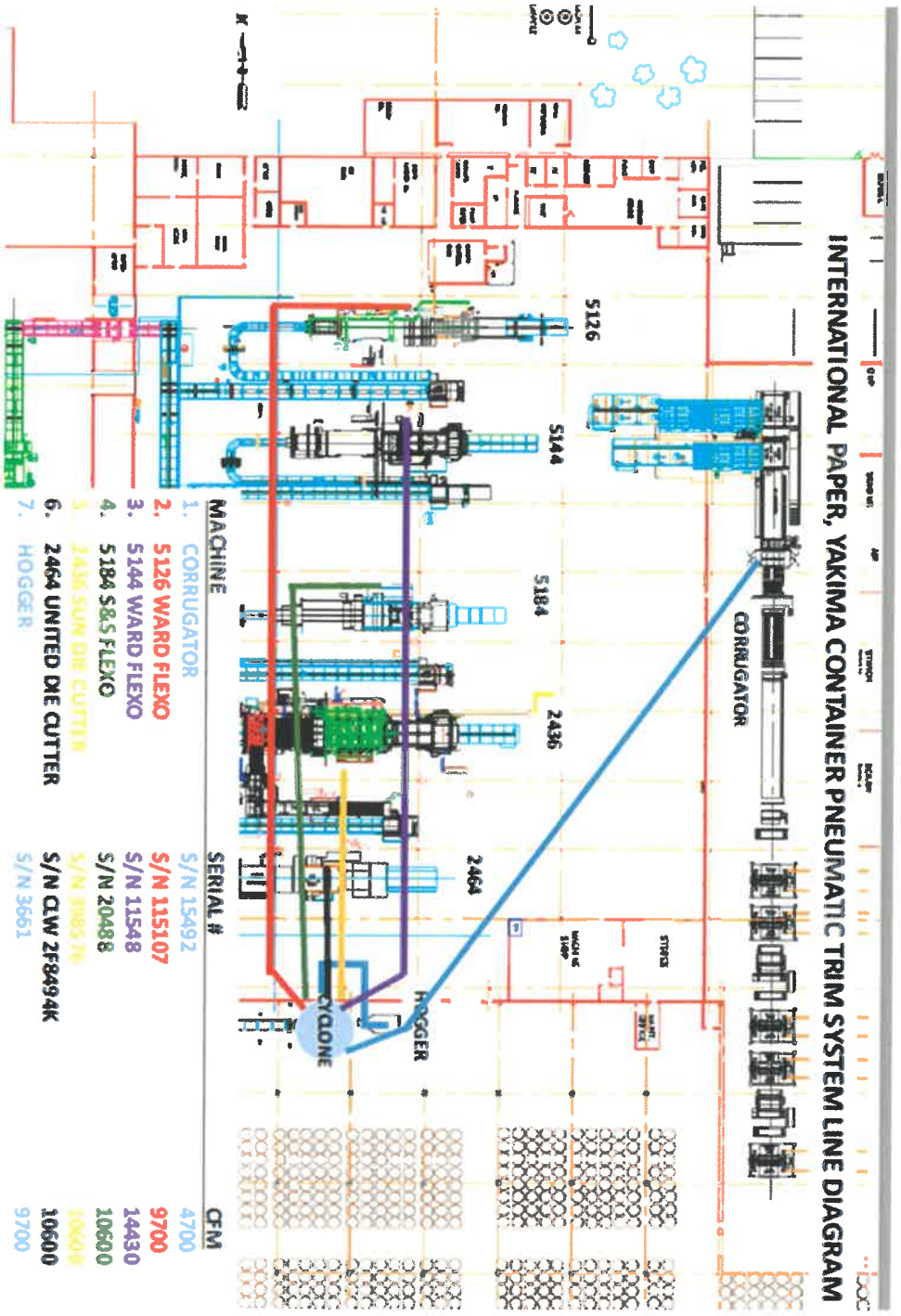

Figure 3: New Floor Plan showing current equipment locations and their respective Flows. The Sun 625 unit is (#2436).

