

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF ILLINOIS

UNITED STATES OF AMERICA,

and

THE STATE OF ILLINOIS,

Plaintiffs,

v.

CITY OF CAHOKIA HEIGHTS, ILLINOIS,

Defendant.

CONSENT DECREE

APPENDIX A – ATTACHMENT 1

CITY OF CAHOKIA HEIGHTS, IL
SANITARY SEWER SYSTEM
TARGETED DRY-WEATHER SSO CORRECTIVE ACTION PLAN
(revised June 2024)

PREPARED FOR REVIEW AND APPROVAL BY:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 5
ENFORCEMENT AND COMPLIANCE ASSURANCE DIVISION

AS REQUIRED UNDER:

ADMINISTRATIVE ORDER ON CONSENT

UNDER SECTION 309(a) OF THE CLEAN WATER ACT, 33 U.S.C. § 1319(a)

DATED AUGUST 16, 2021

PREPARED BY



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May 2022 – *(revised June 2024)*

EXECUTIVE SUMMARY

The City of Cahokia Heights, newly formed from consolidation of the former communities of Alorton, Centreville and Cahokia, plus the Commonfields of Cahokia Public Water District, is located in the southwestern portion of St. Clair County, IL, and in the region known as the American Bottoms. The Bottoms are a floodplain of the Mississippi River, between the current east riverbank and the line of limestone bluffs more or less parallel to Illinois Rt. 157, being part of the ancient riverbed, protected from surface water flooding by riverfront levees and interior levees and drainage canals, but subject to frequent groundwater flooding from seasonal precipitation and river level surcharges, as well as surface water inundation from local ditches overwhelmed by stormwater runoff.

This plan, designed to describe steps to be taken to counteract and prevent sanitary sewer overflows (SSO's) during dry weather, will detail the problem areas, probable causes of the SSO's, characteristics of the sewer system in these targeted areas, corrective actions proposed, and an estimate of costs and timeline for completion of the actions. **Revisions made to the original plan, approved by EPA on 6-21-22, are shown in this narrative in bold, underlined italics. New or updated Schedules, Cost Estimates, and Construction Plans are included in the Appendices.**

These descriptions and information are grouped together into a section on each of the three targeted areas.

- North 82nd Street
- Pocket Road and Missouri Ave (Pump Station #5)
- Lauralee Drive (Pump Station #22)

BACKGROUND AND HISTORY

The City of Cahokia Heights was formed through a series of elections, consolidations, and dissolutions from the former communities of Centreville, Alorton, and Cahokia, along with the sewer and water systems owned and operated by the Commonfields of Cahokia Public Water District, in early 2021. Prior to that time, these former municipal entities had tried for decades, unsuccessfully, to keep up with operation and maintenance needs, combatting frequent flooding disasters, causing millions of dollars of damages to infrastructure, along with a dwindling tax base and limited annual funds to keep operating. With the consolidation of the former communities into Cahokia Heights, and the combined new population of over 20,000 residents, an increased tax base, economies of scale, increased eligibility for state and federal funds, and similar benefits, the City is better positioned to seek funds as well as operate and maintain systems, once the needed repairs and upgrades are addressed.

The City now owns and operates a sanitary sewer collection system consisting of dozens of miles of gravity sewer, pump stations, and force mains, all designed to convey sewage from residents and businesses in the City to a large pump station, which then pumps the discharge to the regional WWTP, known as the American Bottoms Regional Wastewater Treatment Plant, in adjacent Sauget, Illinois. The number of pump stations is significant (69 total), and could be considered a contributing factor to the difficulty of operations and maintenance (O&M) of the system. These pump stations, many at least 50 years old, are so numerous and necessary because of the very flat topography in the Bottoms region. This floodplain of the Mississippi River is protected from surface water inundation by riverfront and interior levees and interior drainage ditches and canals, but is at times overwhelmed by the volume of surface water draining into the area from outside (above the adjacent bluffs), and is also susceptible to periodic and seasonal groundwater flooding from rising river levels, which saturate the floodplain from underneath, and raise groundwater levels accordingly. This surface water runoff inundation and the rise and fall of these groundwater levels plays havoc with the sewer infrastructure, frequently causing infiltration, inflow, subsidence, blockage of flow, sewer line failure, and backups and overflows.

The findings and compliance orders issued by the USEPA as part of the Administrative Order on Consent on August 16, 2021, resulted from several inspections of the area and sewer systems owned and operated by the City's predecessors from early 2021, prior to the incorporation of the new City. The City entered into the Consent Order with EPA, which, among other stipulations, requires investigative and action plans to address sanitary sewer overflows (SSO's) and other system deficiencies, to ensure compliance with the Clean Water Act.

The consent order focuses on three main locations of concern

- North 82nd Street
- Pocket Road and Missouri Avenue (Illinois Rt 15)
- Lauralee Drive

These three locations, and the plan to address dry weather SSO's at each, will be described and discussed herein.

COLLECTION/CONVEYANCE SYSTEM AND PUMP STATION EVALUATION & ASSESSMENT

N. 82nd Street

This area consists of an 8" gravity flow sewer line in the middle of 82nd St., coupled with two pump stations, one located at the northeast corner of 82nd St and Belleview Ave., and one located at on Bluff Ave. between 82nd St and 81 St. Sewer maps showing these areas were submitted with the Dry Weather SSO Investigation Plan, and are also included as attachments to this plan. A portion of the gravity line in 82nd Street – approximately 370 feet from Bluff Street south, immediately adjacent and downstream of the yard cleanout cited in the consent order -- was excavated and repaired in July 2021. Work included replacement of the entire reach of sewer from manhole to manhole, CCTV of this repair, backfill, and surface restoration. This work repaired the blockage causing backups in this area, and were directly related to the SSO's coming from the broken yard cleanout. Plans of this completed work were included with the SSO Investigation Plan recently completed. **Work on the two pump stations at 82nd St. was fully complete at the end of October 2023, and the pump stations have been operating normally ever since.**

In addition to the pending pump station construction described above, corrective action for this area will also include lining of certain sewer lines in the vicinity and tributary to the pump stations on 82nd St., as dictated by smoke testing that was performed during the SSO investigation. It is likely that some of these locations are contributing to the surcharge issues via inflow of stormwater during heavy rains.

Some additional smoke testing, and flow monitoring may be performed to confirm the limits of lining prior to construction, as some tributary sewer reaches were inaccessible during the Investigation Plan due to surcharging. See the attached sewer plans of the area for more information.

Lastly, the entire Ping Pong neighborhood, which is tributary to the City of East St. Louis sewer system, is planned to be part of a new sewer interceptor system along the north edge of the neighborhood, including new manholes, pump stations, and force mains to direct sewer flows southward into the Cahokia Heights main trunkline, which is being cleaned, televised, and slip-lined under separate projects. It is believed that this interceptor will eliminate one of the causes of surcharges, backups, and SSOs, being the East St. Louis downstream receiving sewers which are combined (storm and sanitary) in places, and frequently surcharged, which prevents flow from entering the system from Cahokia Heights.

Investigation of Interim Alternatives to the SSO in the 200 block of N. 82nd St.

The investigation of alternatives to the SSO location in the 200 block of N. 82nd Street will include a combination of the following activities:

- **Analysis of existing sewer plans and records**
- **Field surveys of sewers for elevation data confirmation**
- **Evaluation of area topography using USGS, USACE, Heartlands Conservancy, and other available ground surface information**
- **Investigation of relocation of the SSO to alternate locations**
- **Investigation of temporary storage and/or transport equipment, cost, and feasibility**

Following the gathering and assembly of available information, an analysis of the alternatives to the 200 block of N. 82nd St. location will be conducted utilizing the following criteria, known in Project Management as TELOS:

T - Technical — Is the project technically possible?

E - Economic — Can the project be afforded? Is it cost-prohibitive?

L - Legal — Is the project legal? Are there regulatory consequences to consider?

O - Operational — How will the current operations support the change?

S - Scheduling — Can the project be done in the required time?

After considering the above for the various alternatives, each will be given a ranking, and the choice with the best overall ranking will be proposed to EPA.

Schedule - (see attached bar schedule – *amended and revised to include the above alternatives investigation*)

Cost Estimate – (see attached estimate)

Pump Station #5 (Pocket Road and Missouri Ave.)

This area consists of a shared 6” service line from two small motels – the DeLux Inn and the Relax Inn, feeding into the small duplex submersible pump station, and a 2 ½ inch force main running flow out to Pocket Road, and then north to a discharge into a manhole in Pocket Road near the intersection with 40th Street. Plans of existing conditions were submitted with the SSO Investigation Plan.

Replacement of the pump station in this area was completed during May-June 2023, and the station was restored to normal, compliant operation at that time.

Schedule - (see attached bar schedule)

Cost Estimate – (see attached estimate)

Pump Station #22 (Lauralee Drive)

This area consists of two pump stations and associated gravity tributary sewers between Lauralee Drive and Renois Blvd.

Some preliminary engineering, to evaluate options and compile preliminary cost estimates, has been done. The preliminary plan is to replace the two existing pump stations on Lauralee with one new pump station in the same vicinity, and one new pump station on Renois Blvd., and direct it south to an existing gravity line in Renois Blvd. that runs south into the main trunkline at IL Rt. 157. This will replace and eliminate an existing gravity sewer line between Renois and Lauralee through a low-lying slough which has been subjecting the line and downstream pump stations on Lauralee with infiltration, inflow and solids accumulation. Plan sheets of existing sewer locations were submitted with the SSO Investigation Plan. Detailed plans for construction of the improvements were developed as preliminary for review in 2015, and also included repairs to breaks on Calvin Blvd. and Lakewood Place, which have since been repaired. These plans are attached. **Finalization of these plans and subsequent construction will be part of Phase 2 of the IEPA Wastewater Grant, scheduled to be done during the latter part of 2024 and 2025. See attached revised schedule.**

In addition to the pending pump station and other associated construction described above, corrective action for this area will also include lining of certain sewer lines in the vicinity and tributary to the pump stations on Lauralee Drive, and Renois Blvd., as dictated by smoke testing and flow monitoring that was performed during the SSO investigation. It is likely that some of these locations are contributing to the surcharge issues via inflow of stormwater during heavy rains. Some additional smoke testing, and flow monitoring may be performed to confirm the limits of lining prior to construction, as some tributary sewer reaches were inaccessible during the Investigation Plan due to surcharging. See attached sewer plans for these areas.

Schedule - (see attached bar schedule)

Cost Estimate – (see attached estimate)

FINANCING

Repairs planned or further indicated by investigation under this plan to address past SSO's in the three target areas, or contributing conditions in tributary areas, will be financed through a combination of local funds, county intergovernmental grants, and anticipated state grant funds, as discussed above. **Currently, the city has received a grant from the IEPA for approximately \$10 million to be applied towards sewer work. This grant was finalized and moneys received in late spring of 2023, and repair projects are under way. In addition, money from other state and federal sources has been appropriated to be applied towards sewer work, and other infrastructure needs. Funds have been approved through US Senate earmarks and FY 23 budgeting, through the US Army Corps of Engineers annual budget requests, and through appropriations by the state of Illinois. The total amount committed to date for sewer work is approximately \$30 million, with another \$10 million requested and pending from future earmarks and appropriations.**

Financing of ongoing operation and maintenance programs, including system analytics and planning tools such as acoustic inspection, smoke testing, etc., will be financed through the City's operating budget for the Water and Sewer Department. The City currently receives approximately \$460,000 per month in user fees. The City already has resources and third party assistance to engage in smoke testing, and has made efforts at purchasing smoke testing equipment and acoustic inspection equipment for use in house.

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SANITARY SEWER SYSTEM
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DATED AUGUST 16, 2021

ATTACHMENTS

- Schedules *(revised June 2024)*
- Cost Estimates
- Construction Plans
- SSO Area Sewer Plans



PROJECT Dry Weather SSO Corrective Action Plan
CLIENT Cahokia Heights (as per AOC w/ USEPA)
LOCATION as shown
PROJ. NO. TBD

DATE 05/12/22
 TAS/JWN
revised Jun-24

OPINION OF PROBABLE CONSTRUCTION COST

Description/Scope of Work

North 82nd Street Area

Mobilization
 Traffic Control & Protection
 Clearing
 Dewatering
 Care-of-Flow
 Remove Existing Pumps, Panel, & Appurtenances
 Clean Existing Wetwell
 Install New Valve Vault
 Install New Pumps, Panel, & Appurtenances
 Install New Force Main and Valves
 Trench Backfill
 Clean & Televiser Existing Sewer
 Install CIPP Liner as Required
 Concrete Curb & Gutter
 Concrete Driveway
 HMA Pavement
 Concrete Sidewalk
 Fencing
 Seed & Mulch

LUMP SUM OPINION OF PROBABLE CONSTRUCTION COST	\$ 350,000.00
CONTINGENCY (10%)	\$35,000.00
ENGINEERING (15%)	\$57,750.00
TOTAL OPINION OF PROBABLE CONSTRUCTION COST	\$ 442,750.00
<u>TOTAL COSTS AS CONSTRUCTED</u>	<u>\$ 377,742.00</u>



PROJECT Dry Weather SSO Corrective Action Plan
CLIENT Cahokia Heights (as per AOC w/ USEPA)
LOCATION as shown
PROJ. NO. TBD

DATE 05/12/22
TAS/JWN
revised *Jun-24*

OPINION OF PROBABLE CONSTRUCTION COST

Description/Scope of Work

Pocket Rd and Missouri Ave.

