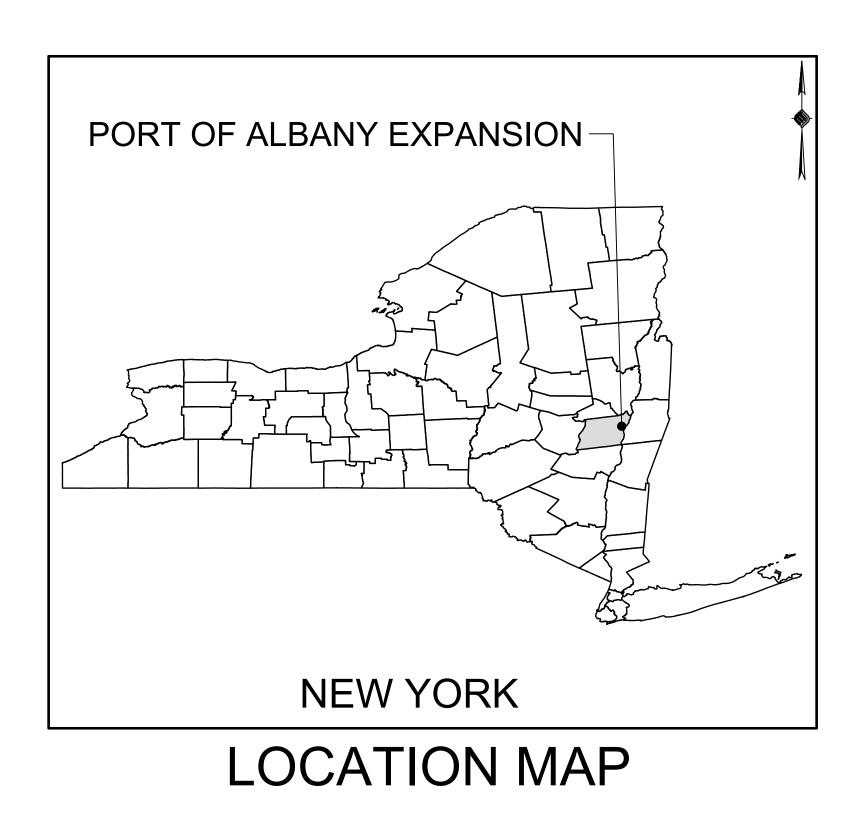
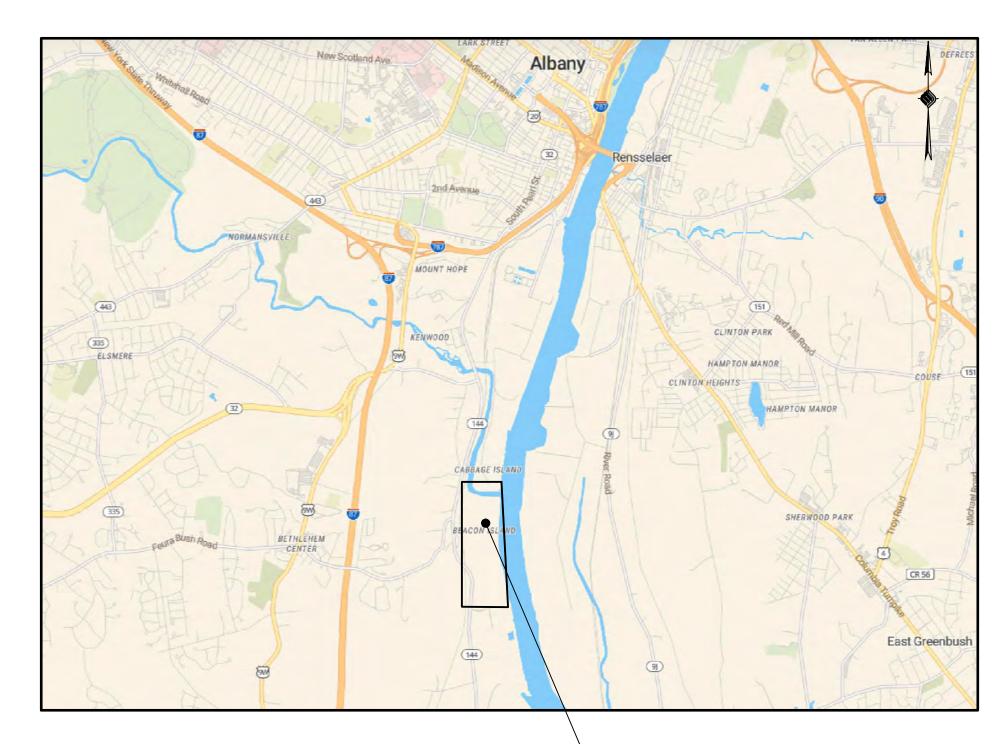
# ALBANY PORT DISTRICT COMMISSION PORT OF ALBANY EXPANSION SITE



FINAL DESIGN PLANS

MAY 10, 2022
(REVISED 06-17-2022)
TOWN OF BETHLEHEM
ALBANY COUNTY
NEW YORK



PORT OF ALBANY EXPANSION-

VICINITY MAP

PREPARED FOR:



ALBANY PORT DISTRICT COMMISSION 106 SMITH BOULEVARD ALBANY, NEW YORK (518) 463-8763 WWW.ALBANY.GOV

PREPARED BY:



MCFARLAND JOHNSON PROJECT # 18641.00

PLANNING BOARD HTE# 21-00100000

SEALED	ADAM J. FROSINO	 TRIE OF NEW JAMES AND STREET OF NEW J FROSTO
PE_NO	088870	 WEEK TO THE TOTAL
PE_DATE	MAY 10, 2022 (REVISED 06-17-2022)	 088870 ESSIONAL BANGESSIONAL BA

IT IS A VIOLATION OF THE LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

## **GENERAL NOTES:**

- 1. THE UNDERGROUND STRUCTURES AND UTILITIES SHOWN ON THESE PLANS HAVE BEEN PLOTTED FROM A SURVEY PREPARED BY MASER CONSULTING P.A. 18 COMPUTER DRIVE EAST SUITE 203, ALBANY, NY 12205, DATED JULY 10, 2018 AND AVAILABLE SURVEYS AND RECORD MAPS BY OTHERS. MCFARLAND JOHNSON DOES NOT CERTIFY TO THE ACCURACY OF THEIR LOCATION AND/OR COMPLETENESS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND EXTENT OF ALL UNDERGROUND STRUCTURES AND UTILITIES PRIOR TO ANY DIGGING OR CONSTRUCTION ACTIVITIES IN THEIR VICINITY. THE CONTRACTOR SHALL HAVE ALL EXISTING UTILITIES FIELD STAKED BEFORE STARTING WORK BY CALLING 1-800-962-7962.
- 2. THE CONTRACTOR SHALL PERFORM ALL WORK IN COMPLIANCE WITH TITLE 29 OF FEDERAL REGULATIONS, PART 1926, SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION (OSHA).
- 3. HIGHWAY DRAINAGE ALONG ALL ROADS AND PRIVATE DRIVES SHALL BE KEPT CLEAN OF MUD, DEBRIS ETC. AT ALL TIMES. ALL CATCH BASINS AND STORM SEWER MANHOLES SHALL BE CLEANED PRIOR TO ACCEPTANCE BY THE TOWN.
- 4. THE CONTRACTOR SHALL CONSULT THE DESIGN ENGINEER BEFORE DEVIATING FROM THESE PLANS.
- 5. IN ALL TRENCH EXCAVATIONS, CONTRACTOR MUST LAY THE TRENCH SIDE SLOPES BACK TO A SAFE SLOPE, USE A TRENCH SHIELD OR PROVIDE SHEETING AND BRACING. THE MEANS AND METHODS SHALL BE CERTIFIED BY A PROFESSIONAL ENGINEER.
- 6. EXCAVATED WASTE MATERIAL REMOVED FROM THE SITE SHALL BE PLACED AT A LOCATION ACCEPTABLE TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION.
- 7. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO MAINTAIN A MINIMUM OF 2' OF COVER OVER ALL EXISTING AND NEW STORM SEWER PIPES AND 4' OF COVER OVER ALL SANITARY PIPES DURING CONSTRUCTION.
- 8. ALL EXISTING SURFACE APPURTENANCES (I.E. WATER VALVES, CATCH BASIN FRAMES AND GRATES, MANHOLE COVERS) WITHIN THE PROJECT LIMITS SHALL BE ADJUSTED TO FINISHED GRADE. (NO SEPARATE PAYMENT).
- 9. AREAS DISTURBED OR DAMAGED AS PART OF THIS PROJECT'S CONSTRUCTION THAT ARE OUTSIDE OF THE PRIMARY WORK AREA SHALL BE RESTORED, AT THE CONTRACTORS EXPENSE, TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
- 10. UNLESS COVERED BY THE CONTRACT SPECIFICATIONS OR AS NOTED ON THE PLANS, ALL WORK SHALL CONFORM TO THE LATEST VERSION OF THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND ANY

SUBSEQUENT REVISIONS OR ENGINEERING BULLETINS.

AND THE FINAL CONNECTION OF SERVICES.

- 11. THE CONTRACTOR SHALL BE RESPONSIBLE TO SECURE ALL PERMITS AND PROVIDE ALL BONDS REQUIRED FOR THIS WORK, INCLUDING BUT NOT LIMITED TO UTILITY CONNECTIONS, BUILDING AND SITE CONSTRUCTION.
- 12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODE AND/OR UTILITY SERVICE COMPANIES. THIS SHALL BE COMPLETED PRIOR TO ANNOUNCED BUILDING POSSESSION
- 13. MAINTENANCE AND PROTECTION OF TRAFFIC ALONG WITH SECURING THE WORK AREA SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 14. THE CONTRACTOR SHALL LOCATE, SAFEGUARD AND PRESERVE ALL SURVEY CONTROL MONUMENTS AND ROW MONUMENTS IN THE AREAS OF CONSTRUCTION.
- 15. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND SAFETY PROCEDURES. THE OWNER AND/OR ARCHITECT/ENGINEER SHALL NOT BE RESPONSIBLE FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUB CONTRACTORS OR THEIR AGENTS, EMPLOYEES OR ANY OTHER PERSON PERFORMING ANY OF THE WORK.
- 16. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATION ASSOCIATED WITH THIS PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATION OR APPLICABLE CODES, IT IS THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE OWNERS REPRESENTATIVE IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE OWNERS REPRESENTATIVE SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.
- 17. SEE OFFSITE IMPROVEMENT PLANS FOR ROADWAY, UTILITY AND WORKZONE TRAFFIC CONTROL WORK WITHIN THE NYSDOT R.O.W.
- 18. SEE BRIDGE PLANS AND NORMANSKILL STREET REHABILITATION PLANS FOR ALL WORK ASSOCIATED WITH THE EXTENSION OF NORMANSKILL TO ACCESS THE SITE.
- 19. SEE WHARF PLANS FOR ALL WORK ASSOCIATED WITH THE WHARF AND WORK ALONG THE HUDSON RIVER BELOW THE MHHW ELEVATIONS, INCLUDING PROPOSED DREDGING.
- 20. ALL WORK INCLUDED IN THESE PLANS SUBJECT TO SECTION 128-49 OF THE TOWN ZONING SHALL BE CERTIFIED BY DESIGNATED PROFESSIONALS PURSUANT TO SECTION 128-49(f)(2)(I).
- 21. ANY GROUND DISTURBANCE WITHIN THE LIMITS OF THE PROPOSED SUBJECT PARCEL SHALL BE PERFORMED IN ACCORDANCE WITH THE <u>SOIL MANAGEMENT PLAN PORT OF ALBANY EXPANSION PROJECT</u>, BEACON ISLAND PARCEL, BETHLEHEM, ALBANY COUNTY, NEW YORK PREPARED BY ATL DATED "AUGUST 13, 2021".