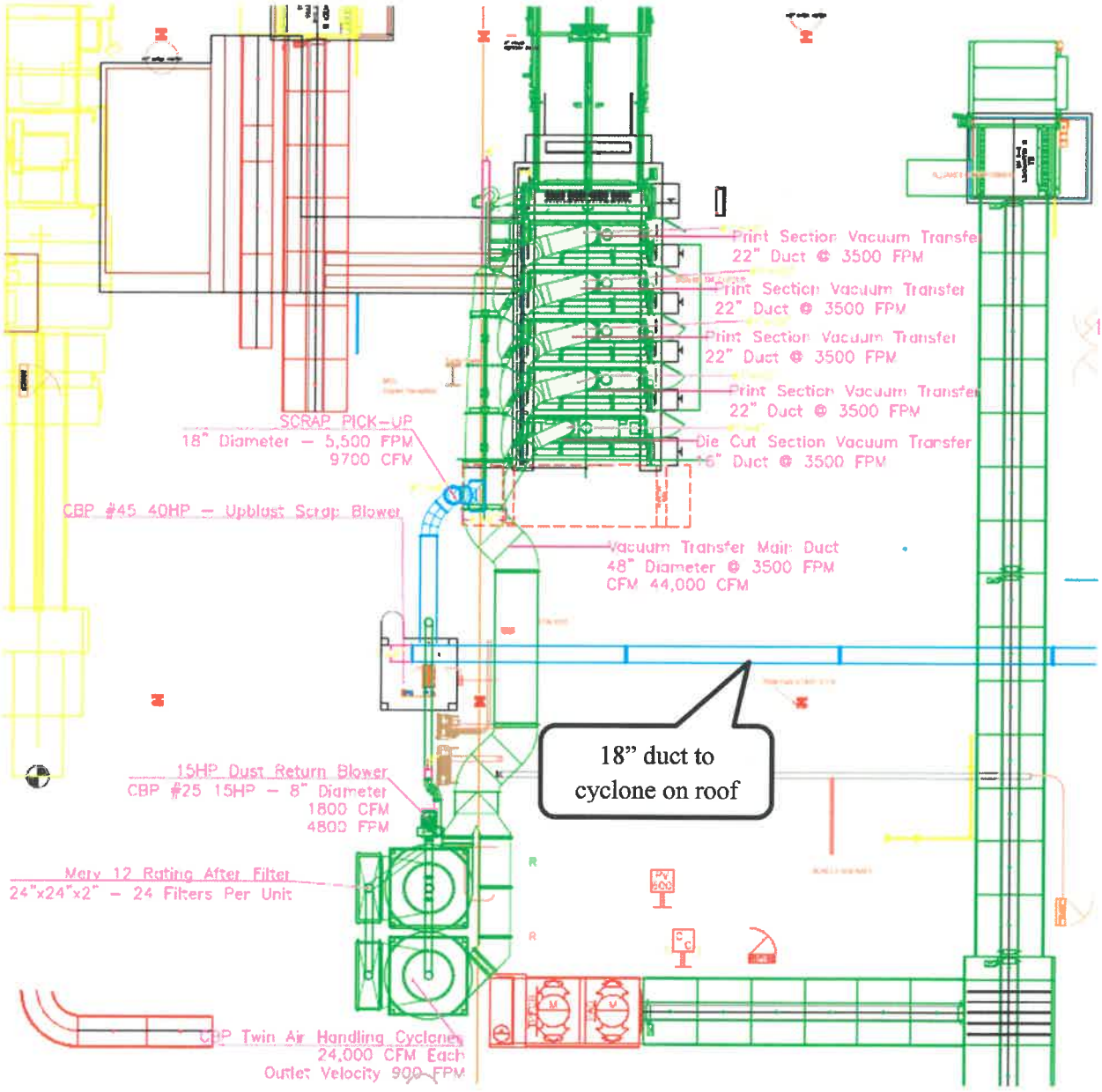

Figure 4: Schematic of Sun 625 Flexographic Rotary Die Cutter showing flows; 9,700 cfm to the cyclone on roof – blue 18 inch duct with flow running to the west side of building.