- Mobilization
- Traffic Control & Protection
- Clearing
- Dewatering
- Care-of-Flow
- Remove Existing Pumps, Panel, & Appurtenances
- Clean Existing Wetwell
- Install New Valve Vault
- Install New Pumps, Panel, & Appurtenances
- Install New Force Main and Valves
- Trench Backfill
- Clean & Televiser Existing Sewer
- Install CIPP Liner as Required
- Concrete Curb & Gutter
- Concrete Driveway
- HMA Pavement
- Concrete Sidewalk
- Fencing
- Seed & Mulch

LUMP SUM OPINION OF PROBABLE CONSTRUCTION COST	\$ 85,000.00
CONTINGENCY (10%)	\$8,500.00
ENGINEERING (15%)	\$14,025.00
TOTAL OPINION OF PROBABLE CONSTRUCTION COST	\$ 107,525.00
<i>TOTAL COSTS AS CONSTRUCTED</i>	<i>\$ 103,000.00</i>



PROJECT	Dry Weather SSO Corrective Action Plan
CLIENT	Cahokia Heights (as per AOC w/ USEPA)
LOCATION	as shown
PROJ. NO.	TBD

DATE	05/12/22
	TAS/JWN
revised	Jun-24

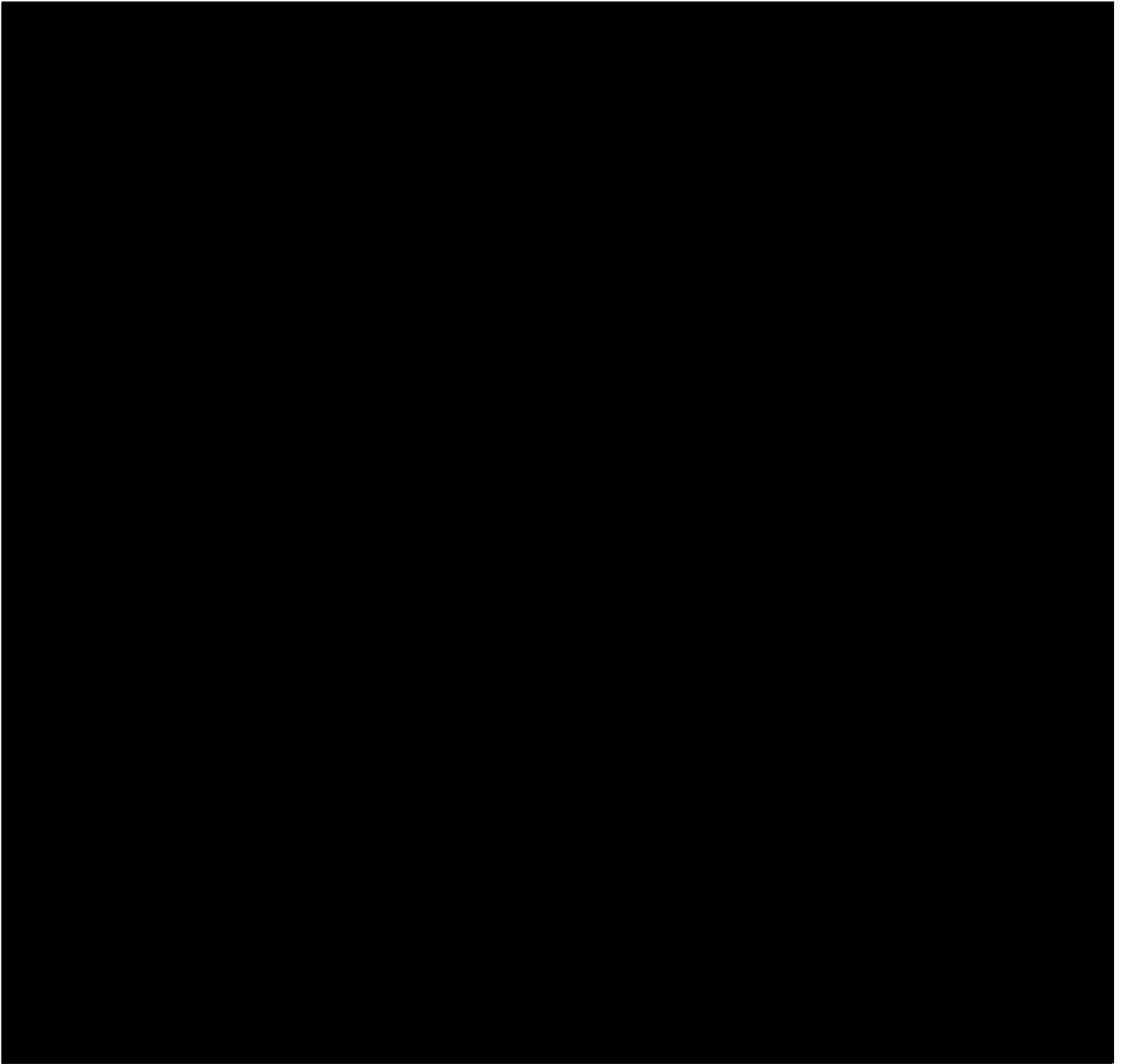
OPINION OF PROBABLE CONSTRUCTION COST

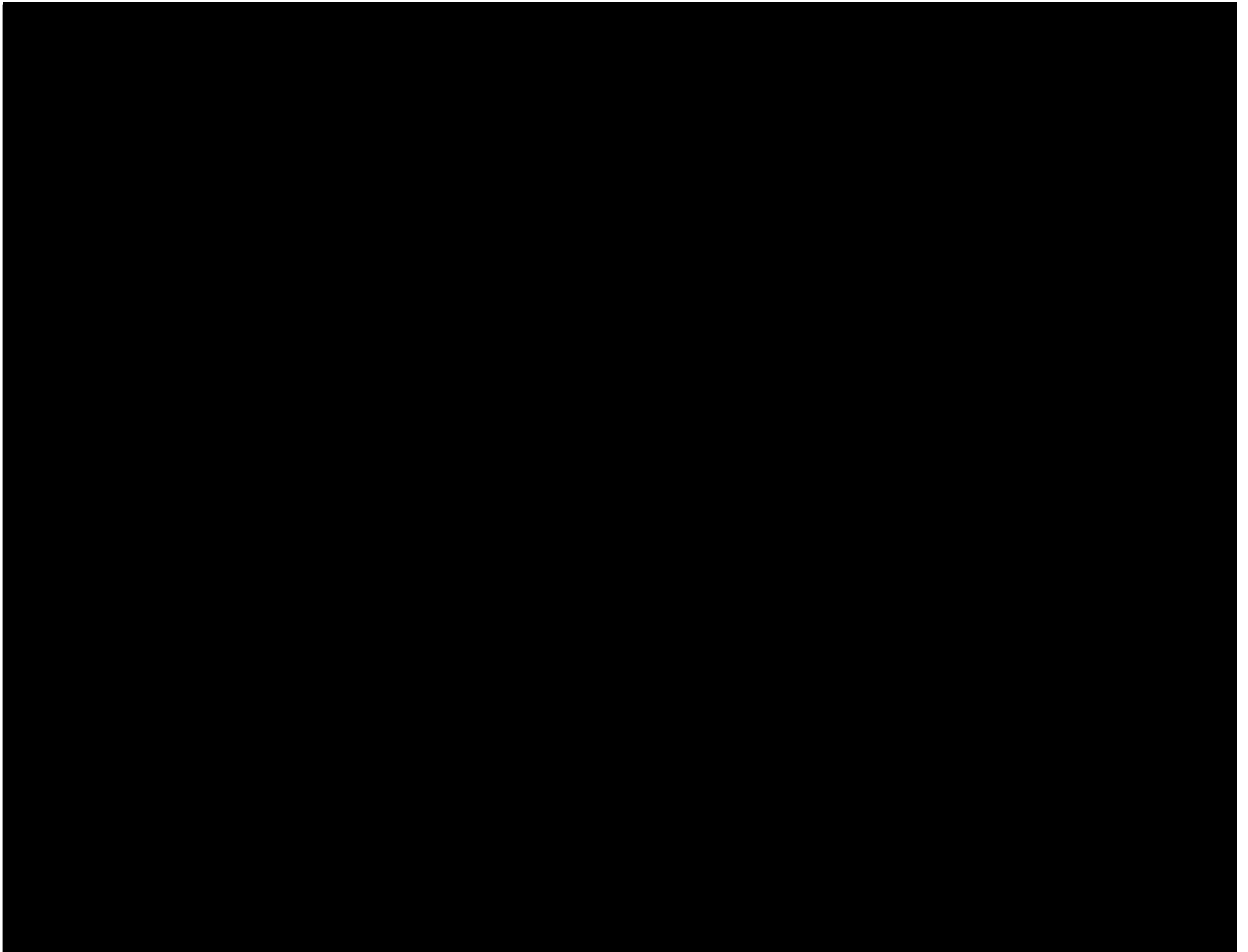
Description/Scope of Work

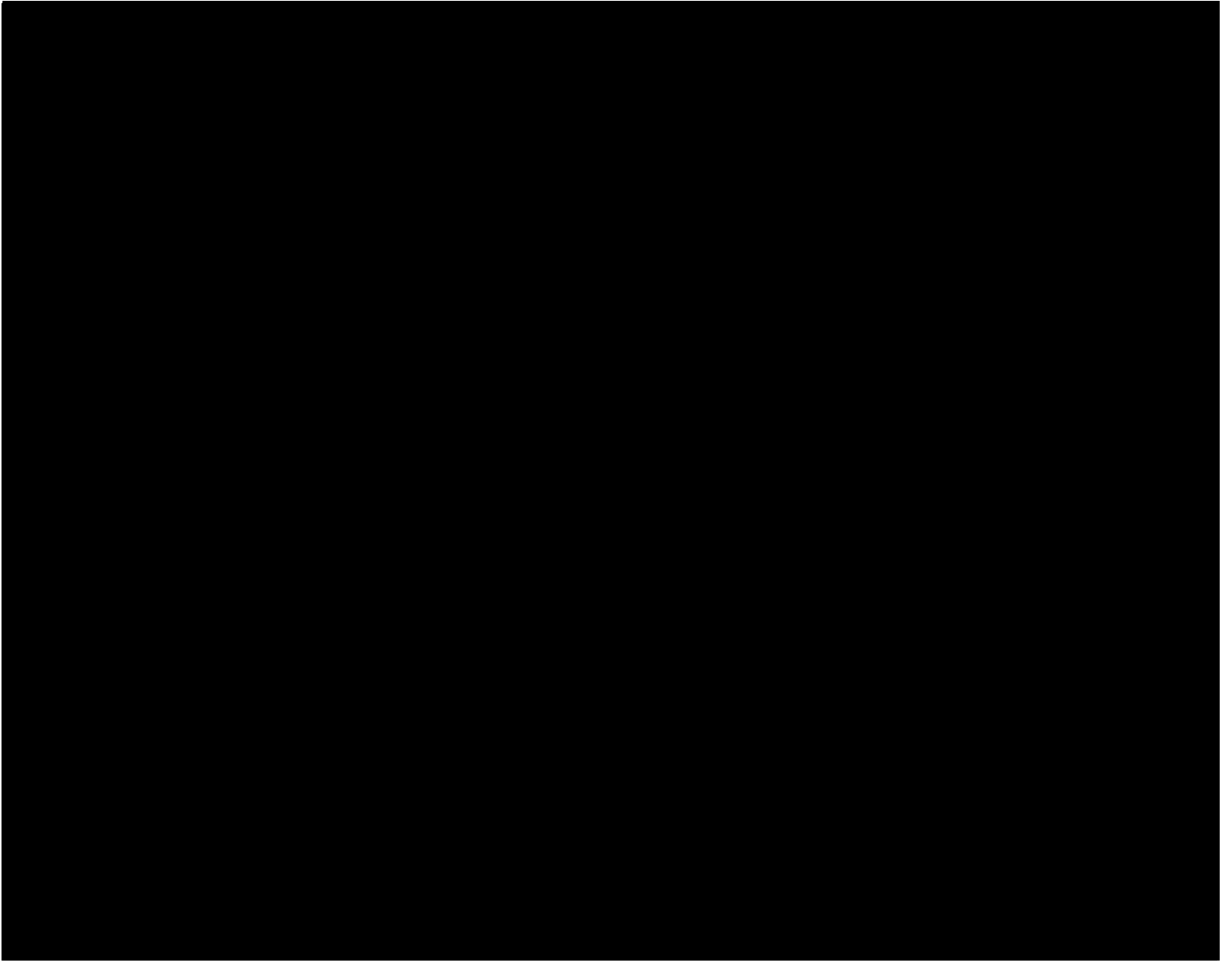
Lauralee Dr. and Violet Dr. (and Renois Lane)