## SEQUENCE OF CONSTRUCTION

- 1. HOLD A PRE-CONSTRUCTION MEETING WITH PROJECT MANAGER, OPERATOR'S ENGINEER, CONTRACTORS & SUB-CONTRACTORS, AND REPRESENTATIVES OF THE TOWN OF BETHLEHEM (MS4) PRIOR TO LAND DISTURBING ACTIVITIES.
- 2. HAVE A QUALIFIED PROFESSIONAL CONDUCT AN ASSESSMENT OF THE SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND CERTIFY IN AN INSPECTION REPORT THAT THE APPROPRIATE EROSION AND SEDIMENT CONTROLS DESCRIBED IN THE SWPPP AS REQUIRED BY THE GP-0-20-001 HAVE BEEN ADEQUATELY INSTALLED OR IMPLEMENTED TO ENSURE OVERALL PREPAREDNESS OF THE SITE FOR THE COMMENCEMENT OF CONSTRUCTION.
- 3. CONSTRUCT TEMPORARY STABILIZED CONSTRUCTION ENTRANCE AT LOCATION SHOWN ON THE DRAWINGS.
- 4. INSTALL PERIMETER CONTROLS AND INLET PROTECTION AT THE LOCATIONS SHOWN
- 5. CONSULT A QUALIFIED PROFESSIONAL TO PERFORM A SITE INSPECTION AND VERIFY THAT THE INITIAL PHASE OF EROSION CONTROL DEVICES HAVE BEEN INSTALLED PER THE DRAWINGS PRIOR TO COMMENCEMENT OF GROUND DISTURBANCE.
- 6. BEGIN CLEARING AND GRUBBING OPERATIONS. CLEARING AND GRUBBING SHALL ONLY BE DONE IN AREAS WHERE EARTHWORK WILL BE PERFORMED.
- 7. STRIP AND STOCKPILE TOPSOIL, INSTALL PERIMETER EROSION CONTROL AROUND STOCKPILES, SEED AND MULCH PER PLANS.
- 8. COMMENCE EARTHWORK CUTS AND FILLS. WORK SHALL BE PROGRESSED TO ALLOW A REASONABLE TRANSFER OF CUT AND FILL FOR ROUGH GRADING AND EARTH MOVING FOR BULK SITE GRADING.
- 9. STABILIZE ALL AREAS IDLE IN EXCESS OF 7 DAYS IN WHICH CONSTRUCTION WILL NOT COMMENCE WITHIN 7 DAYS.
- 10. ADJUST THE EROSION AND SEDIMENT CONTROL PRACTICES AS REQUIRED FOR CONTINUING CONSTRUCTION AS SHOWN ON THE EROSION & SEDIMENT CONTROL PLAN. THIS SHALL BE A PHASED ADJUSTMENT IN ORDER TO ENSURE THAT RUNOFF FROM ALL DISTURBED AREAS IS TREATED BY APPROPRIATE EROSION AND SEDIMENT CONTROL DEVICES.
- 11. BEGIN UTILITY INSTALLATION AND BACKFILL. UTILITY INSTALLATION AREA SHALL BE STABILIZED WITH SEED AND MULCH PROGRESSIVELY AT THE END OF EACH WORK DAY.
- 12. CONSTRUCT CATCH BASINS, AREA INLETS AND STORM SEWER MANHOLES, AS SHOWN ON THE PLANS.
- 13. INSTALL INLET/OUTLET PROTECTION PROGRESSIVELY AS THE STORM SEWER IS
- 14. AS LAWN AREAS ARE BROUGHT TO GRADE, STABILIZE WITH TOPSOIL, SEED AND MULCH PER SPECIFICATIONS.
- 15. FINALIZE PAVEMENT SUB-GRADE PREPARATION.
- 16. INSTALL ASPHALT SUB-BASE MATERIAL AS REQUIRED FOR PAVEMENT.
- 17. CARRY OUT ALL FINAL GRADING, STABILIZE SLOPES GREATER THAN 3H:1V WITH HEIGHTS EXCEEDING 5 FEET WITH EROSION CONTROL MATTING/BLANKETS, AND SEED AND MULCH ALL DISTURBED AREAS.
- 18. A QUALIFIED PROFESSIONAL SHALL PERFORM A SITE ASSESSMENT TO CONFIRM THAT ALL PERMANENT STORMWATER DEVICES HAVE BEEN INSTALLED PER PLANS AND 80% UNIFORM GERMINATION/STABILIZATION HAS BEEN ACHIEVED PRIOR TO THE REMOVAL OF ALL REMAINING TEMPORARY EROSION AND SEDIMENT CONTROLS.

## NATIONAL GRID NOTES:

THESE NOTES APPLY FOR ALL WORK WITHIN NATIONAL GRID PROPERTY. REFERENCE THE LICENSE AGREEMENT BETWEEN NATIONAL GRID AND THE ALBANY PORT DISTRICT COMMISSION WHICH CONTAINS THE FULL CONTENT OF ALL THE TERMS AND CONDITIONS FOR ACCESS AND ANY WORK WITHIN NATIONAL GRID PROPERTY. THIS DOCUMENT SHALL BE REVIEWED BY ANY CONTRACTOR PERFORMING WORK WITHIN THE NATIONAL GRID PROPERTY.

- 1. A CONSTRUCTION ACCESS AND WORK PLAN FOR ALL WORK TO BE COMPLETED ON THE NATIONAL GRID PROPERTY SHALL BE PROVIDED DURING THE BIDDING PROCESS AND APPROVED BY NATIONAL GRID PRIOR TO COMMENCEMENT OF ANY WORK TAKING PLACE WITHIN NATIONAL GRID PROPERTY. AT A MINIMUM THIS PLAN SHALL INCLUDE SPECIFICATION FOR THE PROPOSED EQUIPMENT TO BE USED TO COMPLETE THE WORK AND ACCESS ROUTES NECESSARY TO ALL WORK AREAS.
- 2. DURING CONSTRUCTION, EQUIPMENT SHALL CROSS OVER UNDERGROUND UTILITIES ONLY AS DESIGNATED AREAS. A LIST OF EQUIPMENT TO CROSS THESE AREAS SHALL BE PROVIDED TO NATIONAL GRID FOR REVIEW TO DETERMINE IF ANY STEEL PLATING AND/OR AIR BRIDGING WILL BE REQUIRED TO PREVENT DAMAGE TO THE EXISTING UNDERGROUND UTILITIES.
- NATIONAL GRID RESERVES THE RIGHT TO HAVE THERE OWN INSPECTOR OVERSEE ANY WORK PERFORMED ON NATIONAL GRID PROPERTY. NATIONAL GRID AND THEIR CONTRACTORS SHALL HAVE UNRESTRICTED ACCESS TO NATIONAL GRID CORRIDOR.
- 4. ALL EXCAVATION ON NATIONAL GRID PROPERTY SHALL BE OSHA COMPLIANT.
- 5. NO TEMPORARY STOCKPILING OF MATERIAL IN THE NATIONAL GRID CORRIDOR IS ALLOWED.
- 6. TRUCKS ARE NOT ALLOWED TO STOP IN THE NATIONAL GRID CORRIDOR TO UNLOAD, LOAD, INSTALL OR REMOVE TARPS. ABSOLUTELY NO INSTALLATION OF REMOVAL OF STRAPS UNDER CONDUCTORS.
- 7. IF IN THE NATIONAL GRID CORRIDOR A WIRE IS DISCOVERED, NOTIFY NATIONAL GRID ASAP AS THIS COULD BE PART OF A GROUNDING SYSTEM BETWEEN STRUCTURES. DO NOT TOUCH TREAT AS ENERGIZED.
- 8. ANY METALLIC FENCES OR GUIDERAILS PLACED IN THE NATIONAL GRID CORRIDOR SHALL BE GROUNDED IN ACCORDANCE WITH NATIONAL GRID REQUIREMENTS.
- 9. THE CONTRACTOR WILL BE REQUIRED TO:
- 9.1. CONDUCT A PLANNING MEETING WITH THE OPERATOR AND THE OTHER WORKERS WHO WILL BE IN THE AREA OF THE EQUIPMENT OR LOAD TO REVIEW THE LOCATION OF THE POWER LINES, AND THE STEPS THAT WILL BE IMPLEMENTED TO PREVENT ENCROACHMENT/ELECTROCUTION
- 9.2. INSTALL A NON-CONDUCTIVE ELEVATED WARNING LINE OR BARRICADE ("GOAL POST") EQUIPPED WITH FLAGS OR SIMILAR VISIBILITY MARKINGS AT 15-FT FROM
- 9.3. REFER TO NATIONAL GRID "SAFETY PROCEDURE CONTRACTOR SAFETY REQUIREMENTS" ON THE NATIONAL GRID WEBSITE FOR THE LATEST VERSION.

## NATIONAL GRID NOTES (CONTINUED):

- 9.4. PROVIDE A DEDICATED ELECTRICALLY QUALIFIED SPOTTER WHO IS CONTINUOUSLY IN CONTACT WITH OPERATOR. AN ELECTRICALLY QUALIFIED
  - SPOTTER MUST BE TRAINED AND COMPETENT IN THE FOLLOWING:

     THE SKILLS AND TECHNIQUES NECESSARY TO DISTINGUISH EXPOSED LIVE PARTS OF ELECTRICAL EQUIPMENT
  - THE SKILLS AND TECHNIQUES NECESSARY TO DETERMINE THE NOMINAL VOLTAGE OF EXPOSED LIVE PARTS
  - THE MAD SPECIFIED IN 1910.269 CORRESPONDING TO THE VOLTAGES TO WHICH THE QUALIFIED EMPLOYEE WILL BE EXPOSED
  - THE PROPER USE OF SPECIAL PRECAUTIONARY TECHNIQUES, PERSONAL PROTECTIVE EQUIPMENT, INSULATION AND SHIELDING MATERIALS AND INSULATED TOOLS FOR WORKING ON OR NEAR EXPOSED ENERGIZED PART OF ELECTRICAL EQUIPMENT
  - REFER TO THE NATIONAL GRID WEBSITE UNDER CONTRACTOR SAFETY REQUIREMENTS FOR ADDITIONAL GUIDANCE ON SPOTTER/WORKER REQUIREMENTS AND OTHER SAFETY PROCEDURES.
- 10. CONTRACTOR SHALL NOT STORE, MIX, OR LOAD ANY PETROLEUM PRODUCTS, PESTICIDES, HAZARDOUS MATERIALS, OR CHEMICALS LABELED TOXIC ON NATIONAL GRID'S ROW AND NO REFUELING OF VEHICLES OR EQUIPMENT WILL BE ALLOWED ON NATIONAL GRID'S ROW.
- 11. NO EXCAVATION SPOILS, SOIL, CONSTRUCTION DEBRIS, OR MATERIALS OF ANY KIND ARE TO BE REMOVED FROM NATIONAL GRID'S ROW WITHOUT PRIOR NOTIFICATION AND APPROVAL FROM NATIONAL GRID.

## TOWN OF BETHLEHEM SEQRA NOTES:

- 1. CONTRACTOR SHALL ENSURE CONFORMANCE WITH THE TOWN'S NOISE ORDNANCE. THIS INCLUDES BUT IS NOT LIMITED TO TAKING NOISE READINGS ON A REGULAR BASIS AT THE PROPERTY LINE AND PROVIDING DOCUMENTATION OF NOISE LEVELS. SHOULD NOISE LEVEL EXCEED THE TOWN'S ORDINANCE REQUIREMENTS, IT IS THE CONTRACTORS RESPONSIBILITY TO MODIFY THEIR MEANS AND METHODS TO REDUCE THE NOISE LEVELS AND/OR PROVIDE MITIGATION TO REDUCE THE NOISE LEVEL TO VALUES WITHIN THE TOWN REQUIREMENTS.
- 2. THE CONTRACTOR SHALL PREPARE A COMMUNITY AIR MONITORING PLAN (CAMP)
  PURSUANT TO THE NYSDEC DER 10. SEE PAGES 211-216 FOR GUIDANCE ON THE
  CONTENT OF THE CAMP. IN ADDITION THE CAMP SHALL COMPLY WITH SECTION 4.3 OF
  THE SITE'S SOIL MANAGEMENT PLAN WHICH IS PROVIDED AS APPENDIX H IN THE
  STORM WATER POLLUTION PREVENTION PLAN.

PLANNING BOARD HTE# 21-00100006

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## McFarland Johnson

60 RAILROAD PLACE

SUITE 402 SARATOGA SPRINGS, NEW YORK 12866 P:518-580-9380 F:518-580-9383 SaratogaROM@mjinc.com

PROJECT MILESTONE

FINAL DESIGN PLANS

NO. DATE DESCRIPTION

1 05/20/22 TOWN COMMENTS

## <u>Б</u>

# NY PORT DISTRICT COMMIS ALBANY, NEW YORK JECT:

DRAWN JES

DESIGNED NSO

CHECKED AJF

SCALE AS SHOWN

DATE 05/10/2022

18641.00



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSEI PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSEI PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOF SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

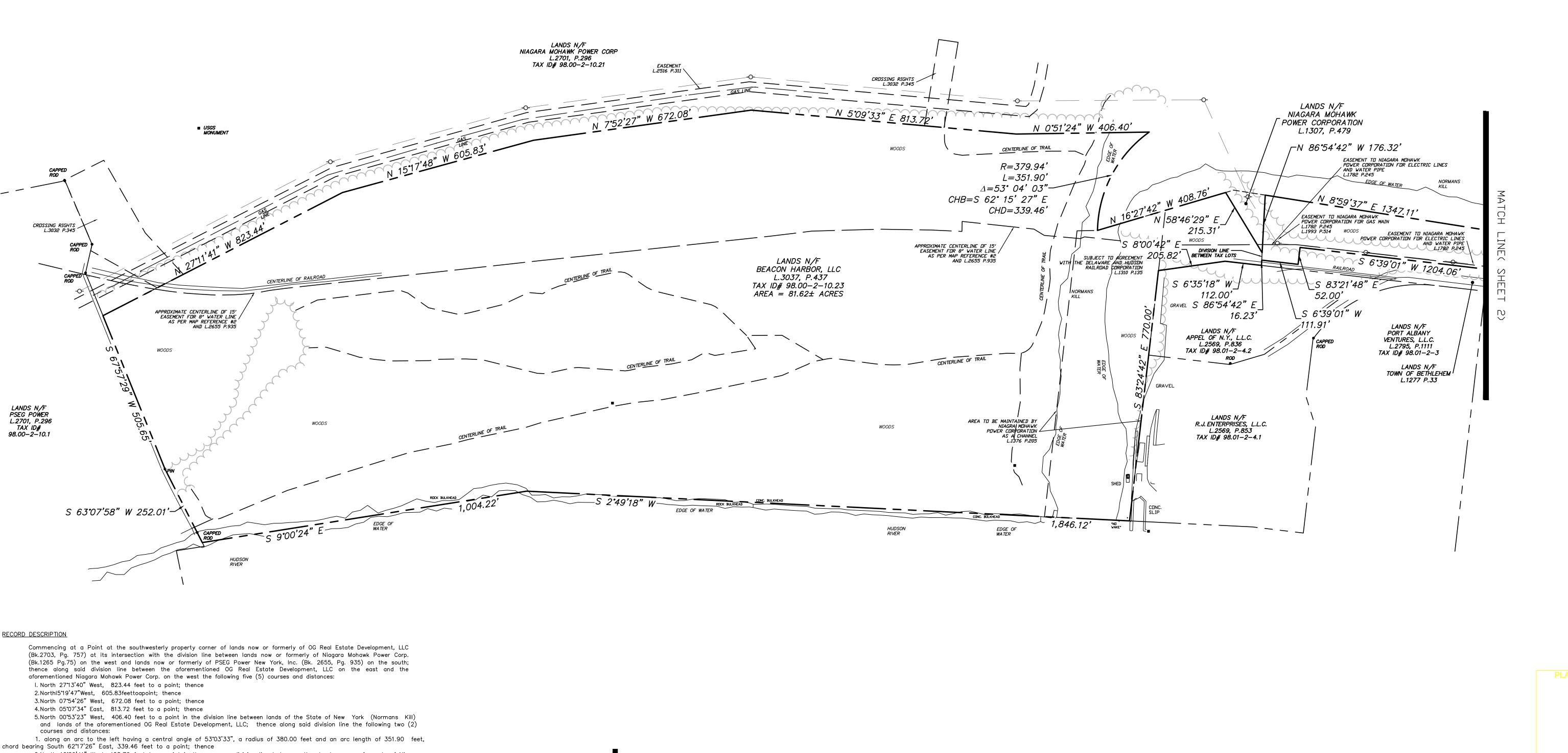
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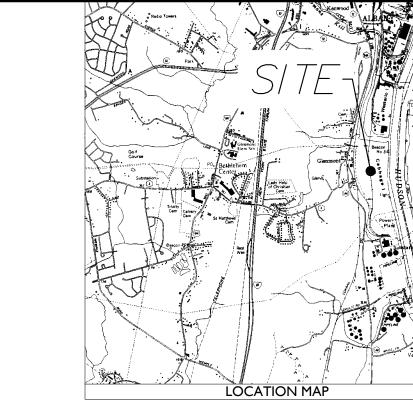
PROJECT

GENERAL NOTES

DRAWING NUMBER

GN-01





LEGEND

TRAVERSE LINE, CENTER

PROPERTY LINE

TREELINE

---- WATER MANHOLE

)----- UNMARKED MANHOLE

75 MAJOR CONTOUR

74 MINOR CONTOUR

× G 29.0

× TC 29.0

× BC 29.0

D.C. = DEPRESSED CURB

 $BC = BOTTOM \ OF \ CURB$ 

C = TOP OF CURB

BOL = BOLLARDGRT = GRATE

MB = MAILBOX

----- ELECTRICAL MANHOLE

SANITARY MANHOLE

\_ DRAINAGE MANHOLE

TOP OF CURB ELEV.