Figure 5: Flexographic portion of emissions to the Twin Handling Cyclones and after filters

Figure 6: Cyclone fines to connection with the CBP #45 blower that connects to the 18 inch duct that emits to the cyclone on the roof. Cyclone after filters shown just to the right of Twin Cyclones

Figure 7: Connection of RDC scraps and fines from the Twin Handling Cyclones that connects to the CBP #45 blower

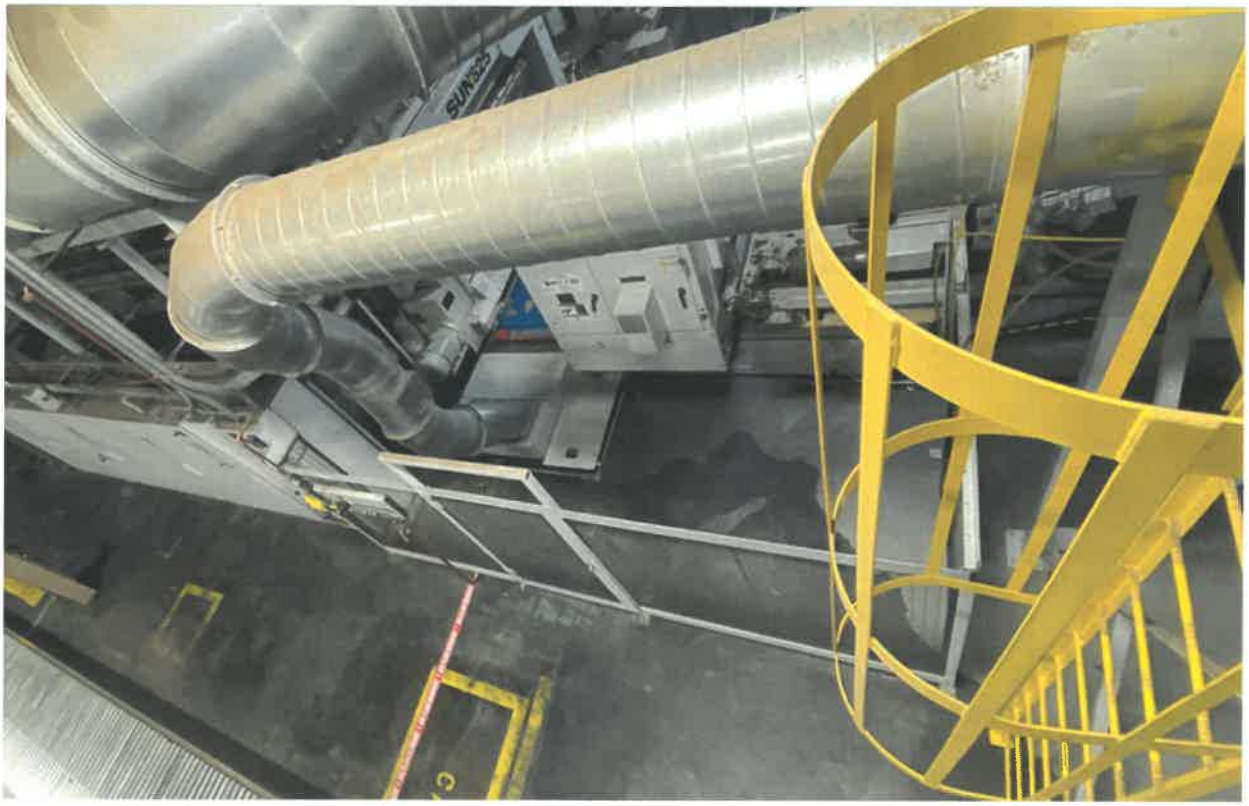

Figure 8: RDC scrap ducting exhaust to CBP #45

Figure 8: RDC scrap ducting connection with Twin Handling Cyclones fines exhaust to CBP #45 then to cyclone on the roof