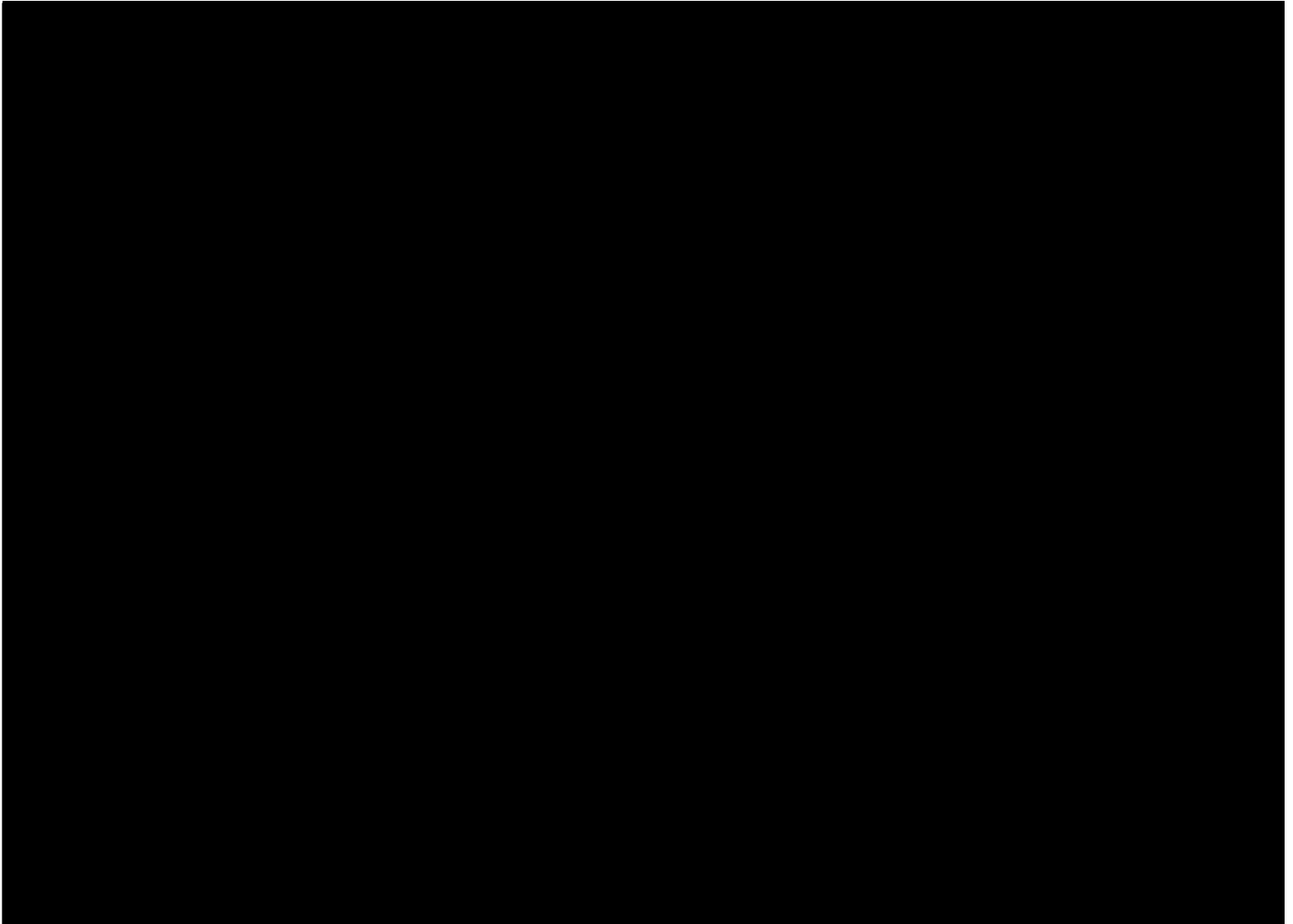
- Mobilization
- Traffic Control & Protection
- Clearing
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- Remove Existing Pumps, Panel, & Appurtenances
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- Clean Existing Wetwell
- Install New Wetwell
- Install New Valve Vaults
- Install New Pumps, Panels, & Appurtenances
- Install New Force Mains and Valves
- Construct New Gravity Sewer Line
- Trench Backfill
- Clean & Televiser Existing Sewer
- Install CIPP Liner as Required
- Concrete Curb & Gutter
- Concrete Driveway
- HMA Pavement
- Concrete Sidewalk
- Fencing
- Seed & Mulch

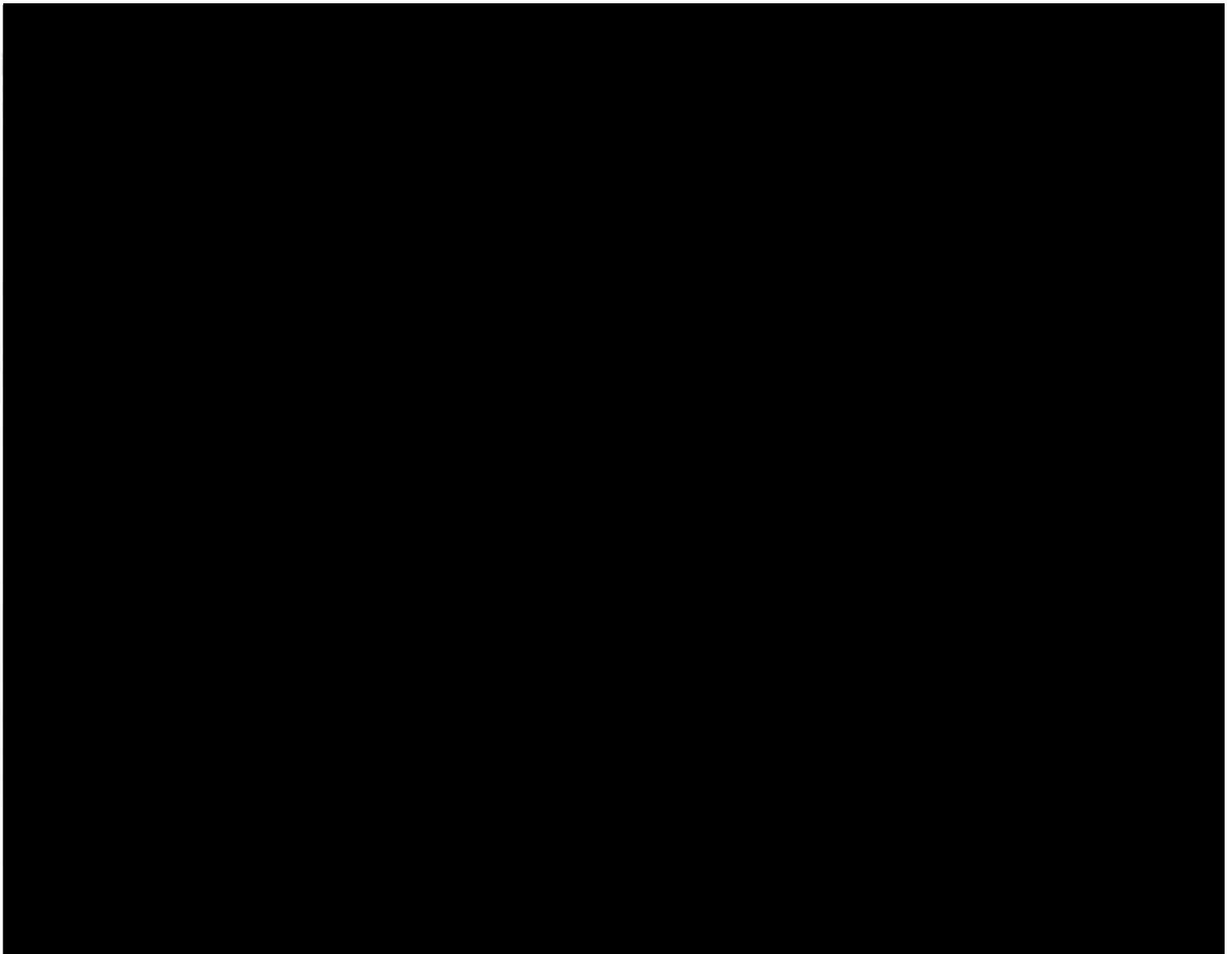
LUMP SUM OPINION OF PROBABLE CONSTRUCTION COST	\$ 1,100,000.00
CONTINGENCY (10%)	\$110,000.00
ENGINEERING (15%)	\$181,500.00
<u>TOTAL OPINION OF PROBABLE CONSTRUCTION COST</u>	<u>\$ 1,391,500.00</u>