--- U/G CABLE TV LINE

--- U/G TELEPHONE LINE

U/G ELECTRIC LINE

--- WATER MAIN

--- GAS MAIN

- OVERHEAD WIRE

SAN. SEWER MAIN

STORM PIPE

- SAN. SEWER LATERAL

ABBREVIATIONS

FF = FINISH FLOOR

DEP. = DEPRESSED

CL = CENTERLINE

UV = UNKNOWN VALVE

PM = PARKING METER

— U/G FIBER OPTIC LINE

BOTTOM OF CURB ELEV.

EDGE OF PAVEMENT

MUNICIPAL BOUNDARY

WETLAND MARKER

TRAFFIC FLOW

TRAFFIC SIGNAL POLE

POLE MOUNTED LIGHT

**★ FDC** FIRE DEPT. CONNECTION

OCO SANITARY CLEANOUT

STORM INLET TYPE 'A'

CONCRETE MONUMENT

STORM INLET TYPE 'B'

STM. DBL. INLET TYPE 'B

STORM INLET TYPE 'E'

STM. DBL. INLET TYPE 'E

FLARED END SECTION

MHWL = MEAN HIGH

MLWL= MEAN LOW

TW = TOP OF WALL

BW = BOTTOM WALL

**WATERLINE** 

**WATERLINE** 

HEADWALL

CAPPED REBAR/IRON PIPE

MAILBOX

-O- UTILITY POLE

TRANSFORMER

FIRE HYDRANT

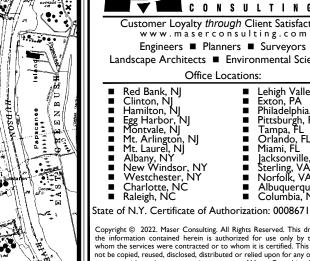
OWV WATER VALVE

OGV GAS VALVE

•─ GUY WIRE

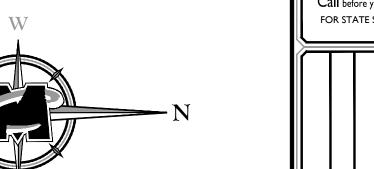
TREE

ROADWAY SIGNS





WWW.CALL811.COM





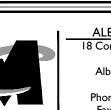
PAT T. VANHAVERBEKE NEW YORK LICENSED LAND SURVEYOR - LICENSE NUMBER: #050931

**BOUNDARY SURVEY OF** LANDS NOW OR **FORMERLY** 

OF **BEACON** HARBOR, LLC

TAX ID # 98.00-2-10.23 TAX ID# 98.01-2-1

TOWN OF BETHLEHEM ALBANY COUNTY STATE OF NEW YORK



Suite 203 Albany, NY 12205 Phone: 518.459.3252 Fax: 518.459.3284

07/10/18 DRAWING NAME: V-SURV-MASR 18001376A

**BOUNDARY SURVEY** 

of 01

LANDS N/F NIAGARA MOHAWK POWER CORP TAX ID# 98.00-2-10.21 LANDS N/F BEACON HARBOR, LLC — L.3037, P.437 TAX ID# 98.01-2-1  $AREA = 81.62 \pm ACRES$ APPROXIMATE CENTERLINE OF 15' EASEMENT FOR 8' WATER LINE 'AS PER MAP REFERENCE #2 L.2655 P.935 R=633.69' LANDS N/F R.J. ENTERPRISES, L.L.( L=120.42' L.2569, P.853 TAX ID# 87.03-3-4.1 △=10° 53′ 16″-CHB=S 12° 05' 40" W LANDS N/F R.J. ENTERPRISES, L.L.C. *∕*S 66°39'23" E 18.13' CHD=120.24' L.2569, P.853 TAX ID# 87.03-3-4.2 COEYMAN'S RÉCYCLING CENTER, L.L.C. L.2016, P.10807 R=452.35' TOWN OF BETHLEHEM L=103.36' TAX ID# 87.03-3-3 L.1277 P.33 *\*\_∆=13° 05′ 31″ CHB=S 10° 59' 33" W BUCKEYE ALBANY TERMINAL, L.L.C.— L.2930, P.474 CHD=103.14' TAX ID# 87.03-3-2.2

SCALE: 1" = 150'

- chord bearing South 62°17'26" East, 339.46 feet to a point; thence 2.North 16°29'41" West, 408.76 feet to a point in the common division line between other lands now or formerly of Niagara Mohawk Power Corp. on the west and lands of the aforementioned OG Real Estate Development, LLC on the east; thence along said division line the following two (2) courses and distances: 1. North 58°44'30" East, 215.31 feet to a point; thence
- 2. North 86°56'41" West, 176.32 feet to a point in the common division line between lands of the aforementioned State of New York (Normans Kill) on the west and other lands now or formerly of OG Real Estate Development, LLC (Bk. 2905, Pg. 204) on the east; thence along said common division line the following three (3) courses and distances:
- 1. North 08°57'38" East, 1347.11 feet to a point; thence 2. North 22°21'38" East, 586.00 feet to a point; thence 3. North 17°53'38" East, 352.00 feet to a point; thence
- South 66°41'22" East, 18.13 feet to a point in the westerly road boundary of South Port Road; thence along said westerly and also southerly road boundary the following five (5) courses and distances:
  - 1. along an arc to the right having a central angle of 13°05'31", a radius of 452.35 feet and an arc length of 103.36 feet to a point; thence 2. South 17°30'19" West, 711.96 feet to a point of curvature; thence
  - 3. along an arc to the left having a central angle of 10°53'17", a radius of 633.69 feet and an arc length of 120.42 feet to a point; thence
  - 4. South 06°37'02" West, 1204.06 feet to a point; thence 5. South 83°23'47" East, 52.00 feet to a point in the westerly boundary of the D & H Railroad; thence along said
  - westerly boundary and also the southerly boundary of said D & H Railroad the following two (2) courses and distances: 1. South 06°37'02" West, 111.91 feet to a point; thence 2. South 86°56'41" East, 16.23 feet to a point in the easterly boundary line of lands of the aforementioned OG Real Estate
- 1. South 06°33'19" West, 112.00 feet to a point; thence
- 2. South 08°02'41" East, 205.82 feet to a point; thence 3. South 83°26'41" East, 770.00 feet to a point along the Hudson River; thence along said Hudson River the following two

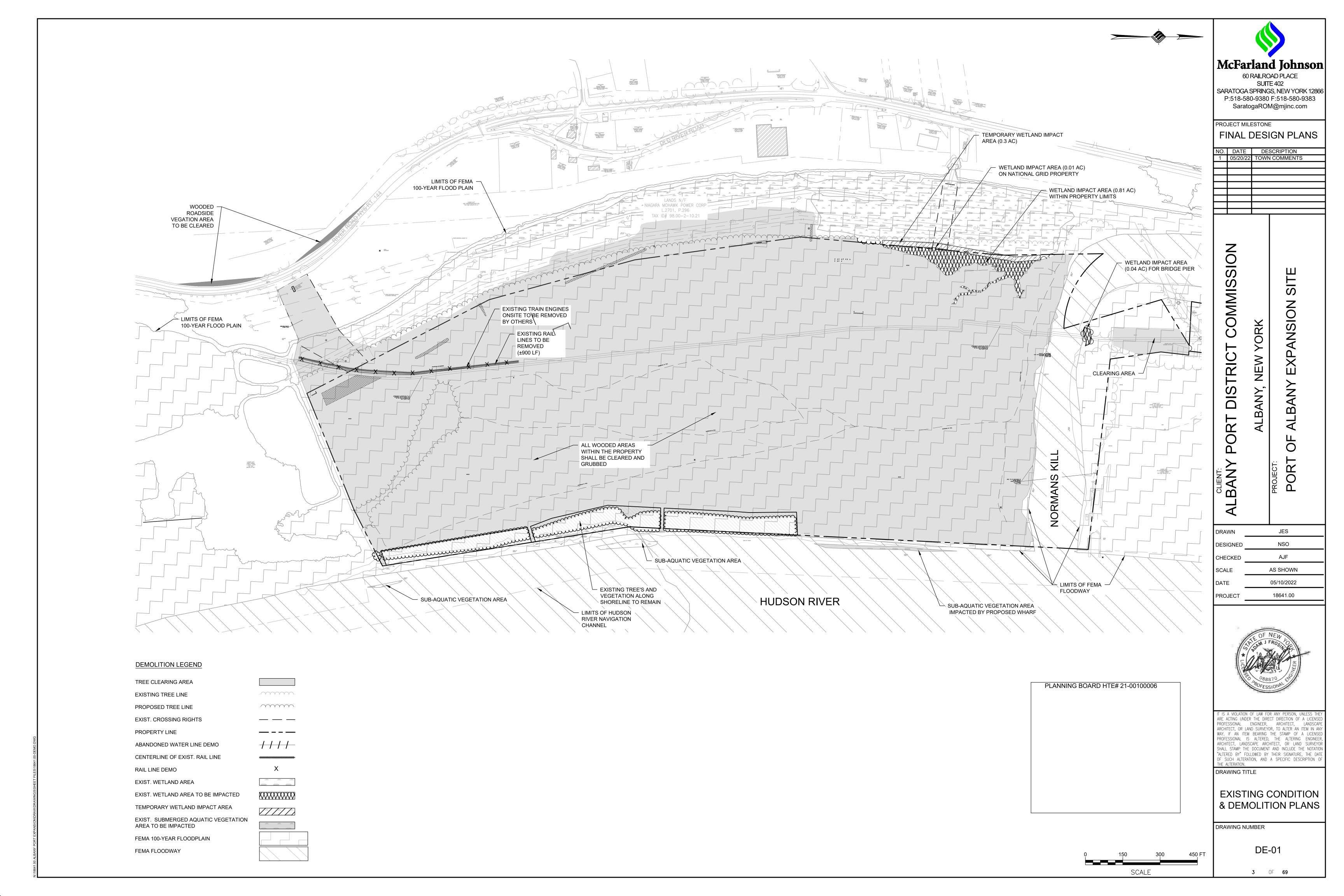
Development, LLC (Bk. 2703, Pg. 757); thence along said easterly boundary line the following three (3) courses and

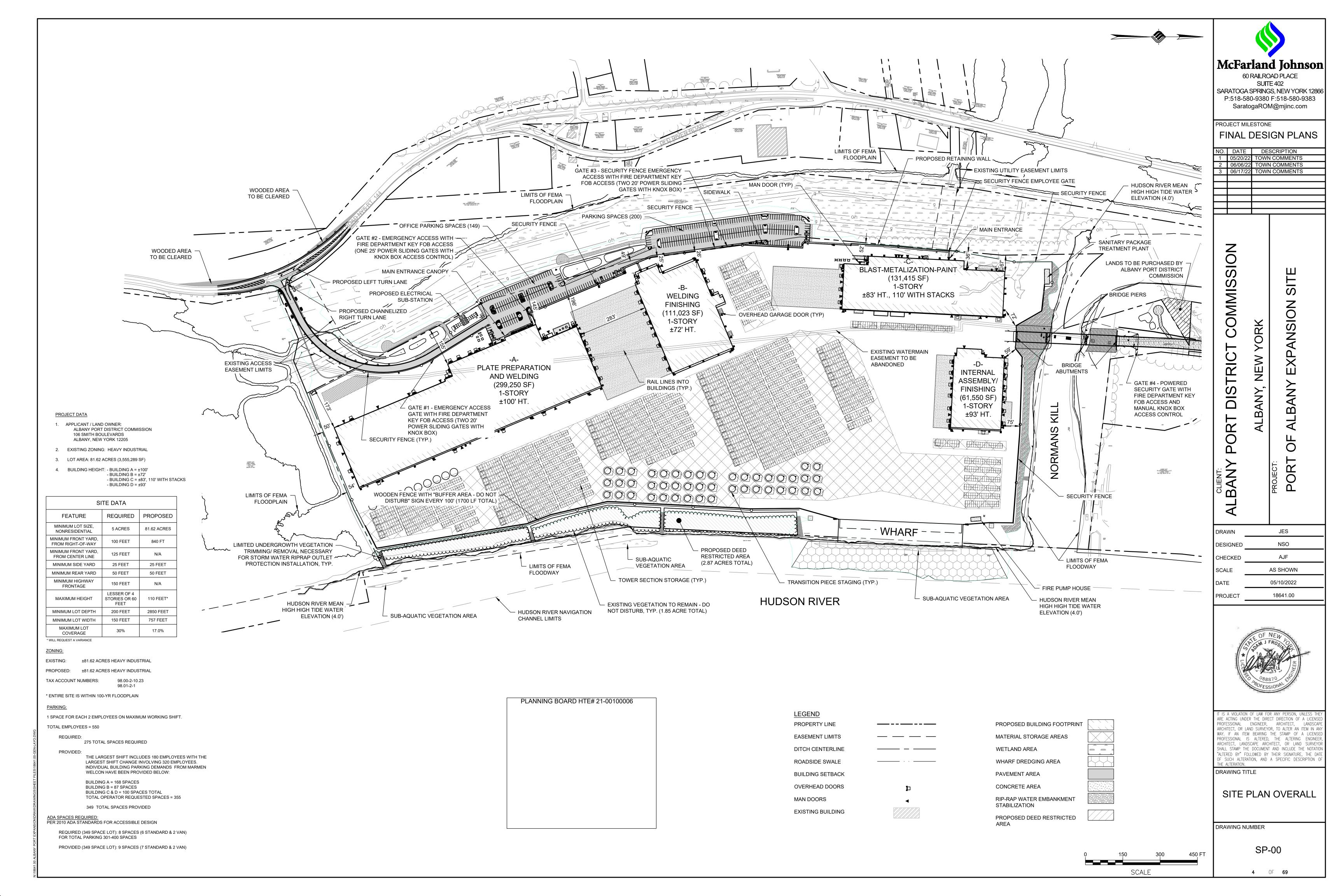
- (2) courses and distances: 1. South 02°47'19" West, 1846.12 feet to a point; thence
- 2. South 09°02'23" East, 1004.22 feet to a point in the common division line between lands of the aforementioned PSEG Power New York, Inc. on the south and lands of the aforementioned OG Real Estate Development, LLC on the north; thence along said common division line the following two (2) courses and distances:
- 1. South 63°05'59" West, 252.01 feet to a point; thence 2. South 67'55'30" West, 505.65 feet to the Point or Place of Beginning.