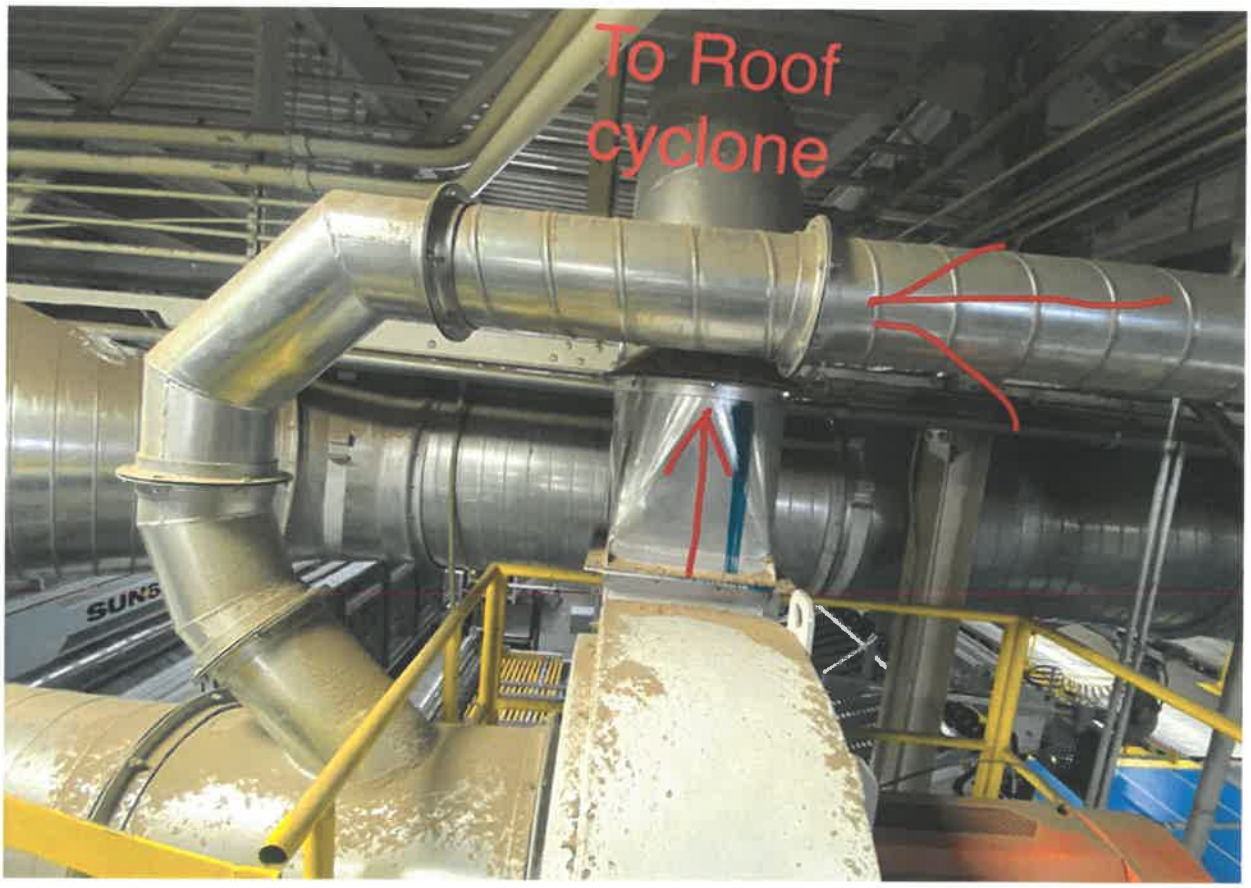

Figure 9: RDC scrap ducting connection with Twin Handling Cyclones fines exhaust to CBP #45 then to existing cyclone on the roof