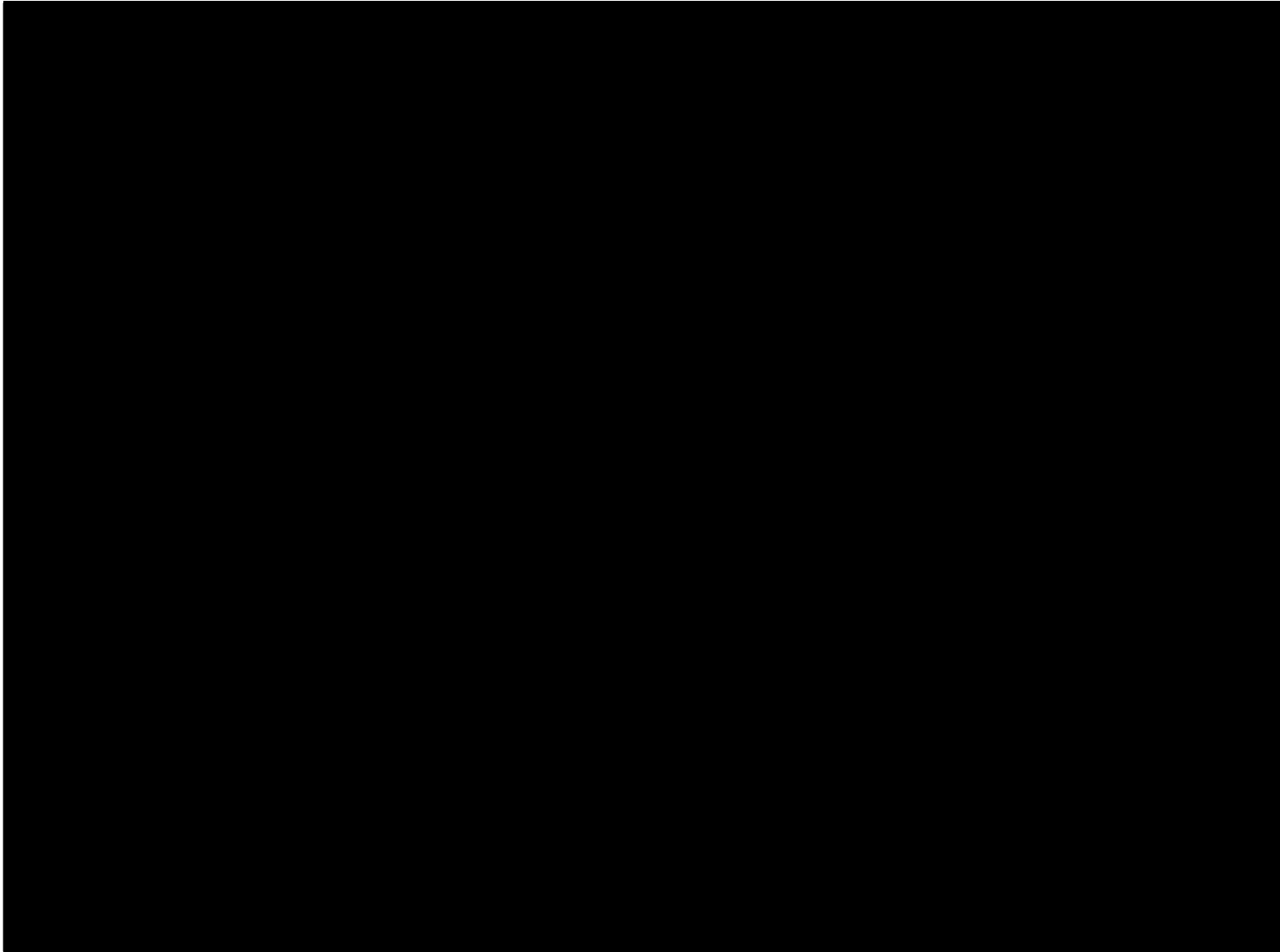


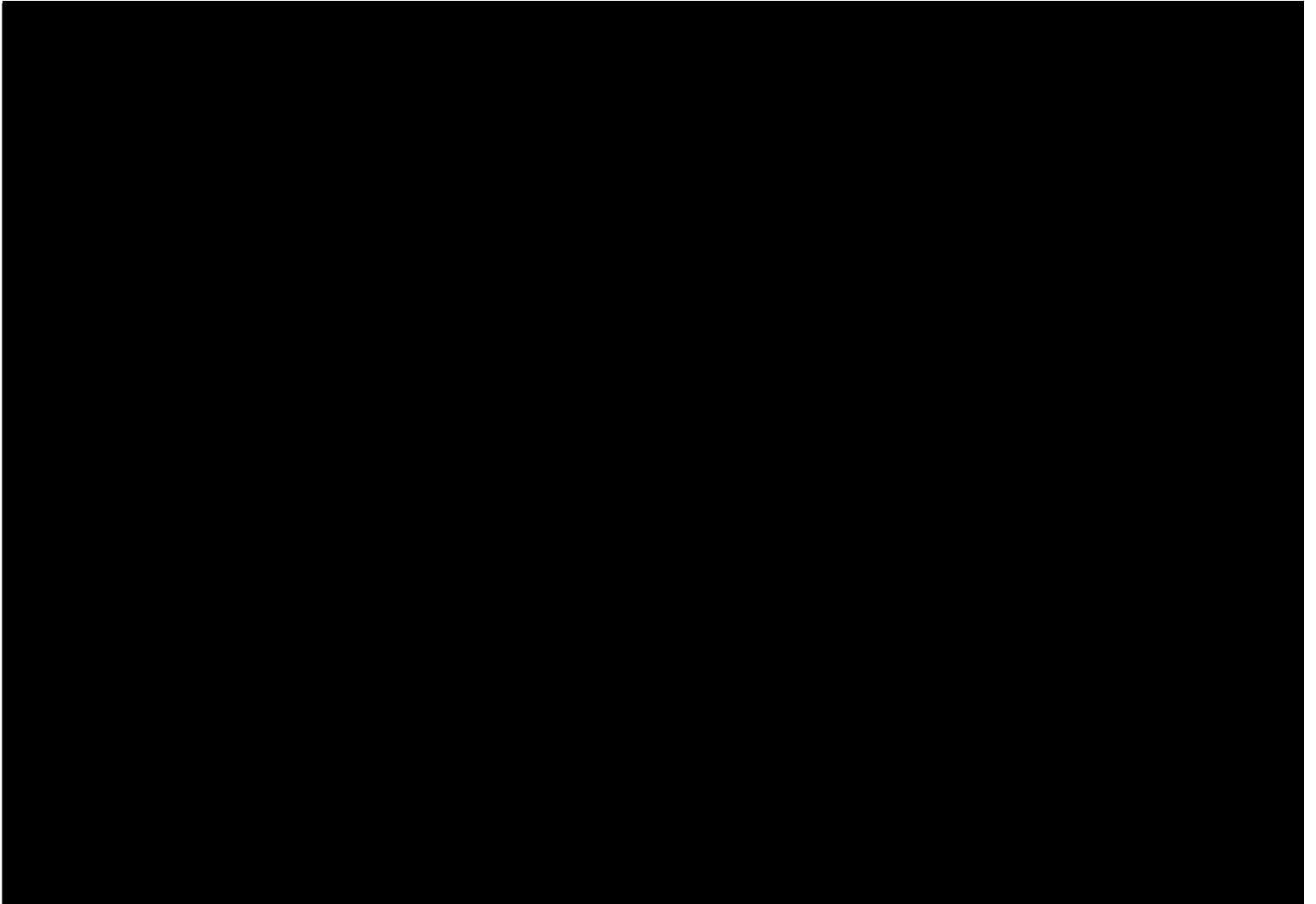


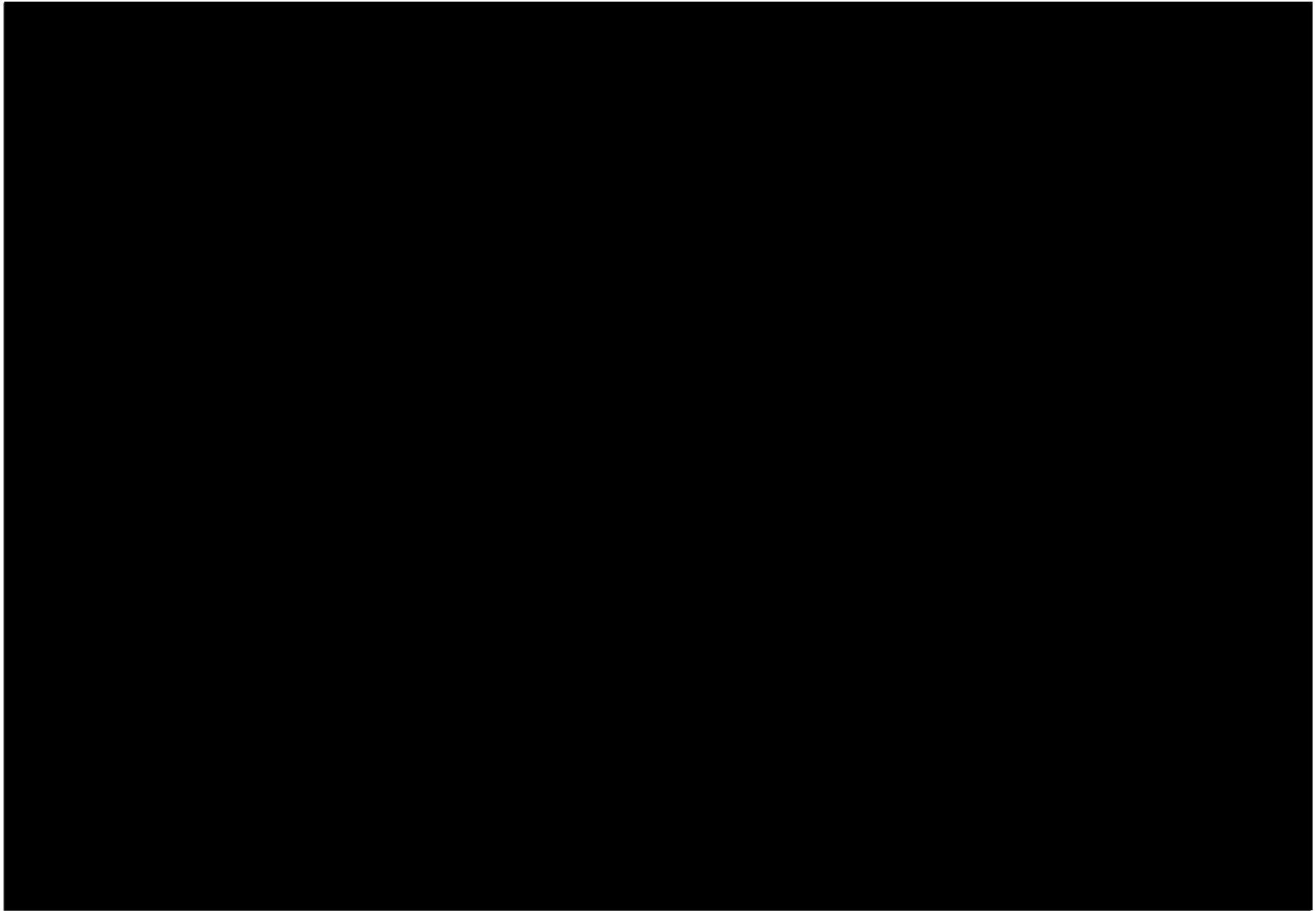


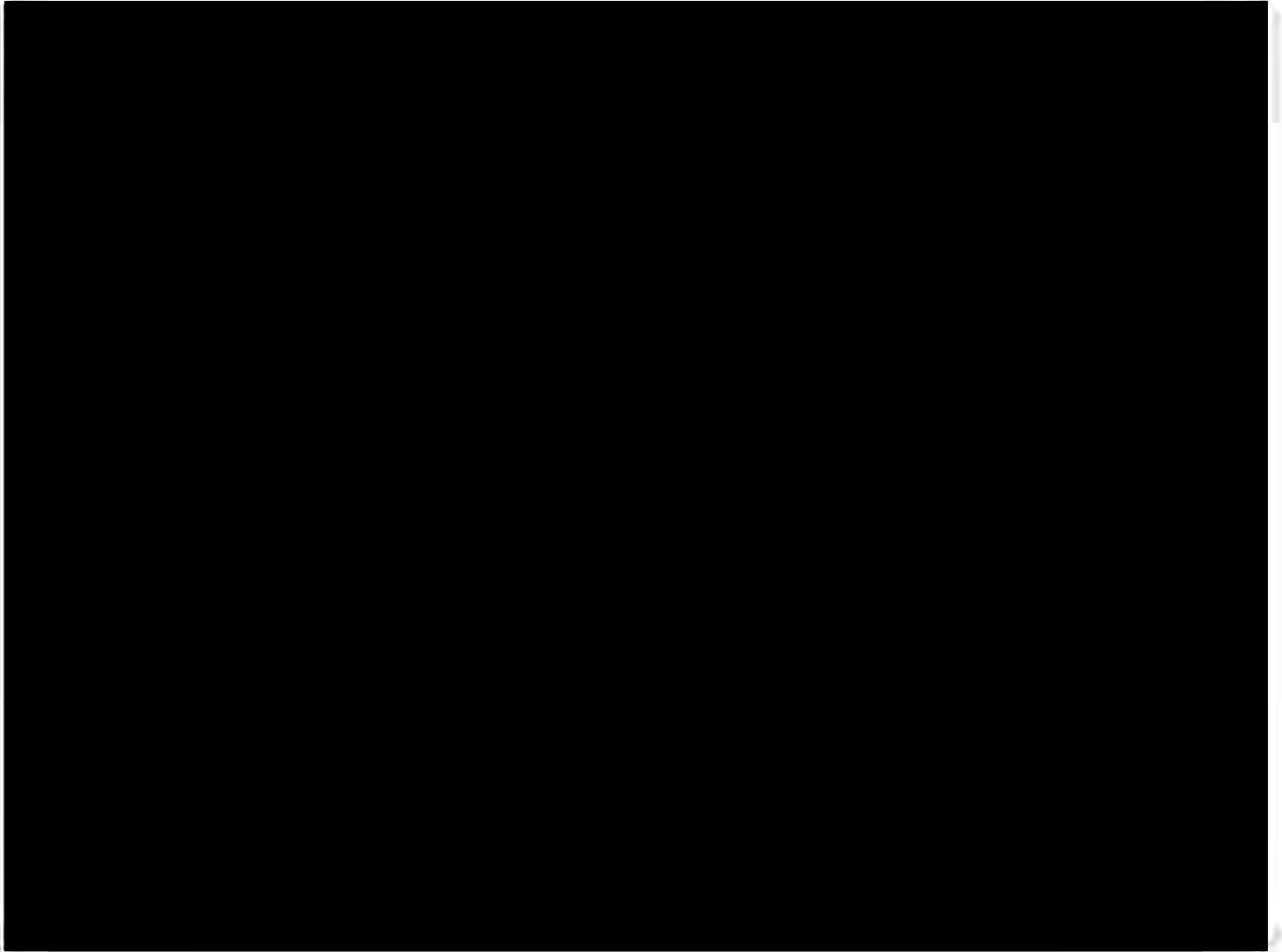


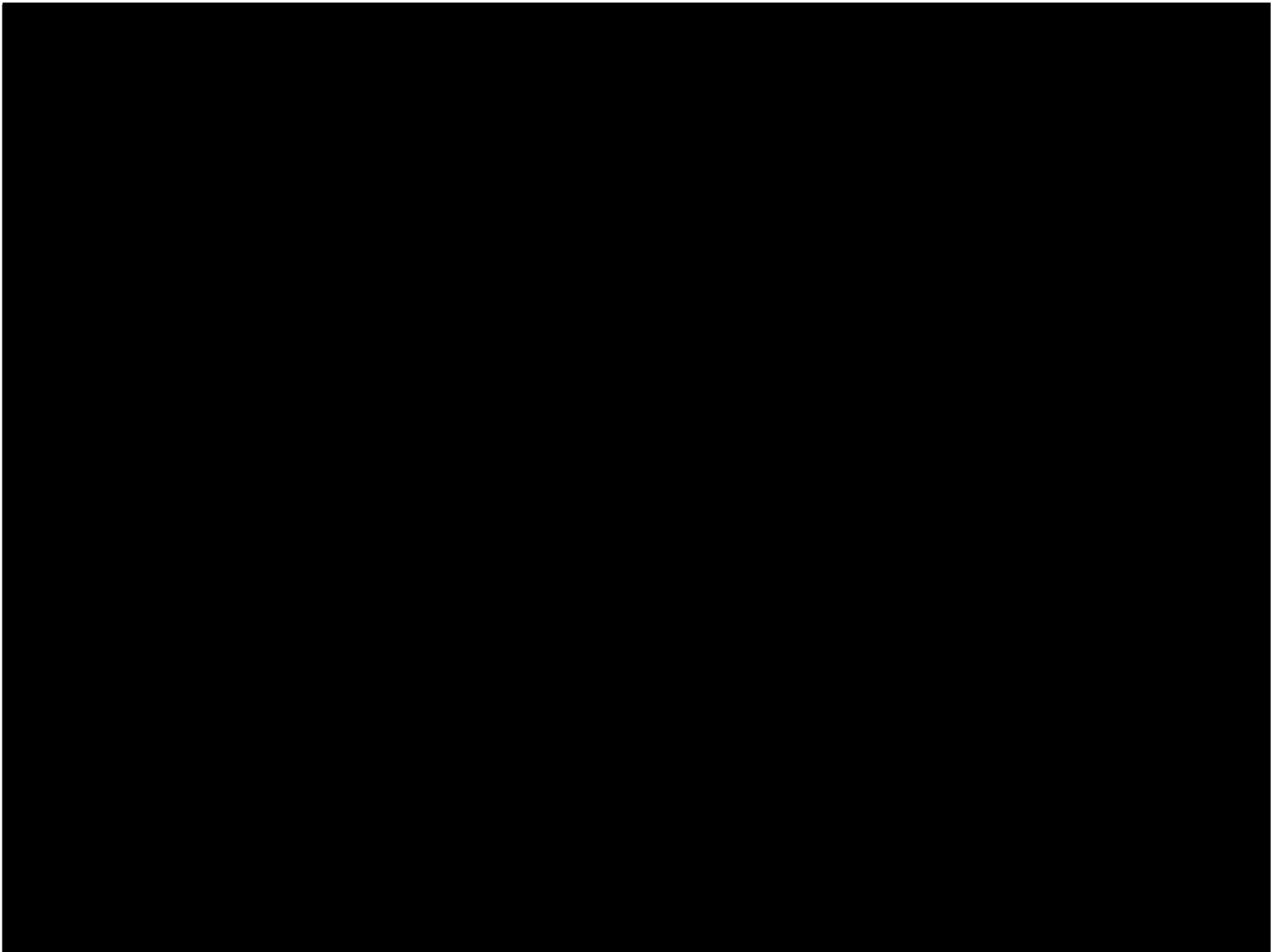