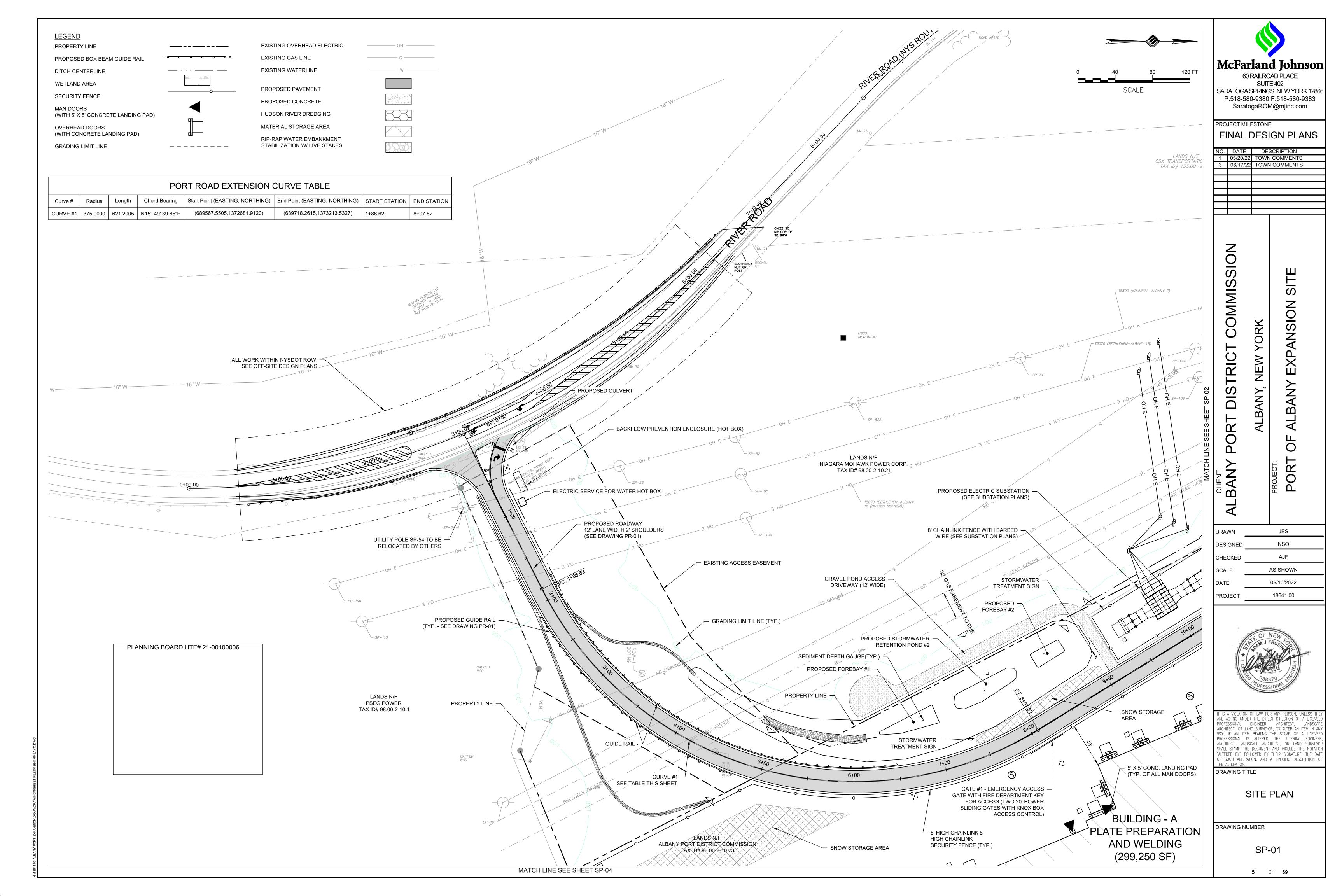
- 1. MAP ENTITLED "ALTA/ACSM LAND TITLE SUREY (URBAN CLASS) FOR ALBANY STEAM STATION, LANDS TO BE CONVEED TO PSEG POWER NEW YORK INC." PREPARED BY NIAGARA MOHAWK POWER CORPORATION,
- DATED DECEMBER 06, 1999, LAST REVISED MARCH 13, 2000. 2. MAP ENTITLED "ALBANY STEAM STATION SERVICE WATER LINE GENERAL PLAN AND PROFILE" BY PREPARED
- BY NIAGARA MOHAWK POWER CORPORATION, DATED MAY 15, 1952 AND LAST REVISED JUNE 27, 1989. 3. MAP ENTITLED "BOUNDARY SURVEY SHOWING LANDS N/F OF OG REAL ESTATE DEVELOPMENT, LLC" BY WSP

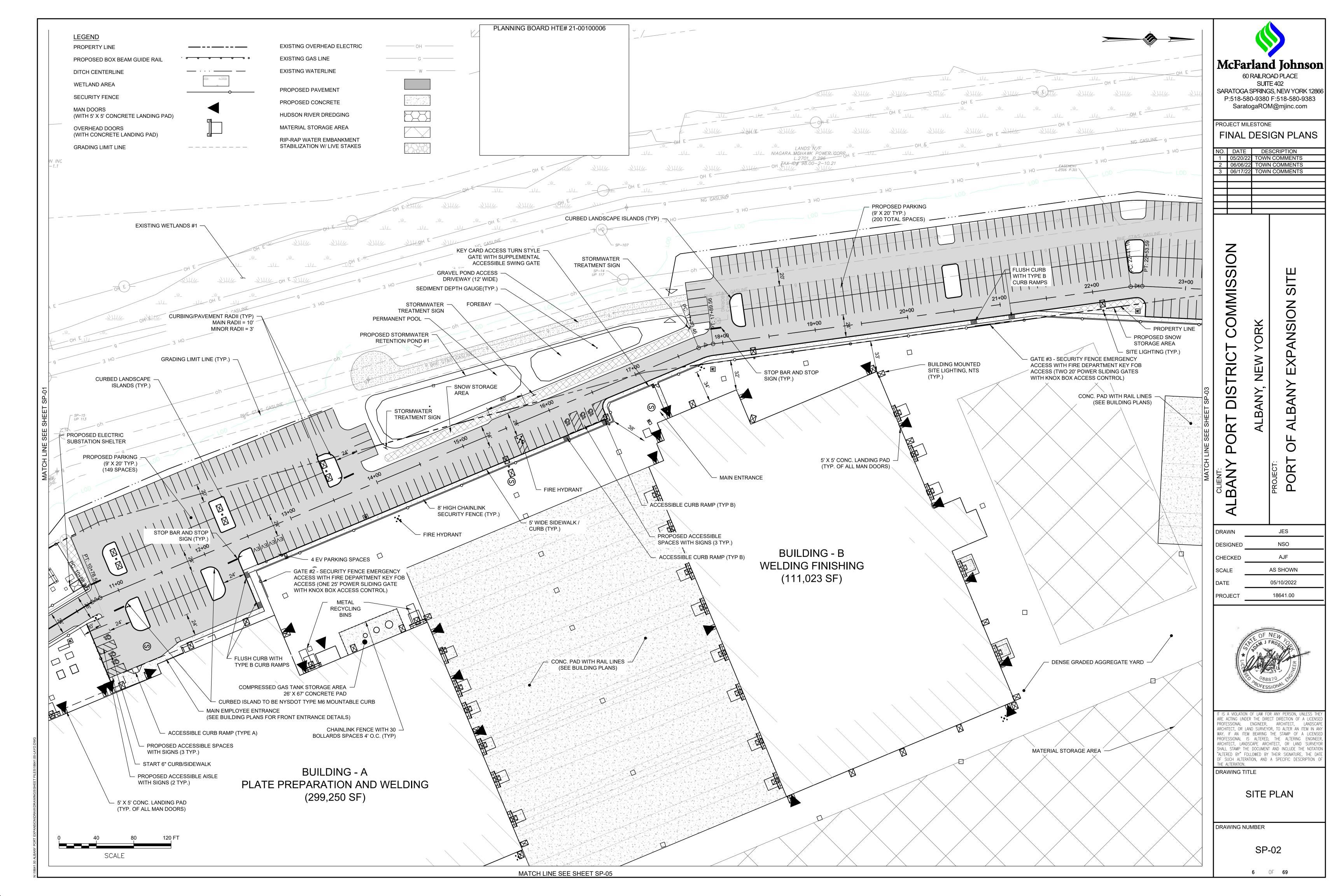
## SELLS, DATED SEPTEMBER 16, 2009. **GENERAL NOTES:**

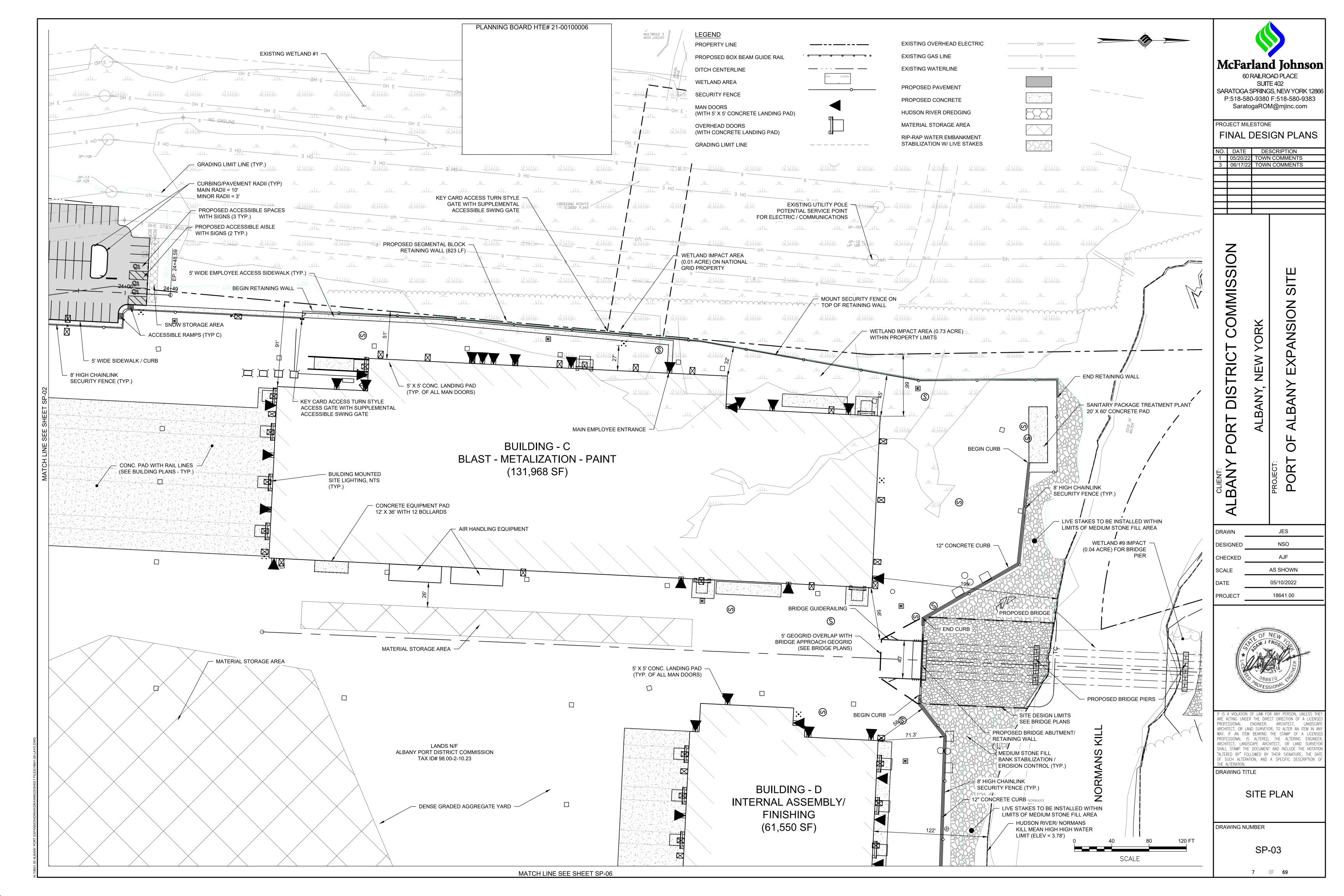
- 1. UNDERGROUND UTILITIES SHOWN HEREON BASED ON UTILITY EVIDENCE VISIBLE AT GROUND SURFACE AND RECORD DRAWINGS AND ARE SUBJECT TO FIELD VERIFICATION BY EXCAVATION. UTILITIES SHOWN DO NOT PURPORT TO CONSTITUTE OR REPRESENT ALL UTILITIES LOCATED UPON OR ADJACENT TO THE SURVEYED
- 2. THE OFFSETS OR DIMENSIONS SHOWN HEREON, FROM THE PROPERTY LINES TO THE STRUCTURES, ARE FOR A SPECIFIC PURPOSE AND USE; THEREFORE, THEY ARE NOT INTENDED TO MONUMENT THE PROPERTY LINES OR TO GUIDE THE ERECTION OF FENCES, ADDITIONAL STRUCTURES OR ANY OTHER IMPROVEMENTS.
- 3. EASEMENTS AND/OR SUBSURFACE STRUCTURES RECORDED OR UNRECORDED ARE NOT GUARANTEED UNLESS PHYSICALLY EVIDENT ON THE PREMISES AT THE TIME OF THE SURVEY.
- 4. SUBJECT TO ALL RIGHTS, EASEMENTS, COVENANTS AND RESTRICTIONS OF RECORD.
- 5. BASIS OF BEARING IS NEW YORK STATE PLANE COORDINATE SYSTEM EAST ZONE. CONTROL WAS ESTABLISHED USING NYSNET VRS SYSTEM. THE HORIZONTAL DATUM IS RELATIVE TO NAD83
- 6. THE VERTICAL POSITION OF THE HEREIN SURVEY IS BASED ON THE STATIC GPS OBSERVATIONS AND IS SUBJECT TO FURTHER ADJUSTMENT TO ANY LOCAL NGS BENCHMARKS. THE VERTICAL DATUM IS RELATIVE TO NAVD 1988 VIA THE APPLICATION OF GEOID MODEL 12B.
- 7. NO EVIDENCE OF RECENT EARTH MOVING WORK BUILDING CONSTRUCTION, OR BUILDING ADDITIONS WERE OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK.
- 8. NO WETLAND DELINEATION OBSERVED IN THE PROCESS OF CONDUCTING FIELDWORK.