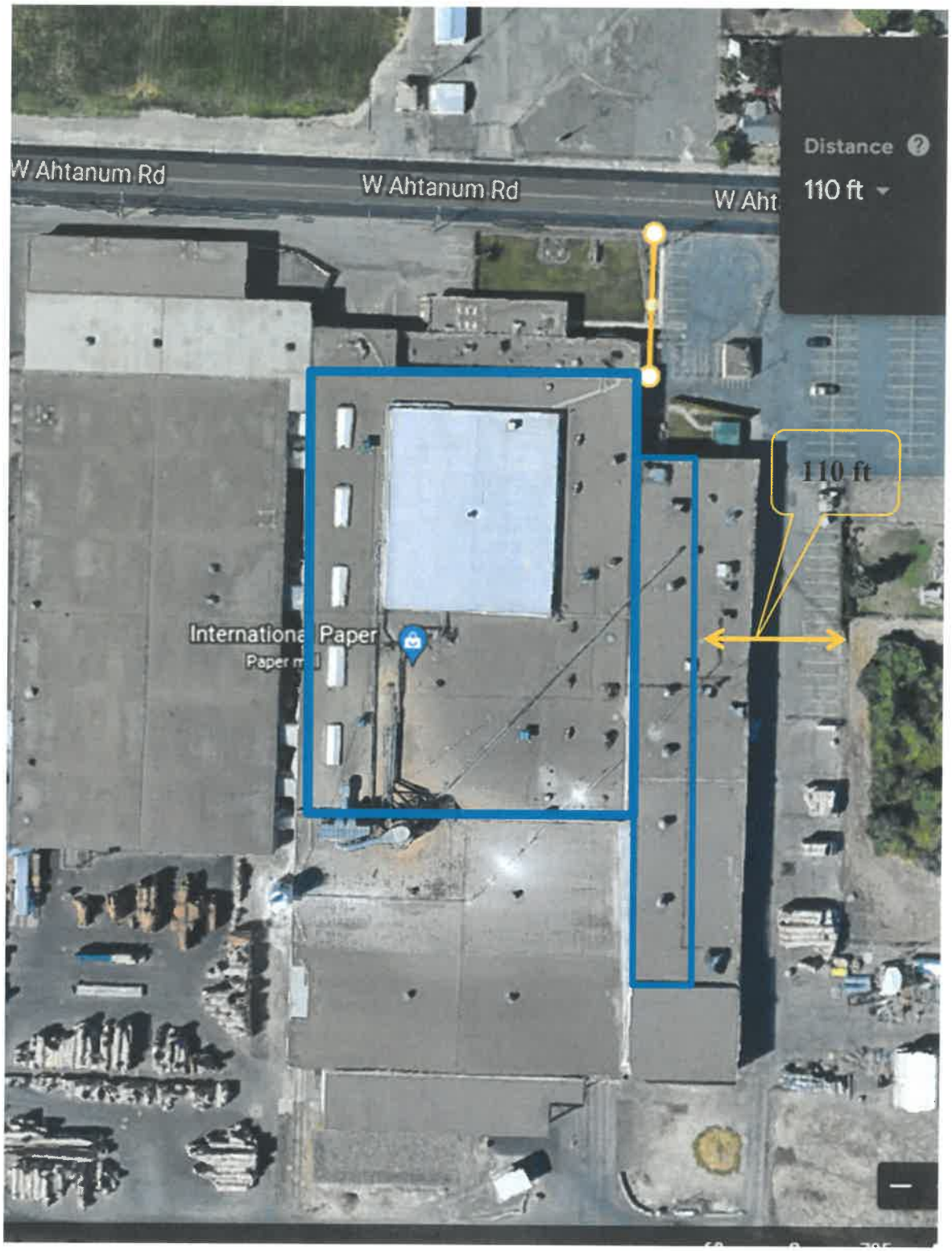

Figure 10: Showing distance from Volume Source (250' x 340' x 30') plus (50' x 430' x 30') outlined in dark blue to nearest property boundary; 110 ft.