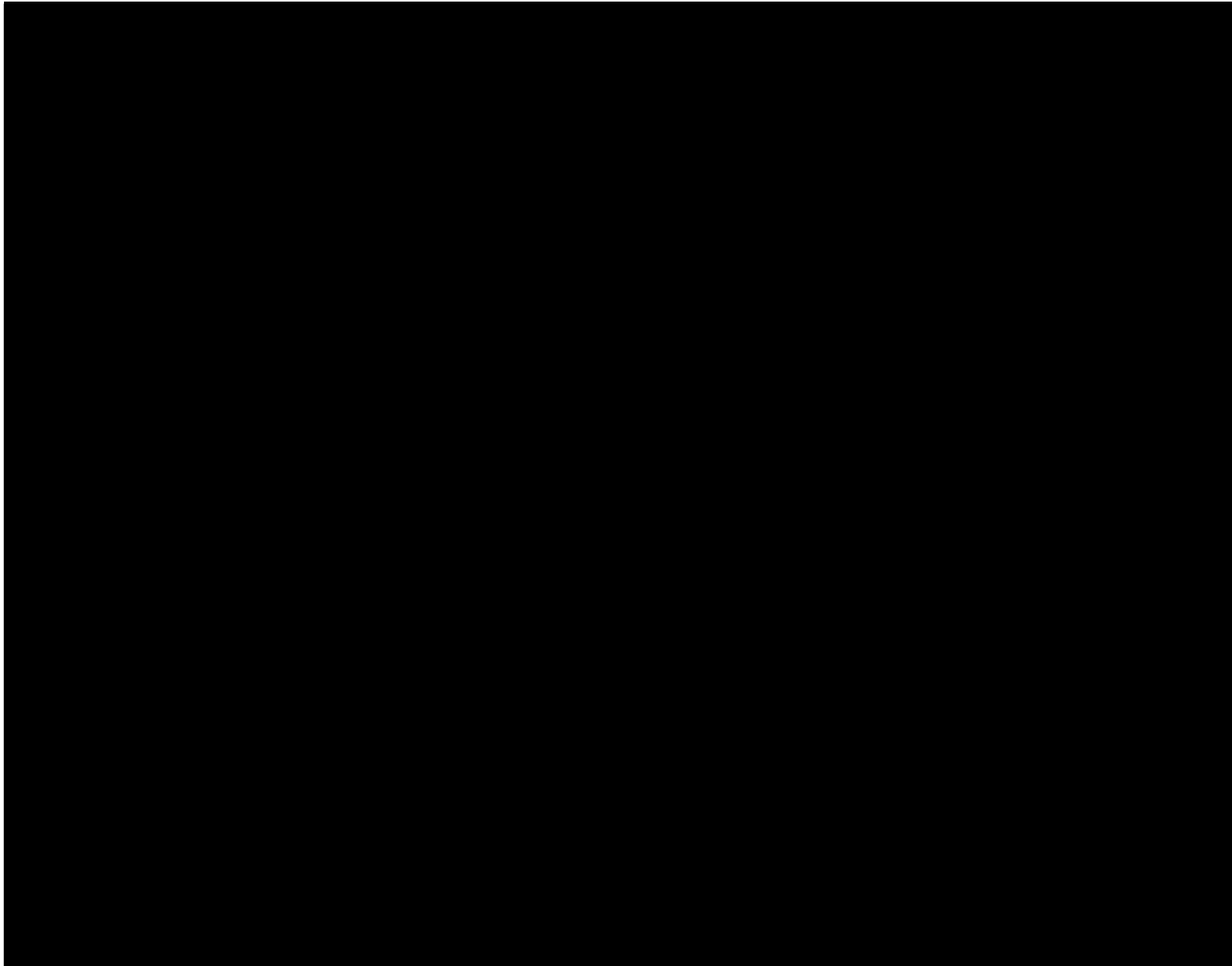


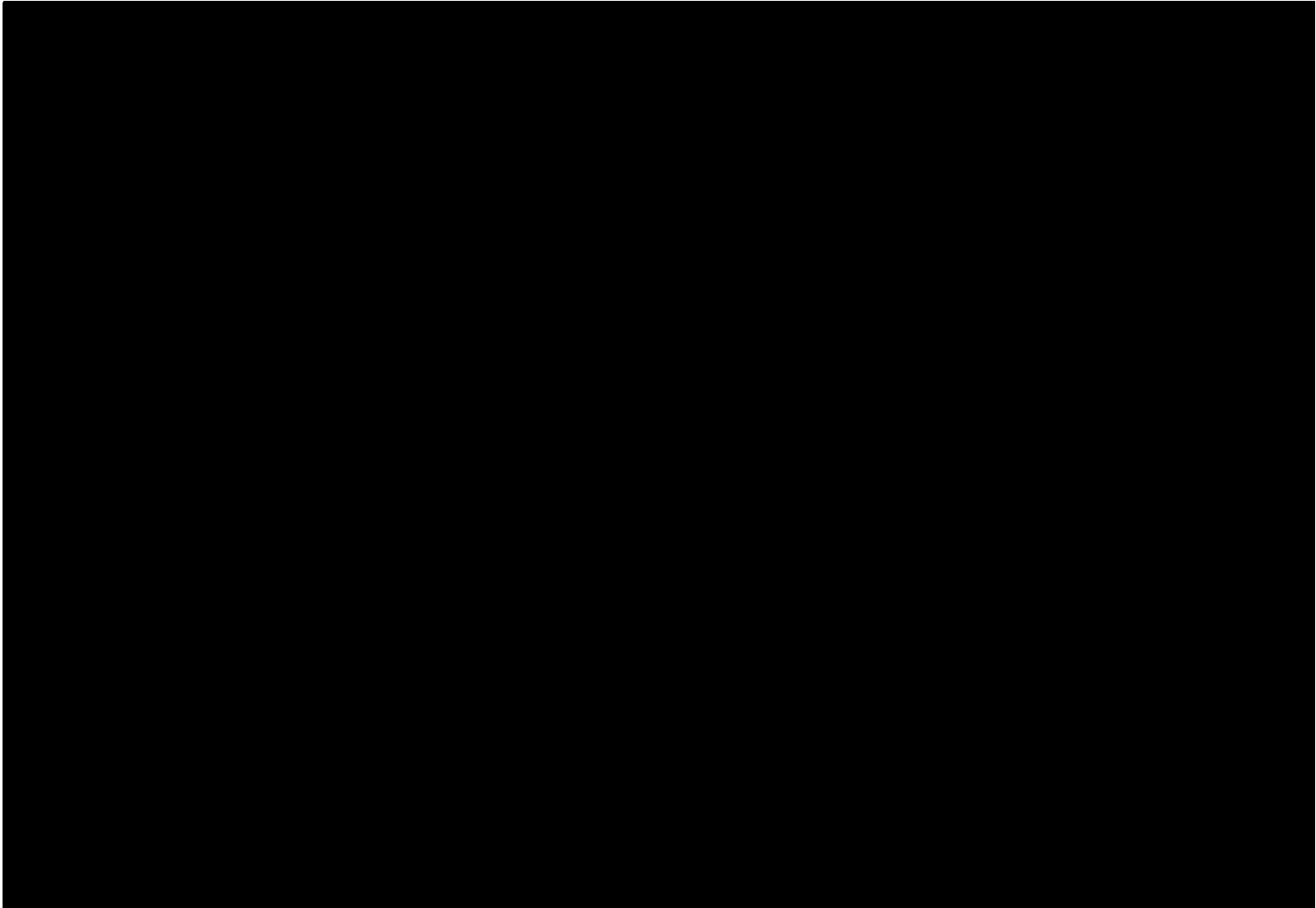






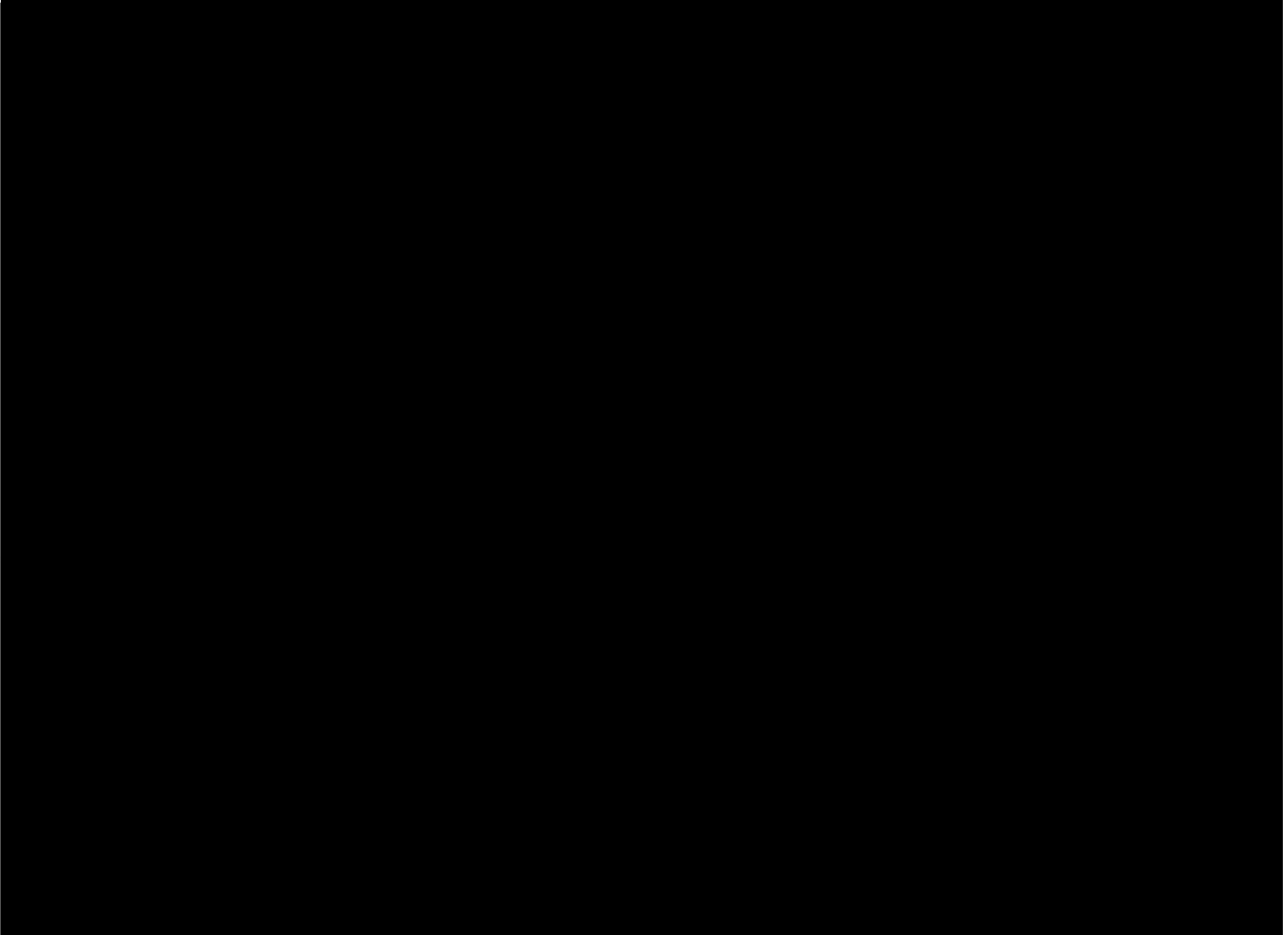


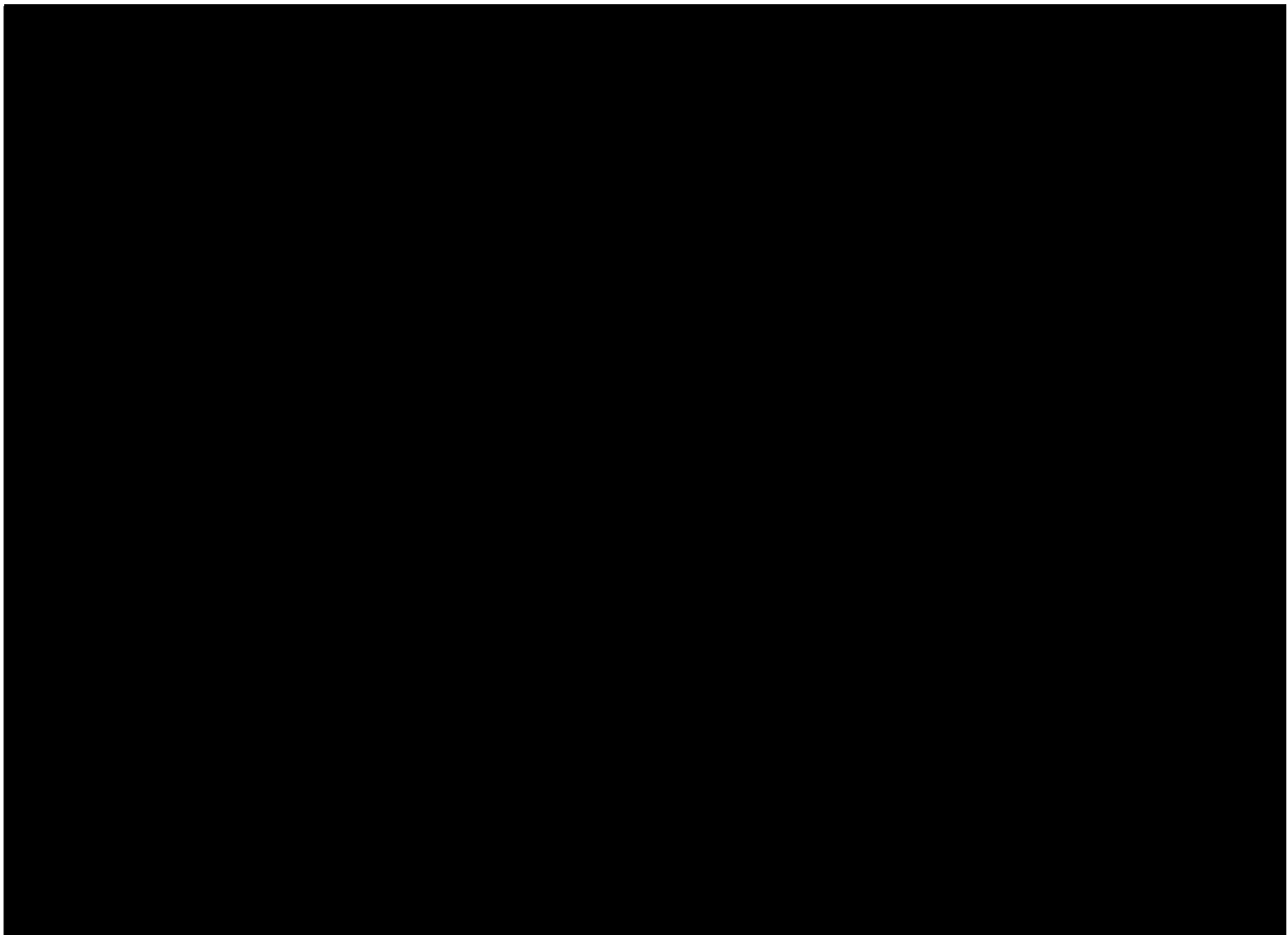