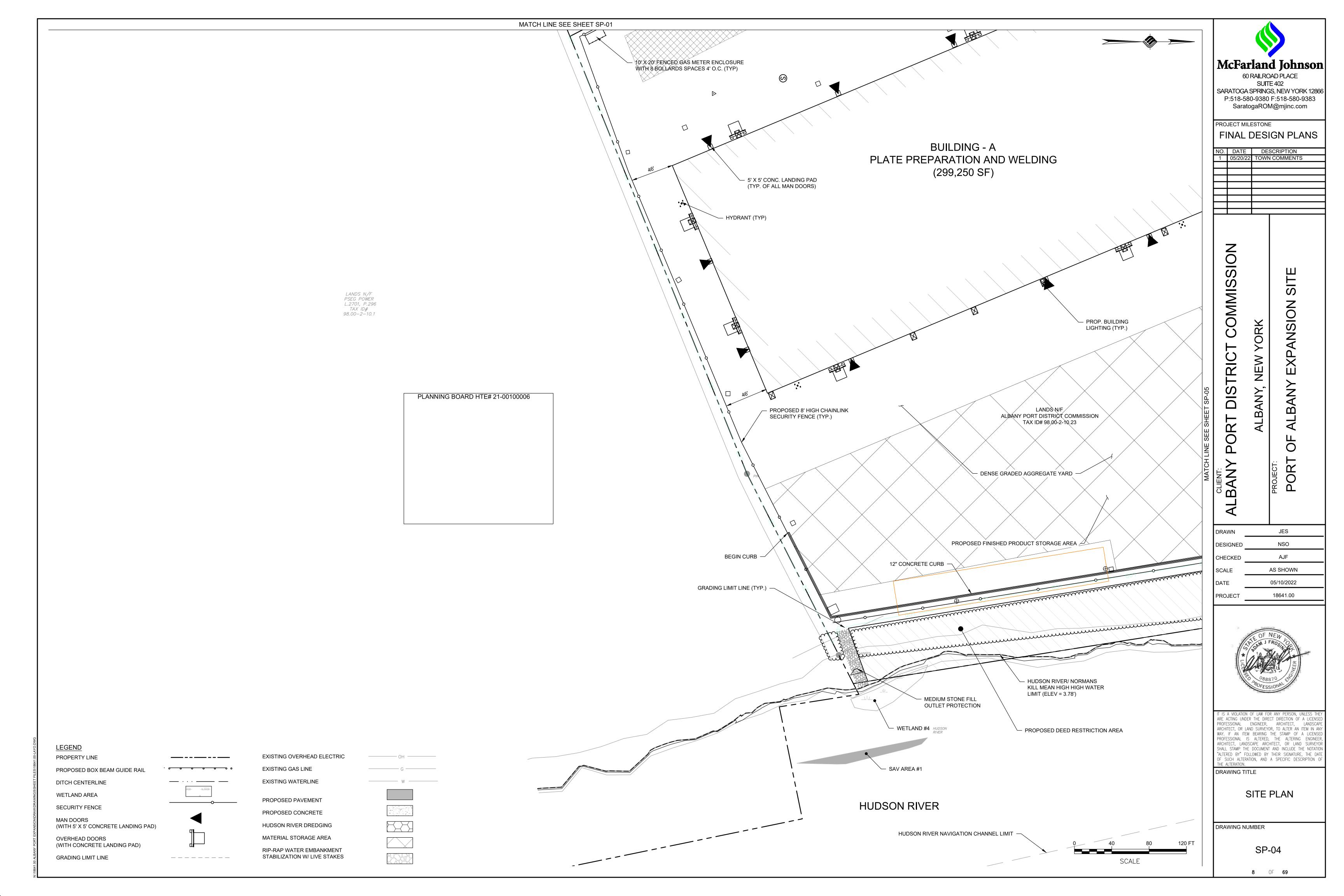


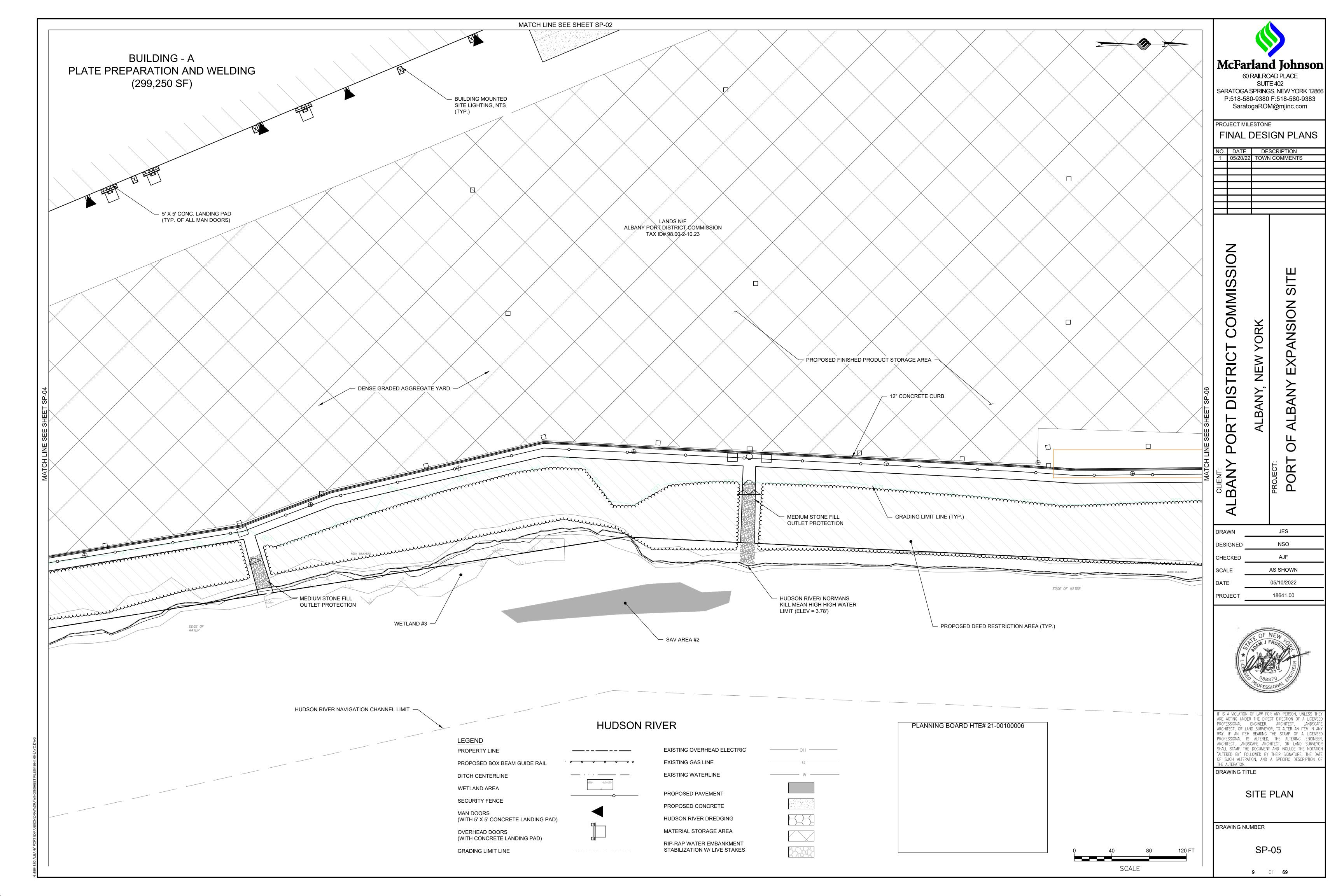


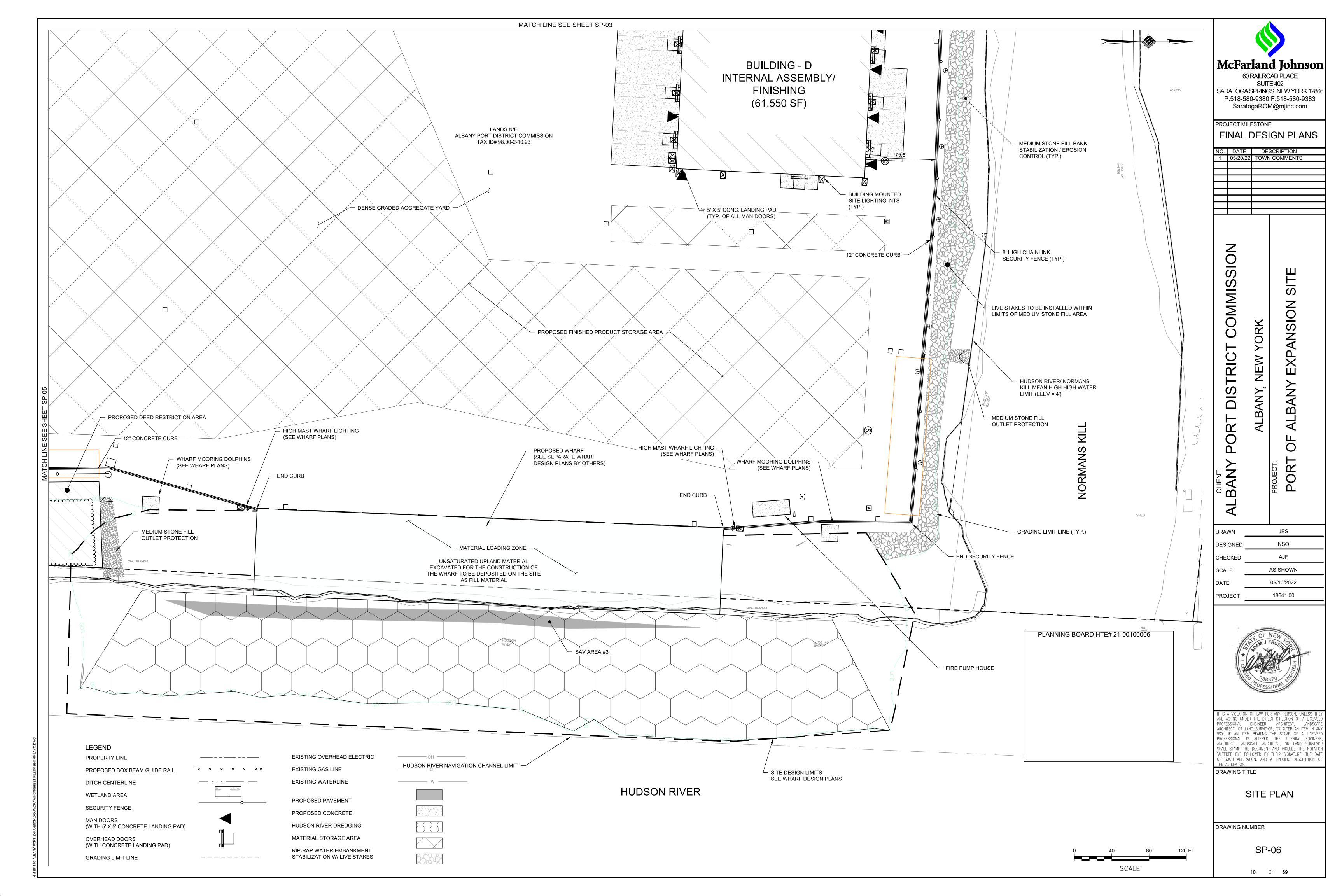


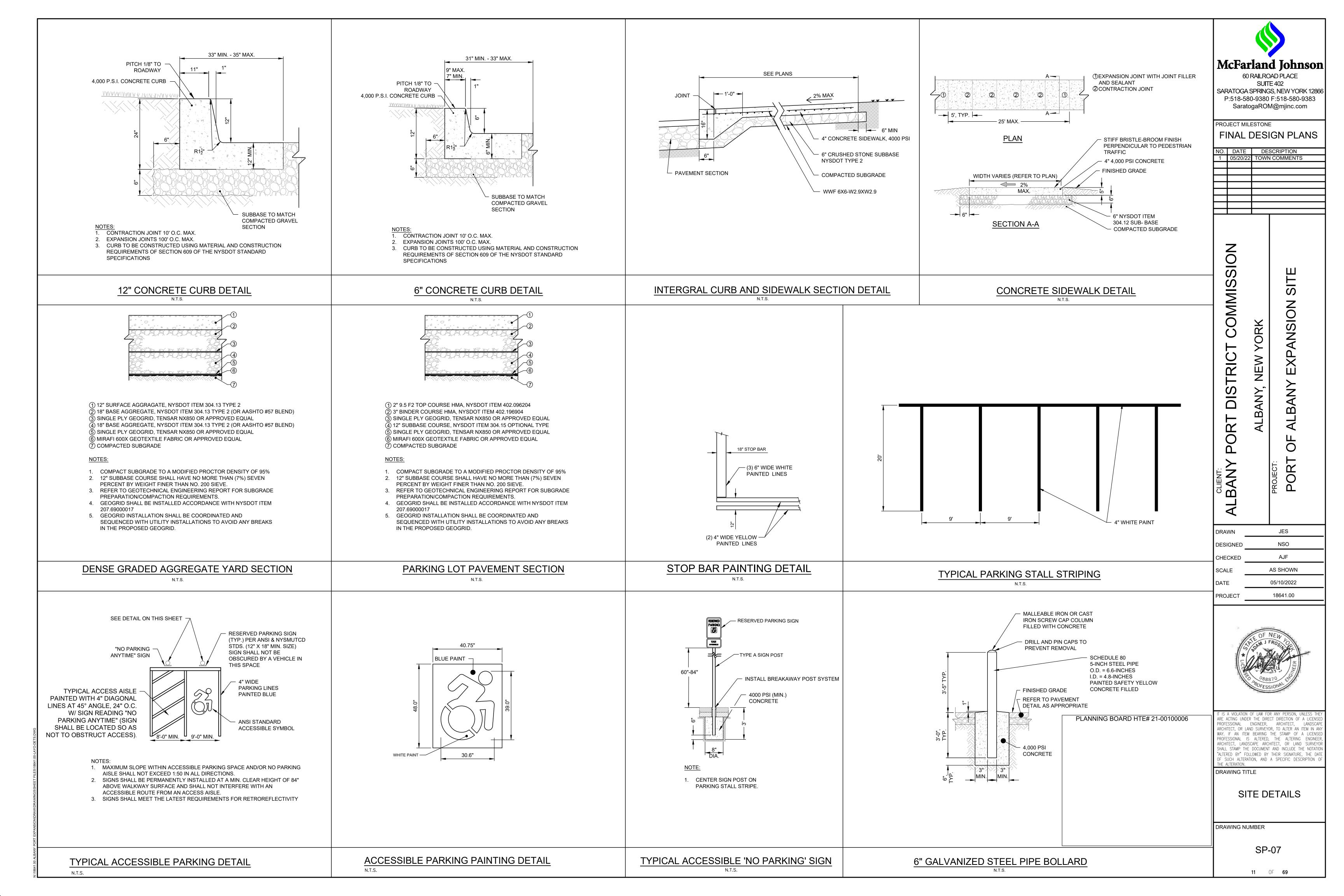


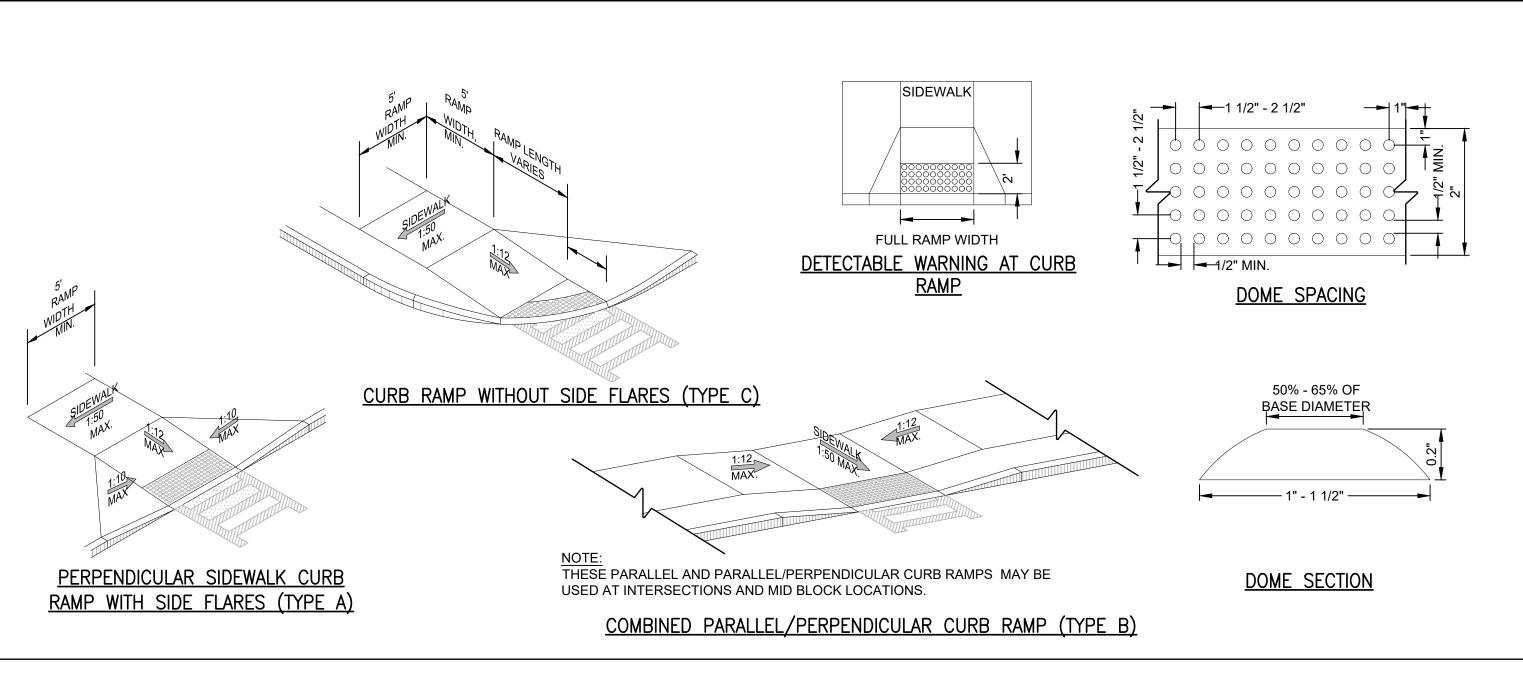












ACCESSIBLE RAMPS WITH DETECTABLE WARNING STRIP DETAILS

SECTION A - A

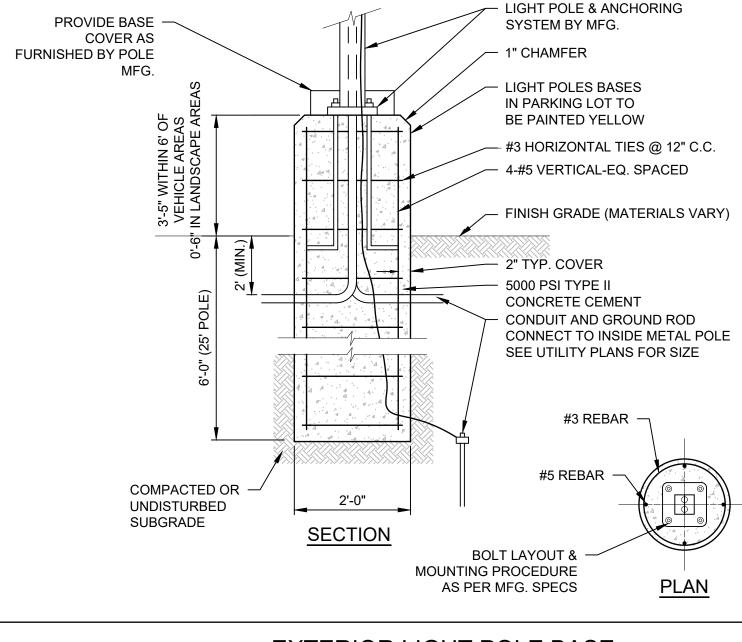
NOT TO SCALE

## NOTES:

- 1. THE DETECTABLE WARNING DETAILS PROVIDED ARE NOT DRAWN TO SCALE, THE QUANTITY OF DOMES DEPICTED
- 2. LOCATION OF DETECTABLE WARNINGS. DETECTABLE WARNINGS SHALL BE LOCATED SO THAT THE EDGE OF THE WARNING FIELD NEAREST TO THE ROADWAY OR STREET SURFACE IS 6" TO 9" (1' WHERE TRANSVERSABLE CURB IS USED) FROM THE EDGE OF THE ROADWAY/STREET, OR FROM THE FACE OF THE DROPPED CURB, WHERE A DROPPED CURB CONTINUES ACROSS THE BOTTOM OF THE SIDEWALK CURB RAMP. THE DETECTABLE WARNINGS
- SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE. DOME ALIGNMENT. DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL
- AND/OR APPLICABLE SURFACES. LANDINGS SHALL HAVE A MINIMUM CLEAR DIMENSION OF A 5' BY 5' SQUARE. 5. LANDINGS MAY OVERLAP WITH ADJACENT LANDINGS OR A SINGLE LANDING MAY SERVE MULTIPLE CURB RAMPS OR PARALLEL OR PARALLEL/PERPENDICULAR RAMPS. LANDINGS MAY OVERLAP WITH THE CLEAR GROUND SPACE
- REQUIRED AT PEDESTRIAN SIGNAL PUSH BUTTONS. 6. CROSS SLOPES: THE MAXIMUM CROSS SLOPE OF CURB RAMPS SHALL BE 2 PERCENT. THE MAXIMUM CROSS SLOPE AT LANDINGS IS 2 PERCENT IN ANY DIRECTION. SURFACES SHALL GENERALLY LIE IN CONTINUOUS PLANES WITH A
- 7. THE RUNNING GRADE OF CURB RAMPS SHOULD BE AS FLAT AS PRACTICABLE. THE MAXIMUM RUNNING GRADE OF
- 8. THE SURFACE OF ALL CURB RAMPS SHALL BE STABLE, FIRM AND SLIP RESISTANT. A COARSE BROOM FINISH RUNNING PERPENDICULAR TO THE SLOPE IS RECOMMENDED ON CONCRETE RAMP SURFACES. EXCLUSIVE OF THE
- 9. CURB RAMPS LOCATED WHERE PEDESTRIANS MAY WALK ACROSS THE CURB RAMP SHALL HAVE FLARED SIDES. THE LENGTH OF THE FLARES SHALL BE AT LEAST TEN (10) THE TIMES THE CURB HEIGHT, MEASURED ALONG THE CURB LINE. WHEN INFEASIBLE OR IMPRACTICABLE TO PROVIDE A LANDING THAT IS AT LEAST 4' WIDE (MEASURED FROM THE TOP OF THE RAMP TO THE BACK OF THE SIDEWALK), THE LENGTH OF THE FLARES SHALL BE TWELVE

UTILITY ACCESS COVERS ARE NOT ALLOWED IN RAMP WALKING SURFACES OR LANDINGS.

