

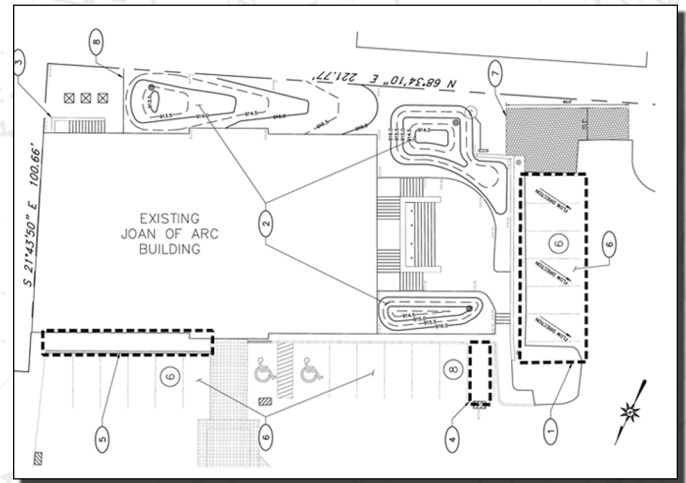
# OAKLAND CATHOLIC HIGH SCHOOL JOAN OF ARC BUILDING RENOVATIONS PITTSBURGH, PENNSYLVANIA



DURING HEAVY WET-WEATHER EVENTS, SANITARY SYSTEM CONVEYANCE BACKUPS WERE PREVALENT ON THE OAKLAND CATHOLIC CAMPUS — LIKELY CAUSED BY AGING AND INEFFECTIVE COMBINATION STORM AND SANITARY CONNECTIONS. AS A PRECURSOR TO RENOVATIONS, RED SWING GROUP CONDUCTED A STORM/SANITARY DUE DILIGENCE INVESTIGATION, WHICH ALSO IDENTIFIED ADDITIONAL INFILTRATION ISSUES IN THE MAIN BUILDING.

ADDITIONALLY, OAKLAND CATHOLIC DESIRED GREEN TECHNOLOGIES TO BE IMPLEMENTED INTO ITS EDUCATIONAL CURRICULUM. IN ADDITION TO BEING ASKED TO IDENTIFY AND EVALUATE MULTIPLE SUSTAINABLE AND GREEN DESIGN OPTIONS, SUCH AS RAIN GARDENS, PERVIOUS PAVEMENT, REINFORCED TURF MATTING AND GRAY WATER CISTERNS, RED SWING'S SCOPE INCLUDED:

- DOCUMENTING EXISTING PIPING ROUTES AND SIZES.
- COORDINATING MEETINGS WITH CONTRACTORS WHO PREVIOUSLY PERFORMED WORK ON THE CAMPUS.
- PREPARING AN EROSION AND SEDIMENTATION CONTROL PLAN TO ADDRESS SITE STABILIZATION THROUGHOUT CONSTRUCTION.
- STORMWATER MANAGEMENT DESIGN.
- RECOMMENDING THE REDESIGN OF EXISTING SANITARY AND STORMWATER CONVEYANCE SYSTEMS AND ASSOCIATED COMPONENTS.



#### SITE CHALLENGES:

- **SANITARY SEWAGE BACKUPS IN JOAN OF ARC BUILDING:** BECAUSE A LATERAL WITH A DEFICIENT PIPE SLOPE AND OBSTRUCTIONS IN THE SEWER LINE CONTRIBUTED TO SANITARY SEWAGE BACKUPS DURING HEAVY RAINFALL EVENTS, RED SWING RECOMMENDED A REPLACEMENT SANITARY LATERAL AND INSTALLATION OF AN EMERGENCY BACKFLOW PREVENTER.
- **STORMWATER SEEPAGE THROUGH BASEMENT WALLS:** ALTHOUGH A SUMP PUMP INSIDE THE JOAN OF ARC BUILDING CAPTURED AND DIVERTED STORMWATER SEEPAGE, RED SWING RECOMMENDED INTERIOR FOUNDATION PERIMETER WATERPROOFING, AS WELL AS THE USE OF A DIMPLED PLASTIC MEMBRANE MATERIAL ON THE EXTERIOR TO COLLECT AND DIVERT GROUNDWATER SEEPAGE.
- **STORMWATER INUNDATION AT LOWER ENTRY:** BECAUSE THE SURROUNDING GROUND SLOPE REPEATEDLY INUNDATED THE JOAN OF ARC LOWER ENTRY WITH STORMWATER, RED SWING RECOMMENDED BIOSWALES TO REDIRECT EXCESS STORMWATER INTO A YARD DRAIN. RED SWING ALSO RECOMMENDED REPLACEMENT OF FOUR-INCH DRAINS WITH A TRENCH DRAIN.



EXISTING



POTENTIAL

- **SUB-BASEMENT FLOODING IN MAIN BUILDING:** BECAUSE SUMP PUMP POWER WAS CUT WHEN THE MAIN BUILDING FLOODED, RED SWING RECOMMENDED THE INSTALLATION OF A HIGH-WATER ALARM SYSTEM WITH REDUNDANT BATTERY BACKUP ON THE SUMP PUMP. OTHER RECOMMENDATIONS INCLUDED REMOVING AND REPLACING AN EXTERIOR STAIRCASE WALL WITH A TIERED LANDSCAPED AREA.

#### PROJECT STAFF:

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#### REFERENCE:

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#### PROJECT DATES:

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