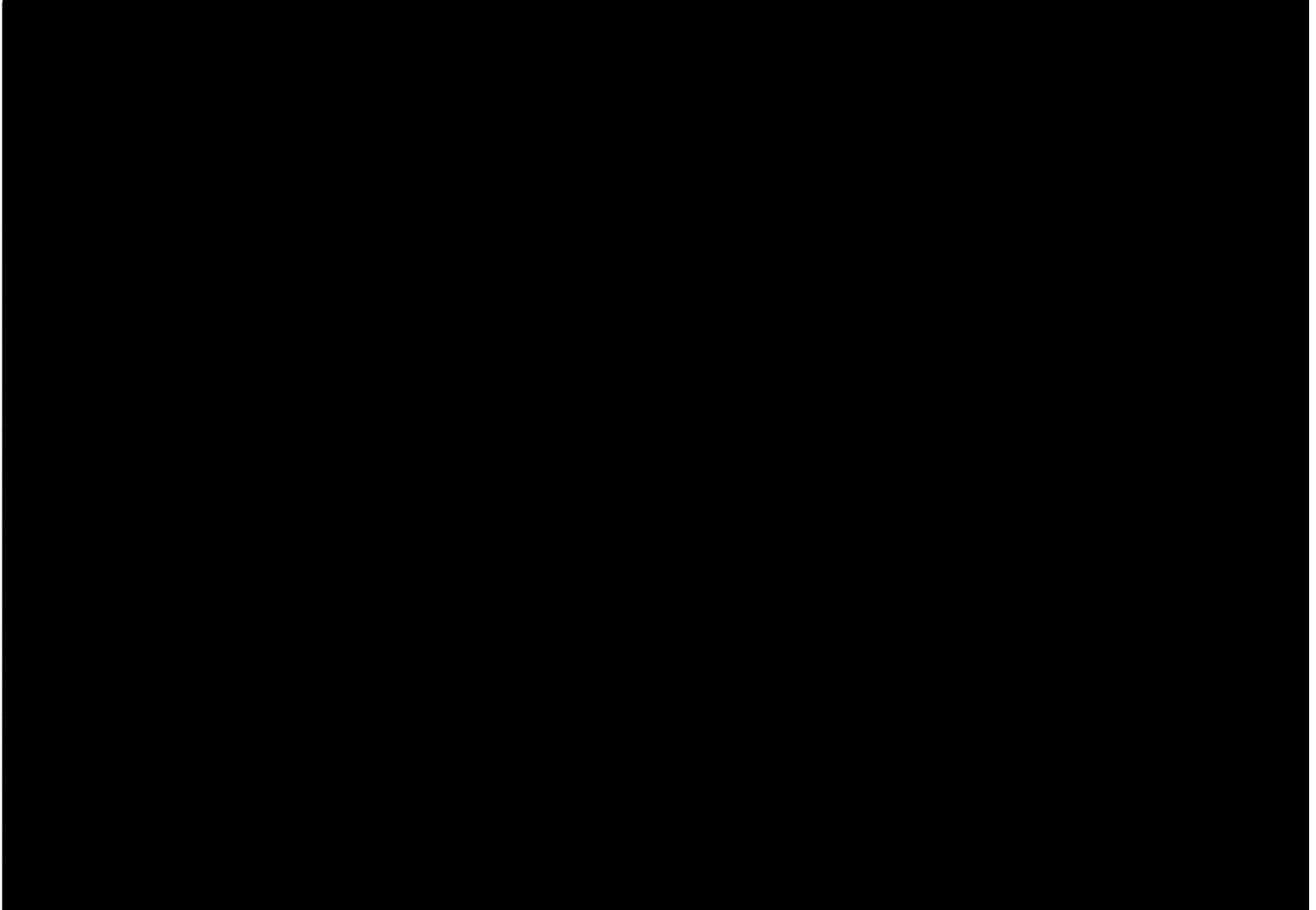


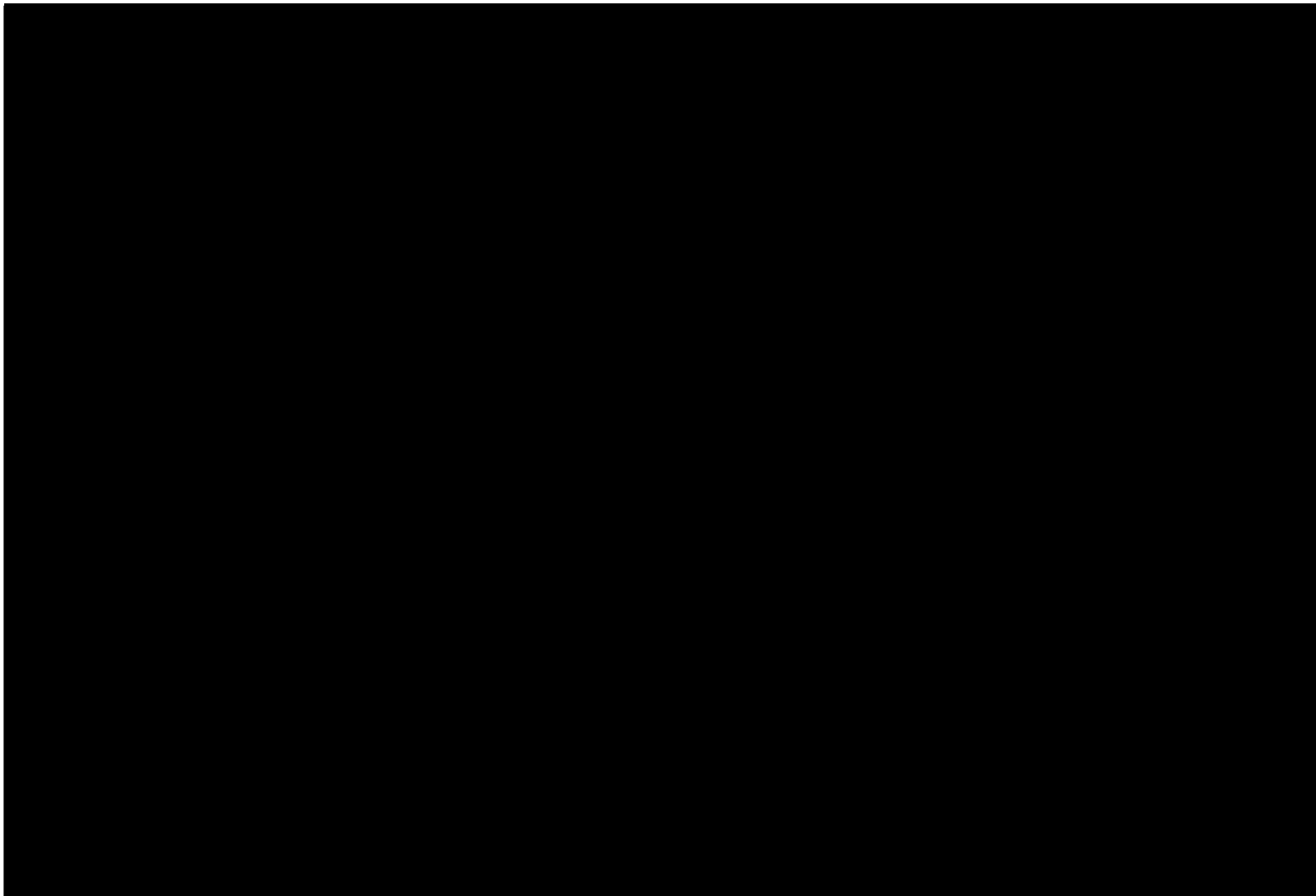


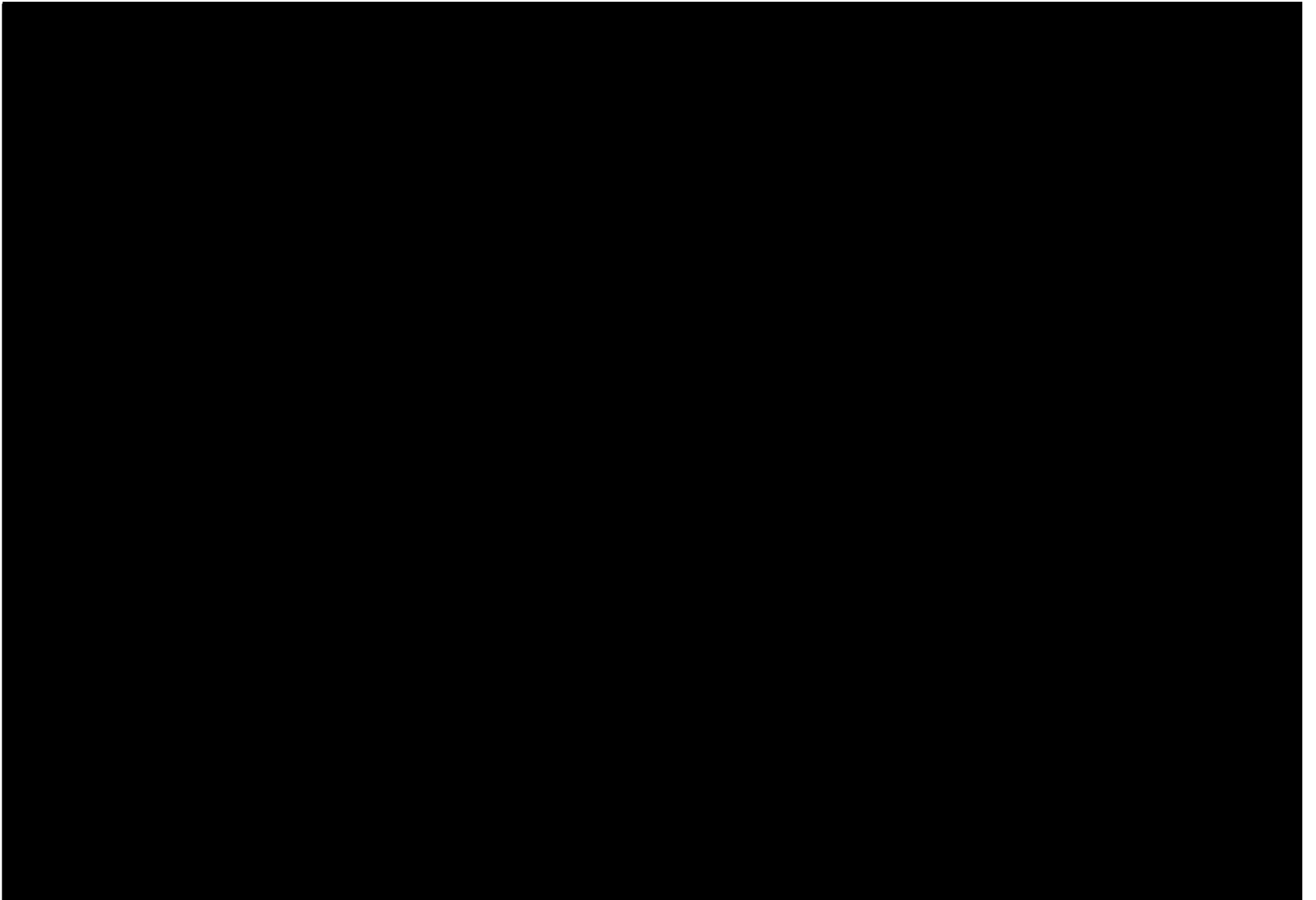
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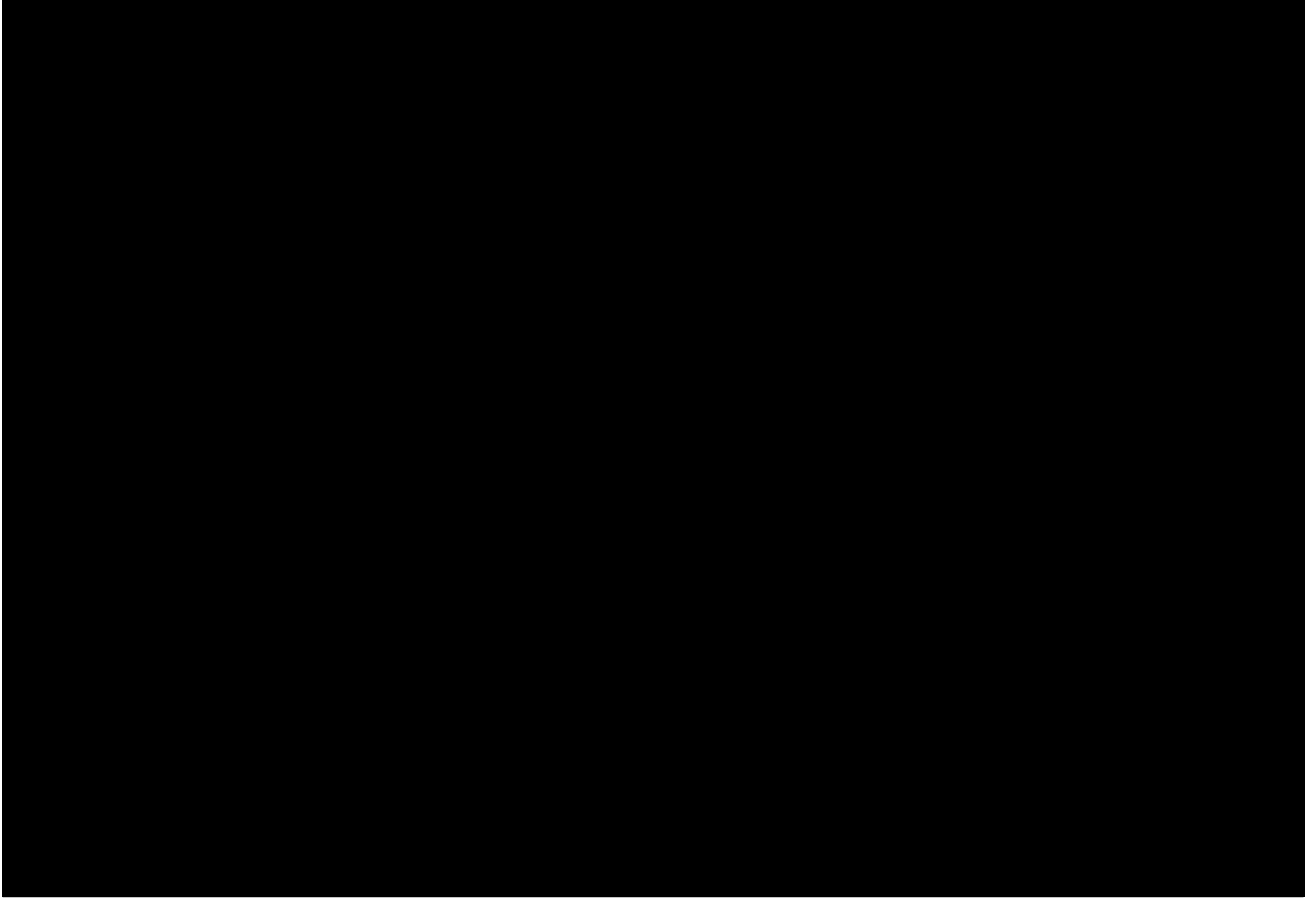