- (12) TIMES THE CURB HEIGHT MEASURED ALONG THE CURB LINE. 10. COORDINATE ALL TRAFFIC CONTROL DEVICES, UTILITY LOCATIONS, SIGNS, STREET FURNITURE AND DRAINAGE TO ENSURE A CONTINUOUS PEDESTRIAN ACCESS ROUTE AT ALL CURB RAMP LOCATIONS. GUIDANCE FOR CROSSWALK MARKINGS AND TRAFFIC CONTROL DEVICES IS PROVIDED IN THE MUTCD. DRAINAGE GRATES AND
- 11. AT MARKED CROSSINGS, THE FULL WIDTH OF THE RAMP SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS. THE SIDES OF THE RAMPS (THE FLARES) NEED NOT BE WITHIN THE WIDTH OF THE MARKINGS. 12. RAMP TRANSITIONS BETWEEN WALKS, GUTTERS, OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT VERTICAL



## EXTERIOR LIGHT POLE BASE

STORMWATER MANAGEMENT PRACTICE -**RETENTION POND #1** 3/8" CAP SCREW (ZINC PLATED) · R1-1 (30"X30") STOP SIGN PROJECT IDENTIFICATION -3/8" FLAT WASHER (ZINC PLATED) DIAMOND GRADE SIGN FACE

2" x 2" PERFORATED GALVANIZED

SQUARE TUBING (12 GA.)

(ZINC PLATED)

PERMIT # NYRXXXXXX MUST BE MAINTAINED IN ACCORDANCE

WITH O&M PLAN

SPDES CONSTRUCTION

DO NOT REMOVE OR ALTER

## WARNING

SWIMMING, WADING, AND SKATING

POSSIBLE CONTAMINATION OR POLLUTION OF POND WATER

MAXIMUM POND DEPTH IS 8.0 FEET

SEE SHEET SP-02 FOR LOCATION, ORIENTATION,

AND QUANTITY

SWIMMING, WADING, AND SKATING IS PROHIBITED

STORMWATER MANAGEMENT PRACTICE -

PROJECT IDENTIFICATION -

SPDES CONSTRUCTION

PERMIT # NYRXXXXXX

MUST BE MAINTAINED IN ACCORDANCE

DO NOT REMOVE OR ALTER

WARNING

WITH O&M PLAN

RETENTION POND #2

POSSIBLE CONTAMINATION OR POLLUTION OF POND WATER

MAXIMUM POND DEPTH IS 7.5 FEET

SEE SHEET SP-01 FOR LOCATION, ORIENTATION, AND QUANTITY

PLANNING BOARD HTE# 21-00100006

BAN JES DRAWN NSO DESIGNED AJF CHECKED

AS SHOWN

05/10/2022

18641.00

McFarland Johnson

60 RAILROAD PLACE

SUITE 402

SARATOGA SPRINGS, NEW YORK 12866

P:518-580-9380 F:518-580-9383

SaratogaROM@mjinc.com

FINAL DESIGN PLANS

TOWN COMMENTS

NO. DATE DESCRIPTION

PROJECT MILESTONE

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OMMIS

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SCALE

PROJECT

ORK

## POST MOUNTED SIGN INSTALLATION

REFLECTIVE

2" x 2" PERFORATED GALVANIZED

- 2 1/4" x 2 1/4" PERFORATED GALVANIZED SQUARE TUBING POST BASE (12 GA.)