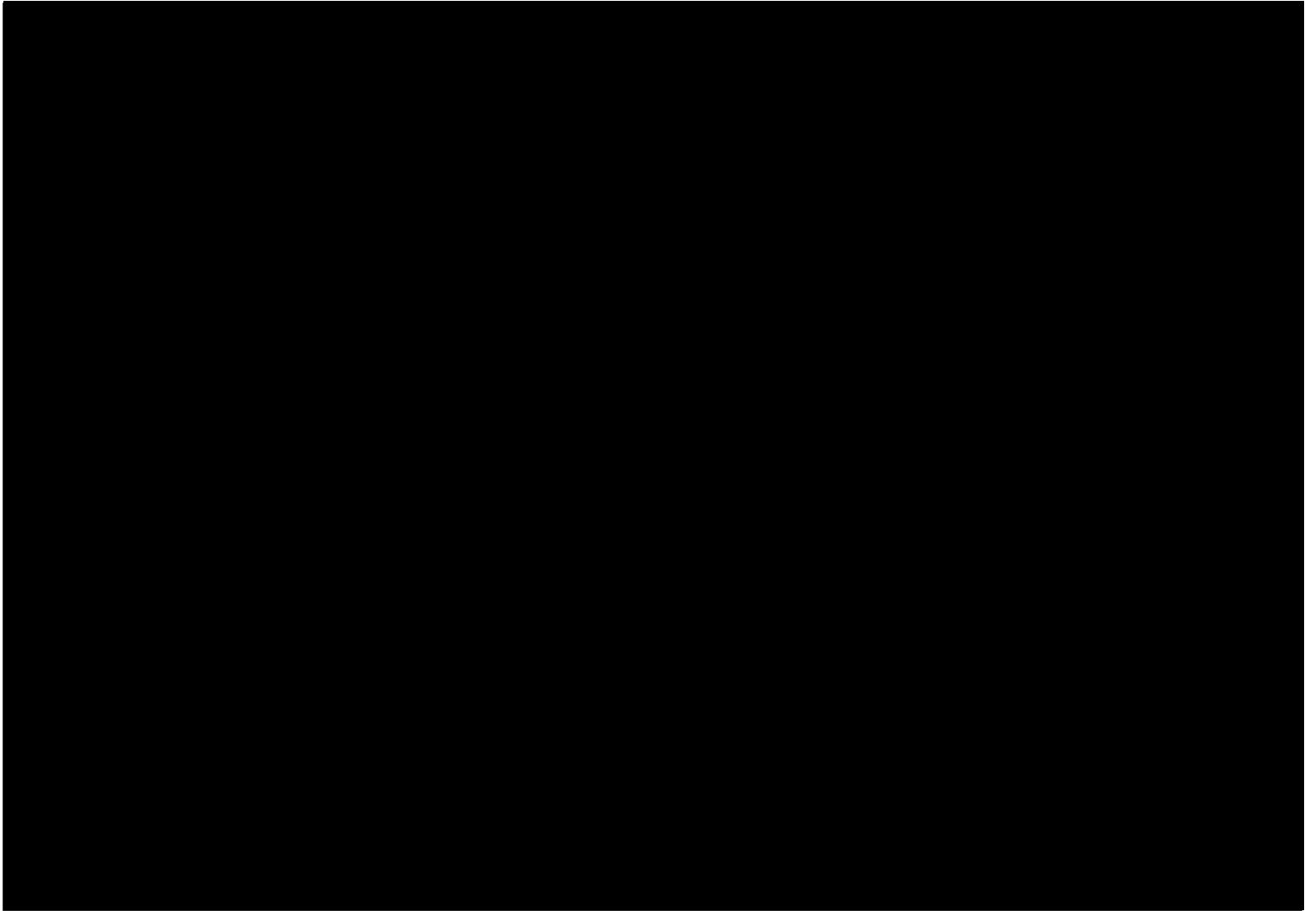


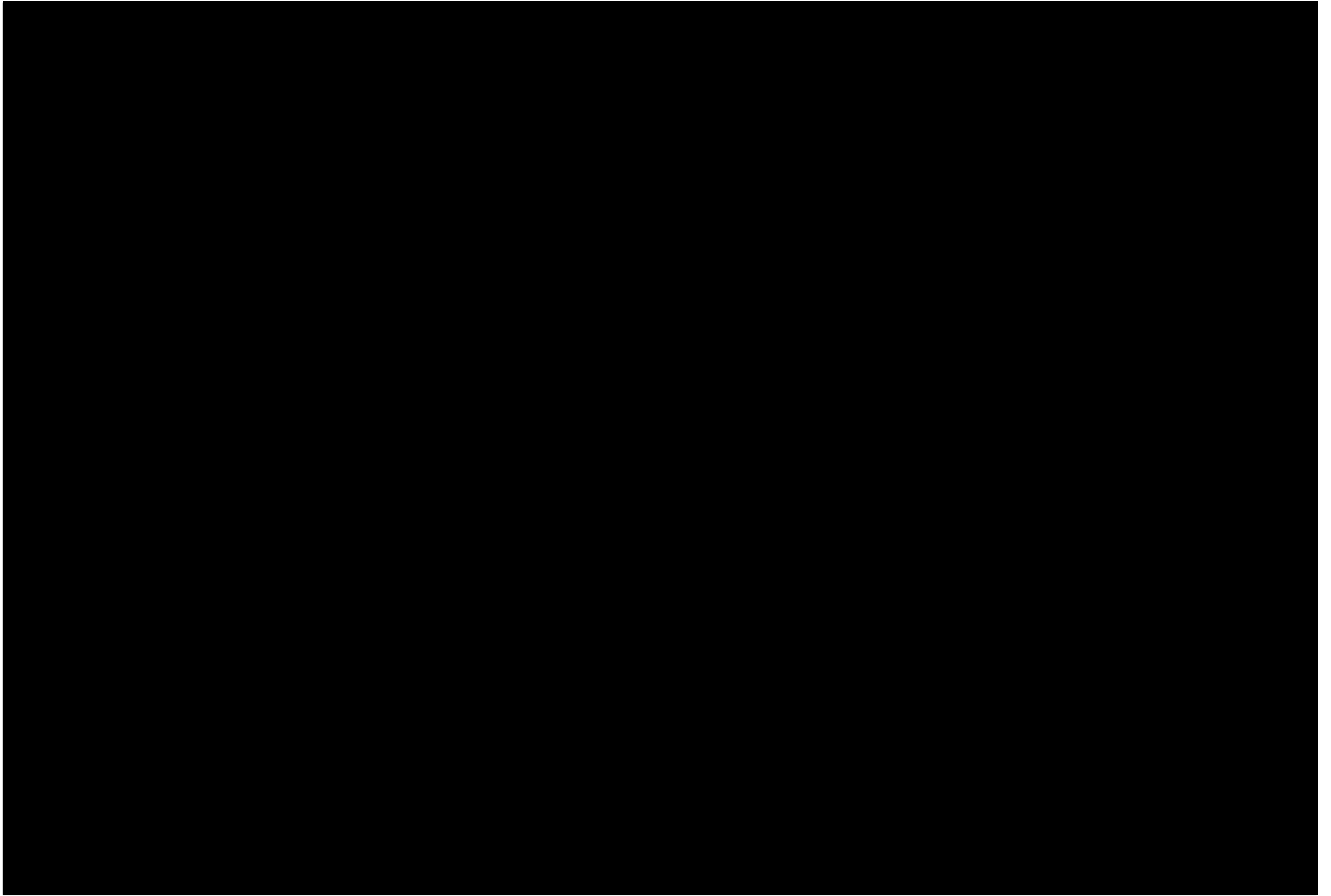


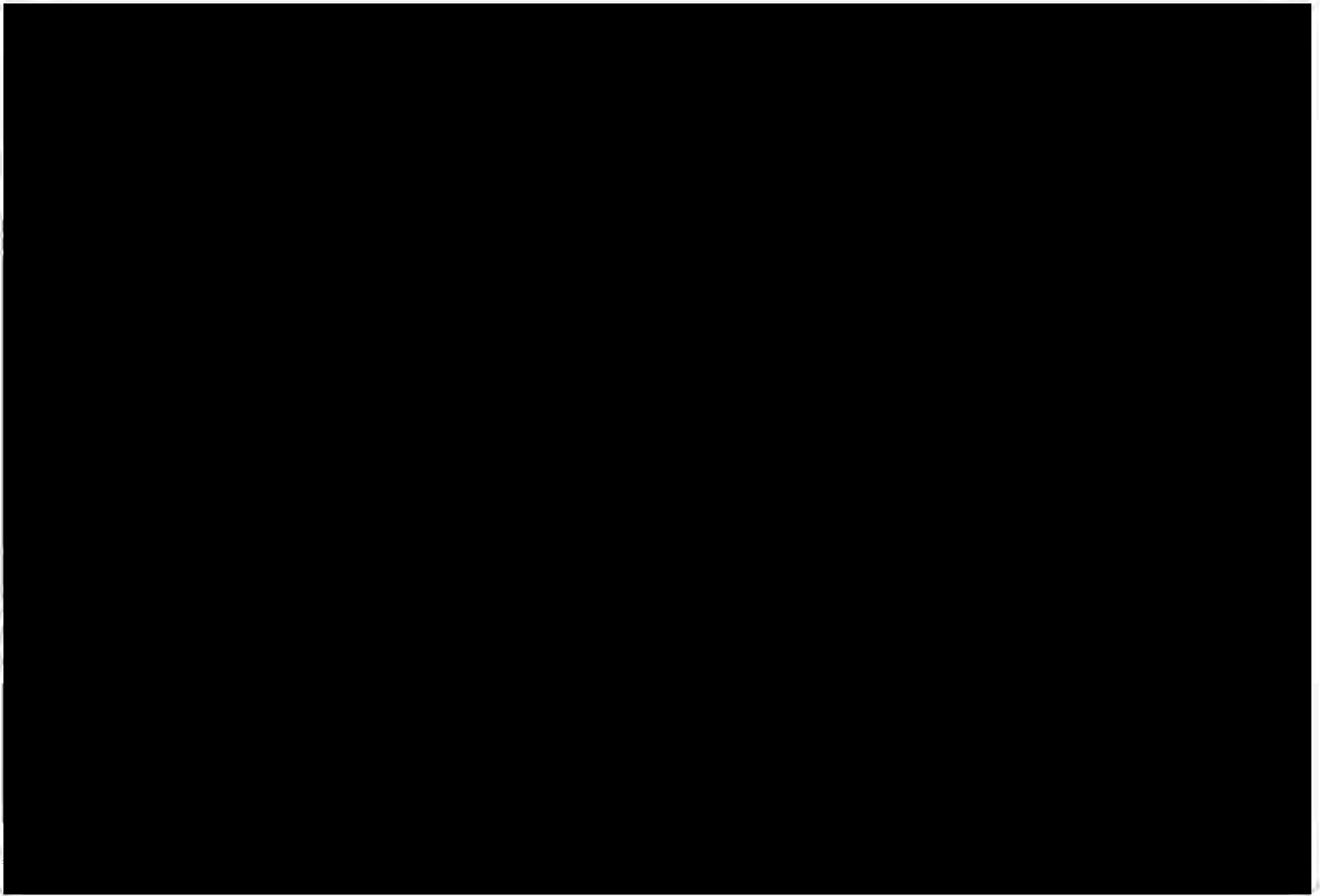


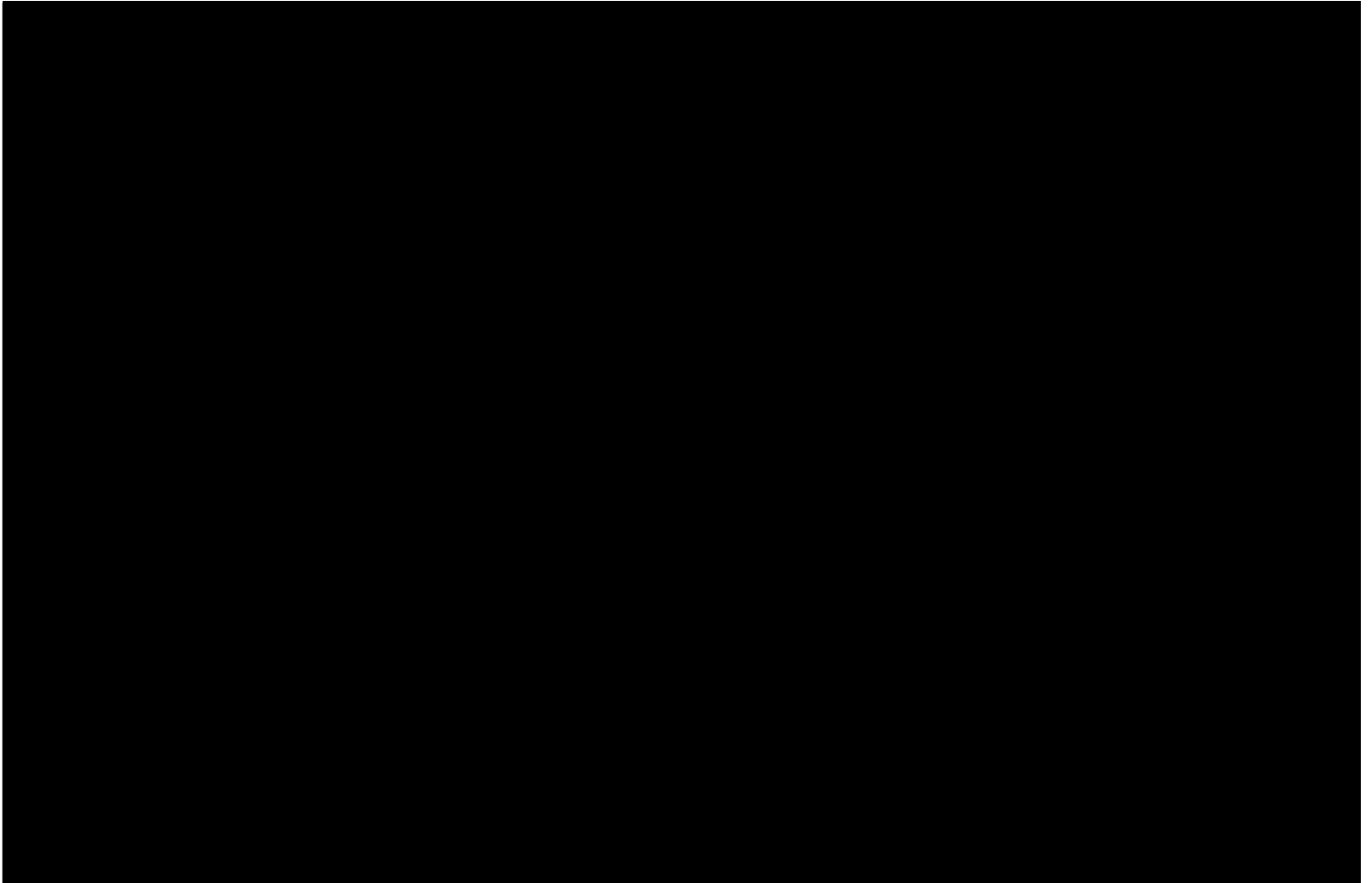


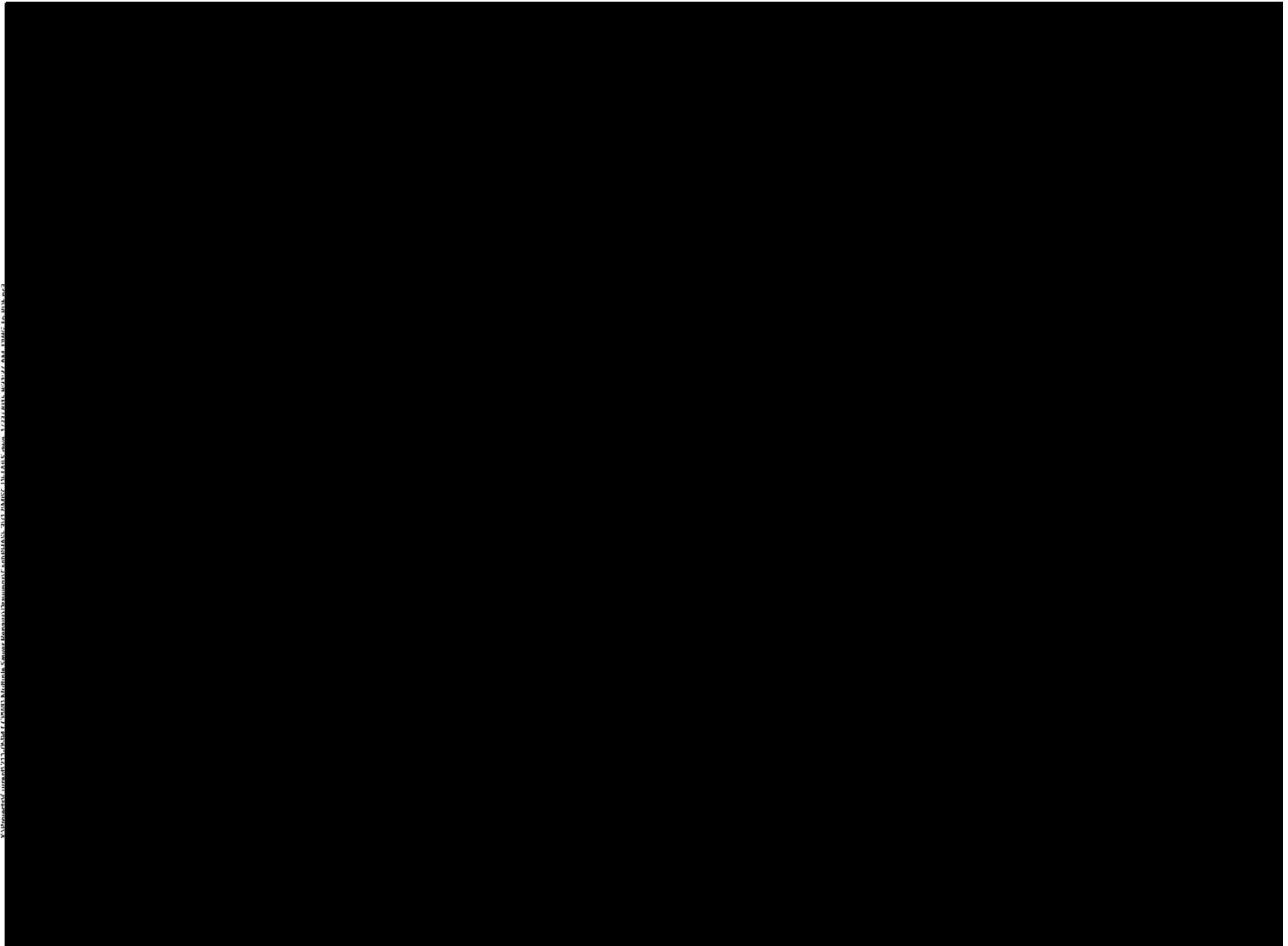