SHEETING

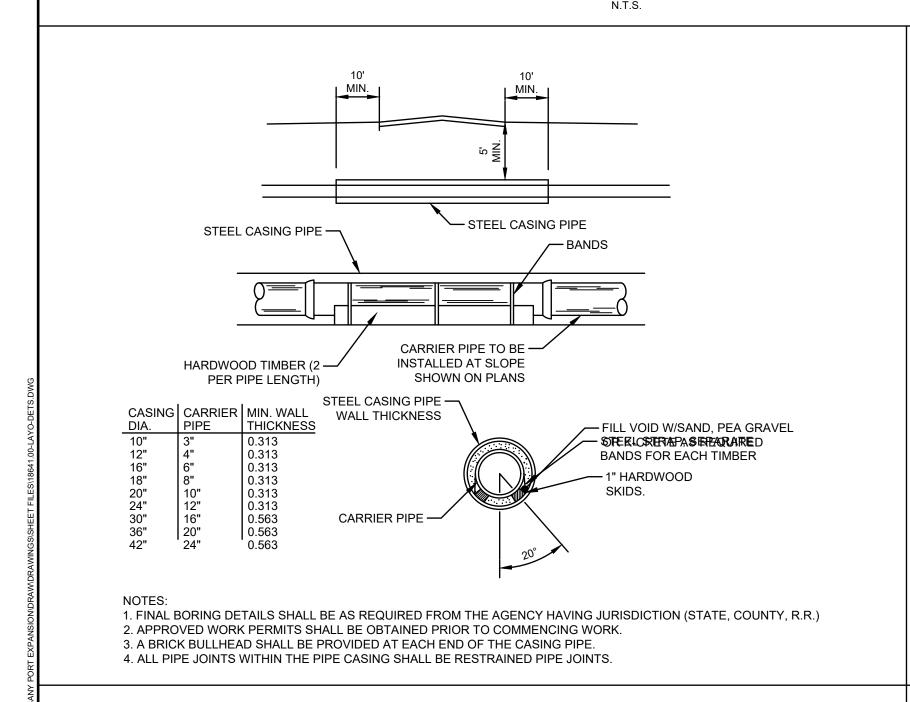
- NEW STOP SIGN PANEL

SQUARE TUBING (12 GA.)

- 3" x 3/8" BOLT (ZINC PLATED) AND 3/8" LOCKNUT (ZINC PLATED)

VARIABLE LENGTH

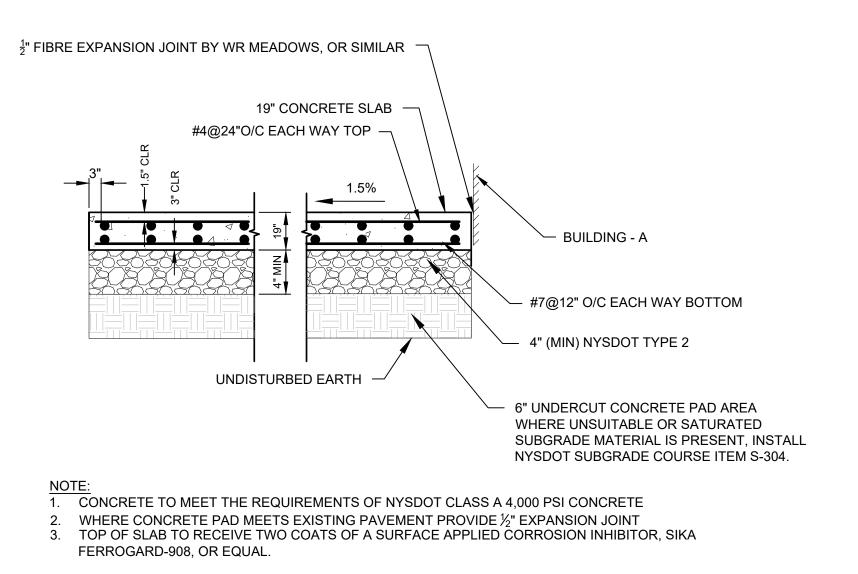
## STORMWATER TREATMENT SIGNS

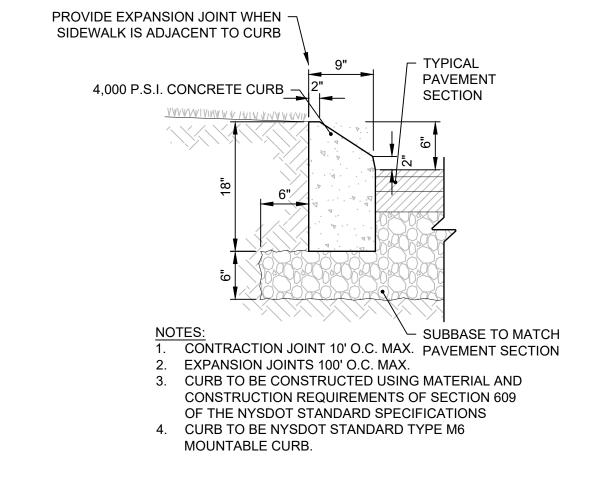


CASING PIPE INSTALLATION

FACE OF CURB OR

BACK OF GUTTER







ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSE PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAF ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY VAY. IF AN ITEM BEARING THE STAMP OF A LICENSI PROFESSIONAL IS ALTERED, THE ALTERING ENGINEE ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYO SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DAT F SUCH ALTERATION, AND A SPECIFIC DESCRIPTION

DRAWING TITLE

SITE DETAILS

DRAWING NUMBER

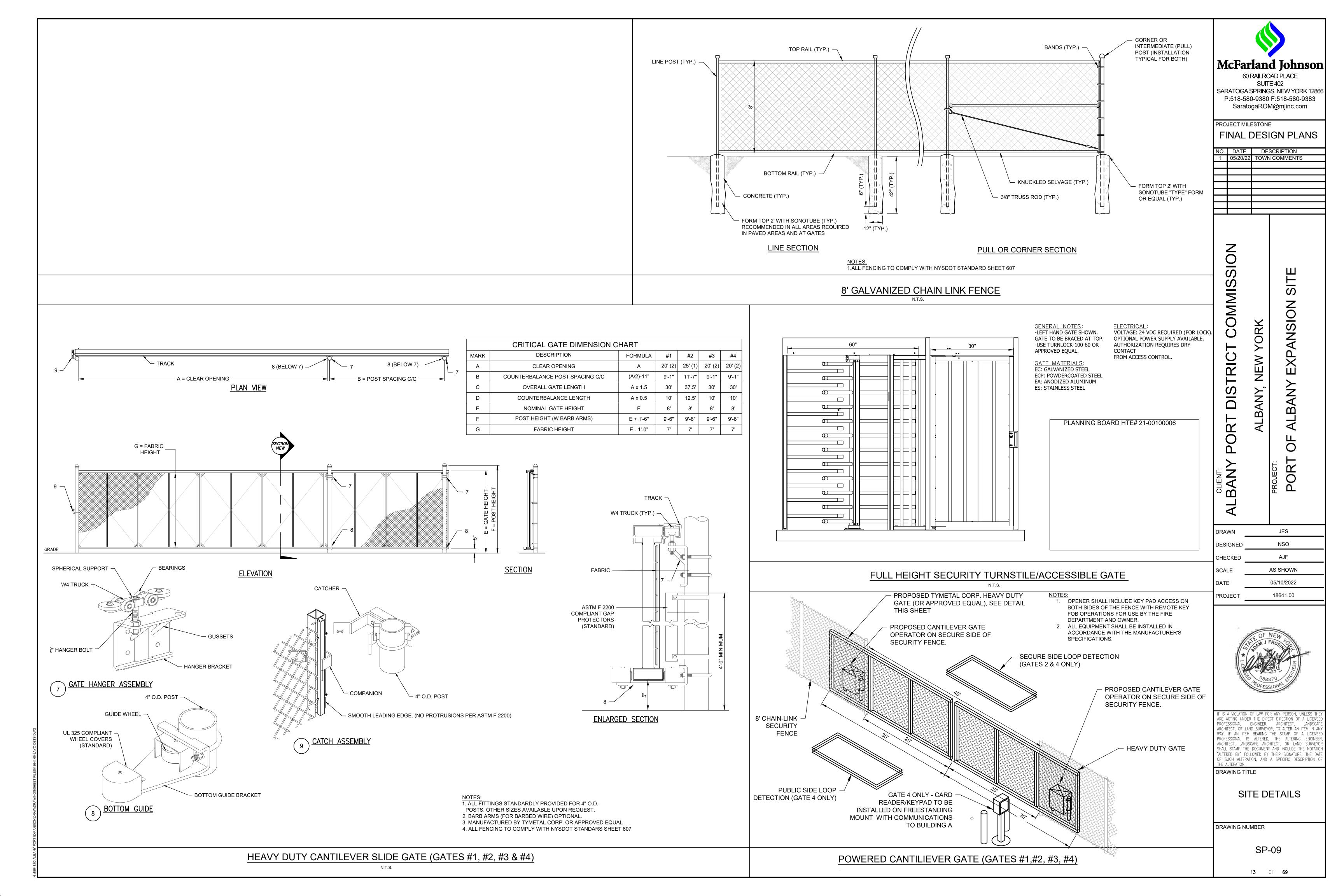
SP-08

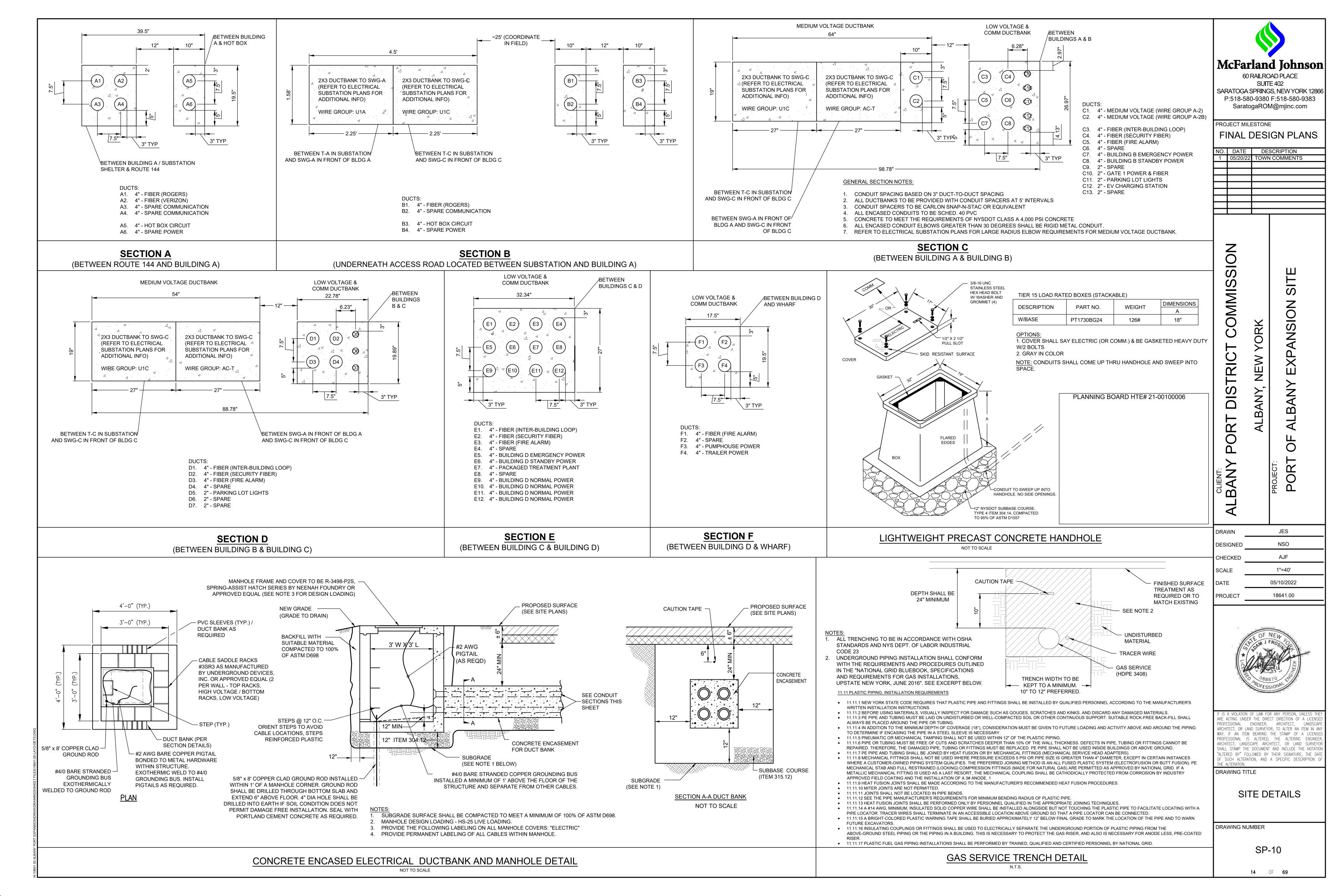
**CONCRETE - GAS TANK STUCTURAL SLAB DETAIL** 