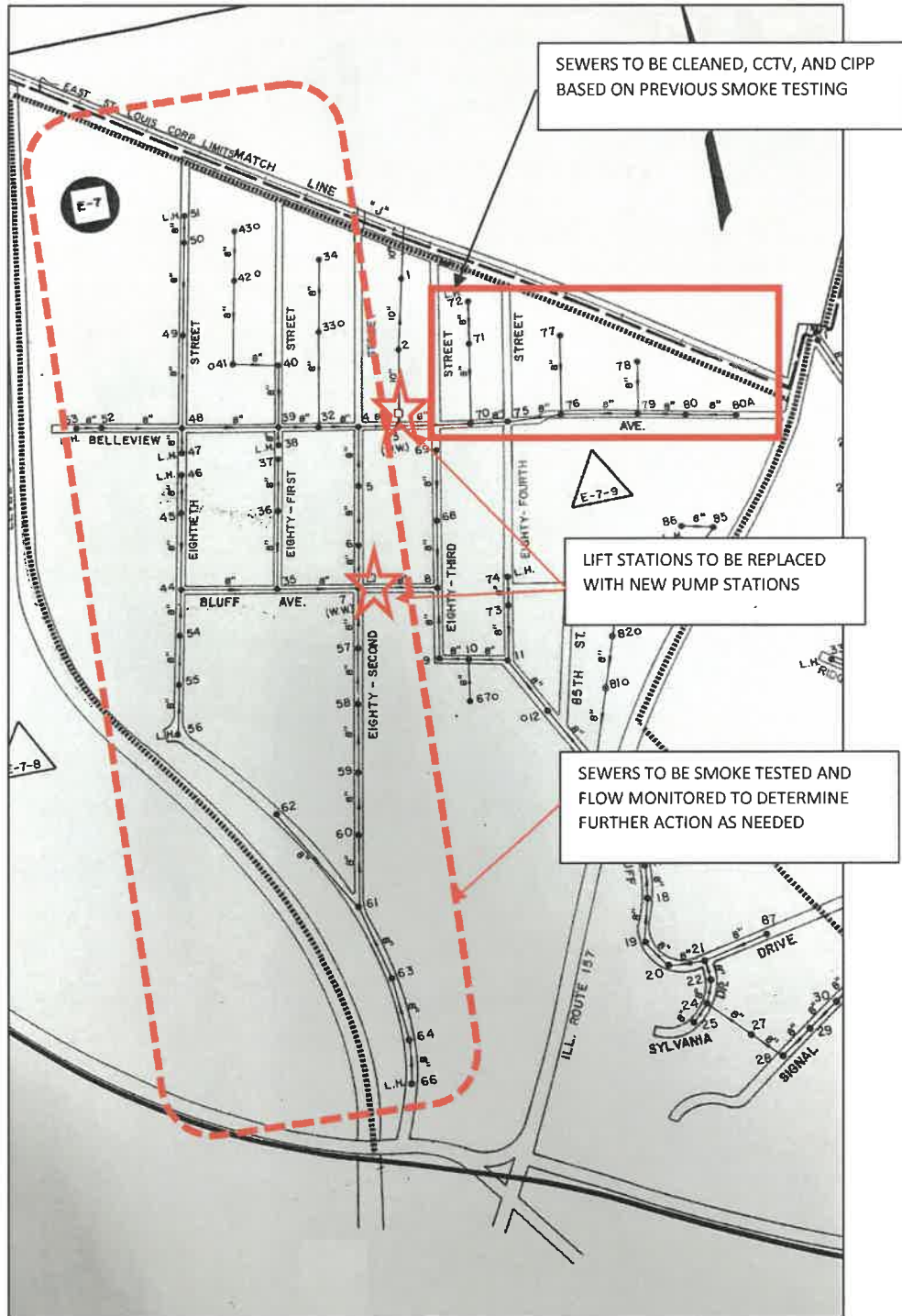






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N. 82ND Street SSO Area Sewer Map Corrective Actions



Lauralee Drive and Renois Blvd. Area Sewer Map

Corrective Actions