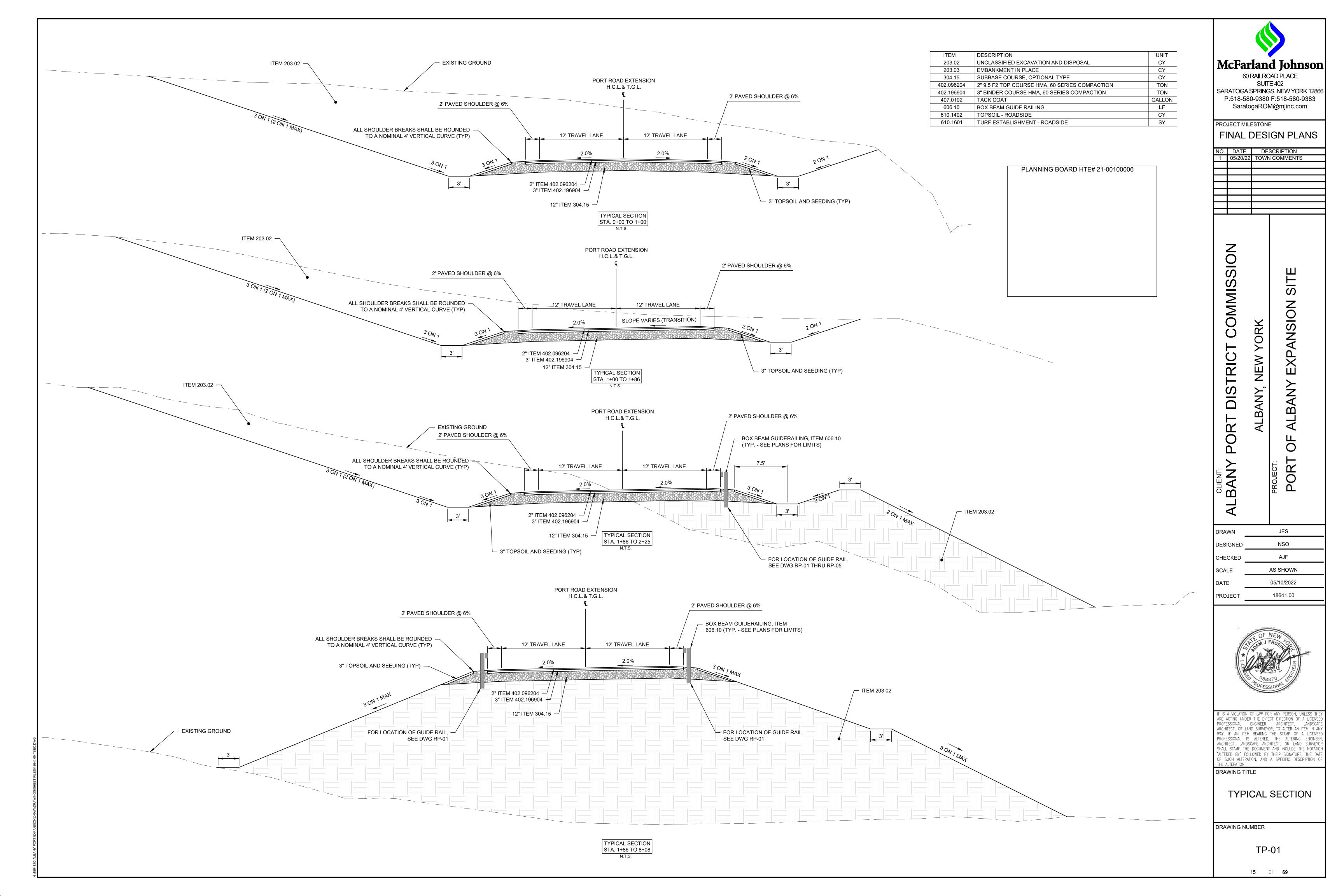
6" CONCRETE MOUNTABLE CURB DETAIL

**12** OF **69** 

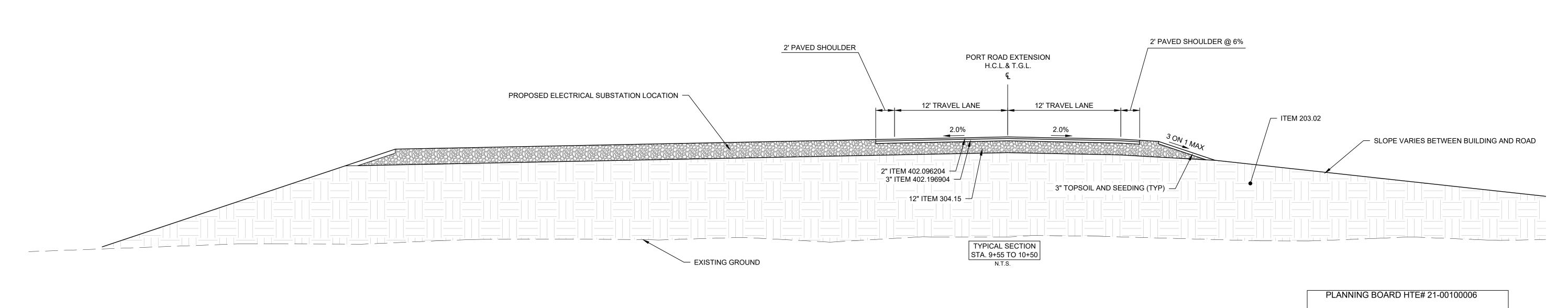
NOT TO SCALE







	UNIT 60 R
304.15 SUBBASE COURSE, OPTIONAL TYPE 402.096204 2" 9.5 F2 TOP COURSE HMA, 60 SERIES COMPACTION	CY CY TON SARATOGA SF P:518-580- Saratoga
407.0102 TACK COAT G. 606.10 BOX BEAM GUIDE RAILING	GALLON  LF  PROJECT MILES
	SY NO. DATE
	1 05/20/22
2' PAVED SHOULDER @ 6%  PORT ROAD EXTENSION H.C.L.& T.G.L.	
ALL SHOULDER BREAKS SHALL BE ROUNDED — TO A NOMINAL 4' VERTICAL CURVE (TYP)	
12' TRAVEL LANE 12' TRAVEL LANE	OMMISSION
SLOPE VARIES BETWEEN BUILDING AND ROAD	
ROADSIDE DITCH AT 83" ITEM 402.196904	
TYPICAL SECTION STA. 8+08 TO 9+55 N.T.S.	



McFarland Johnson
60 RAILROAD PLACE
SUITE 402
SARATOGA SPRINGS, NEW YORK 12866
P:518-580-9380 F:518-580-9383
SaratogaROM@mjinc.com

FINAL DESIGN PLANS

NO. DATE DESCRIPTION

1 05/20/22 TOWN COMMENTS

VEW YORK

ALBANY, NEW YORK
PROJECT:

DRAWN JES

DESIGNED NSO

CHECKED AJF

SCALE AS SHOWN

DATE 05/10/2022

PROJECT 18641.00



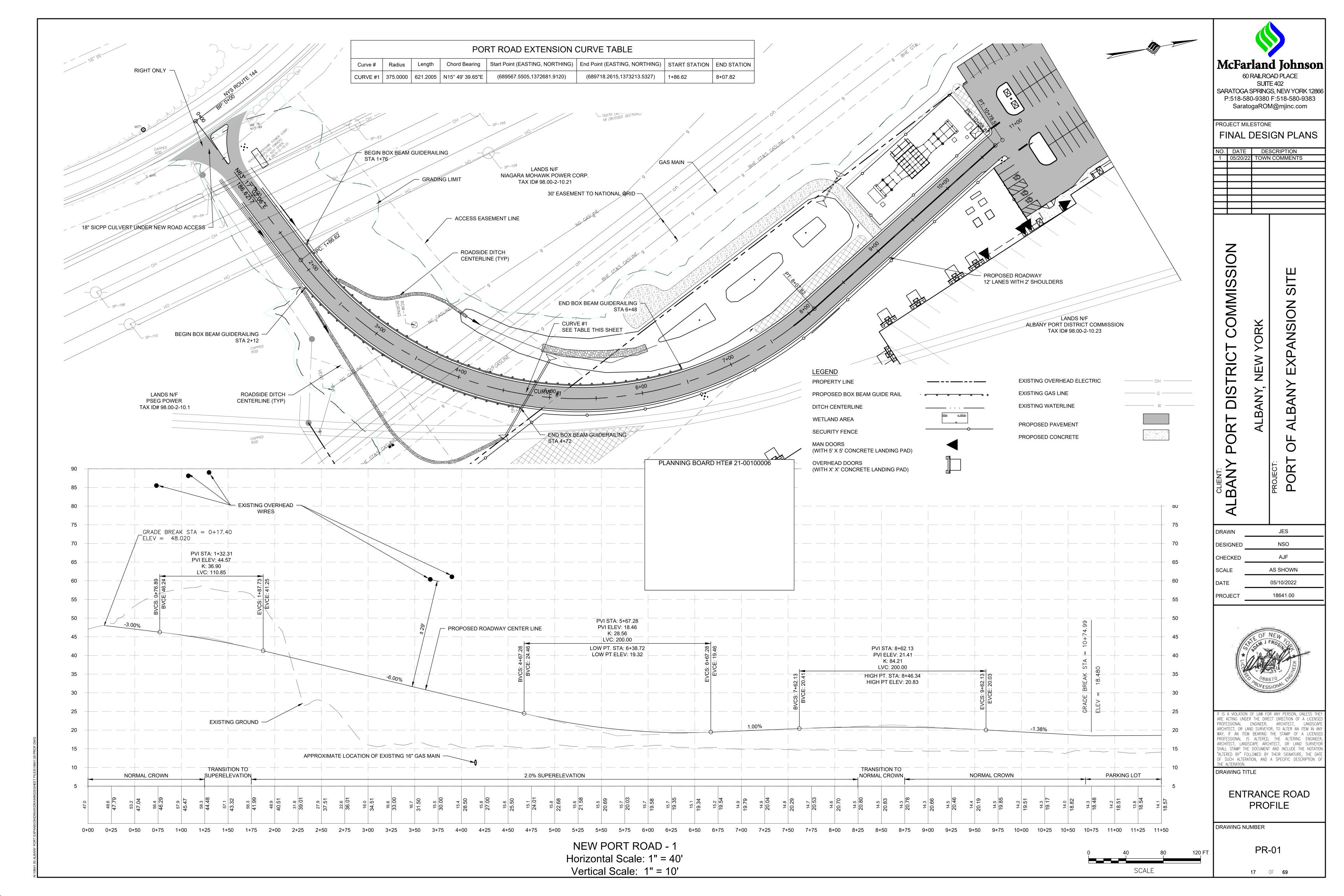
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

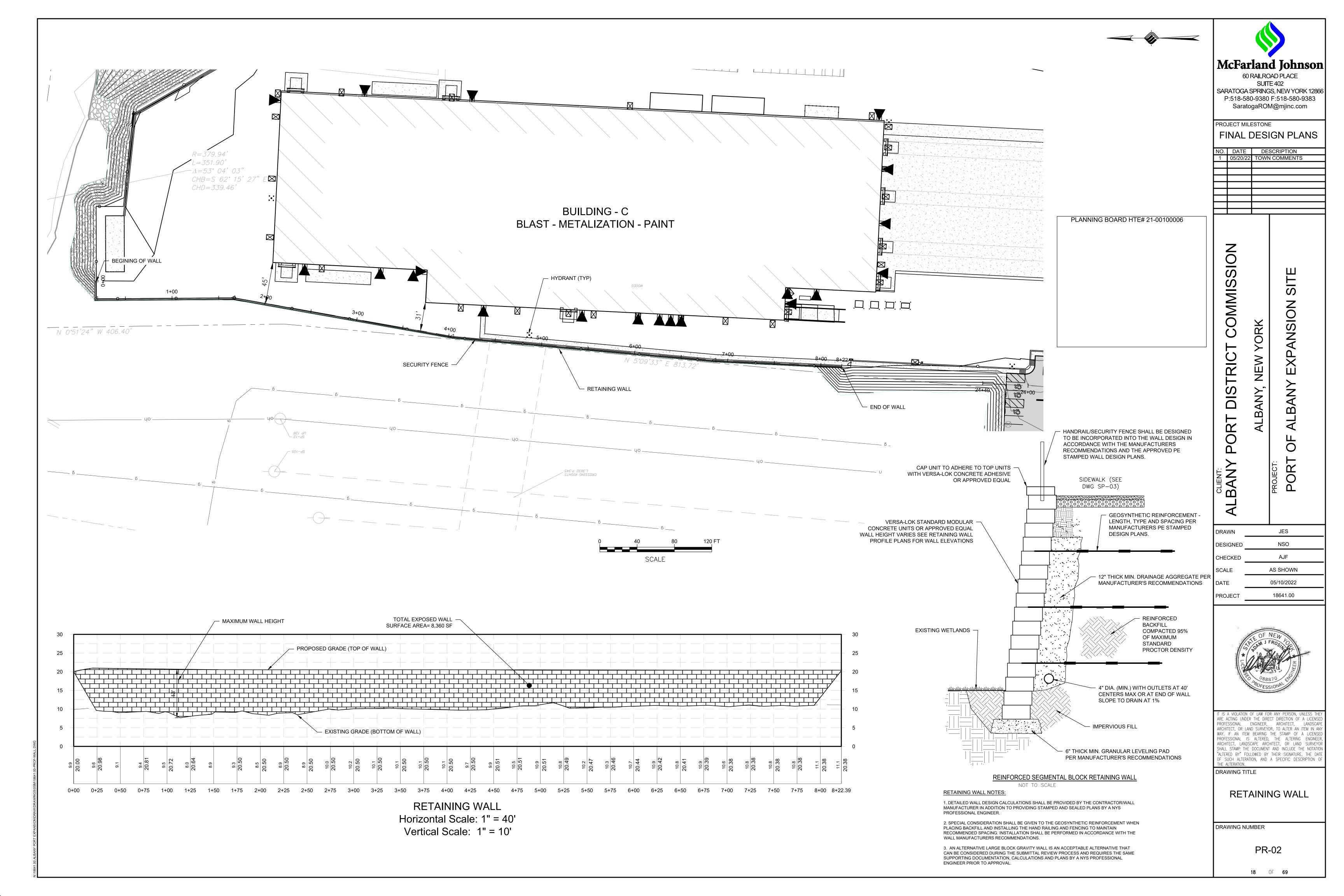
DRAWING TITLE

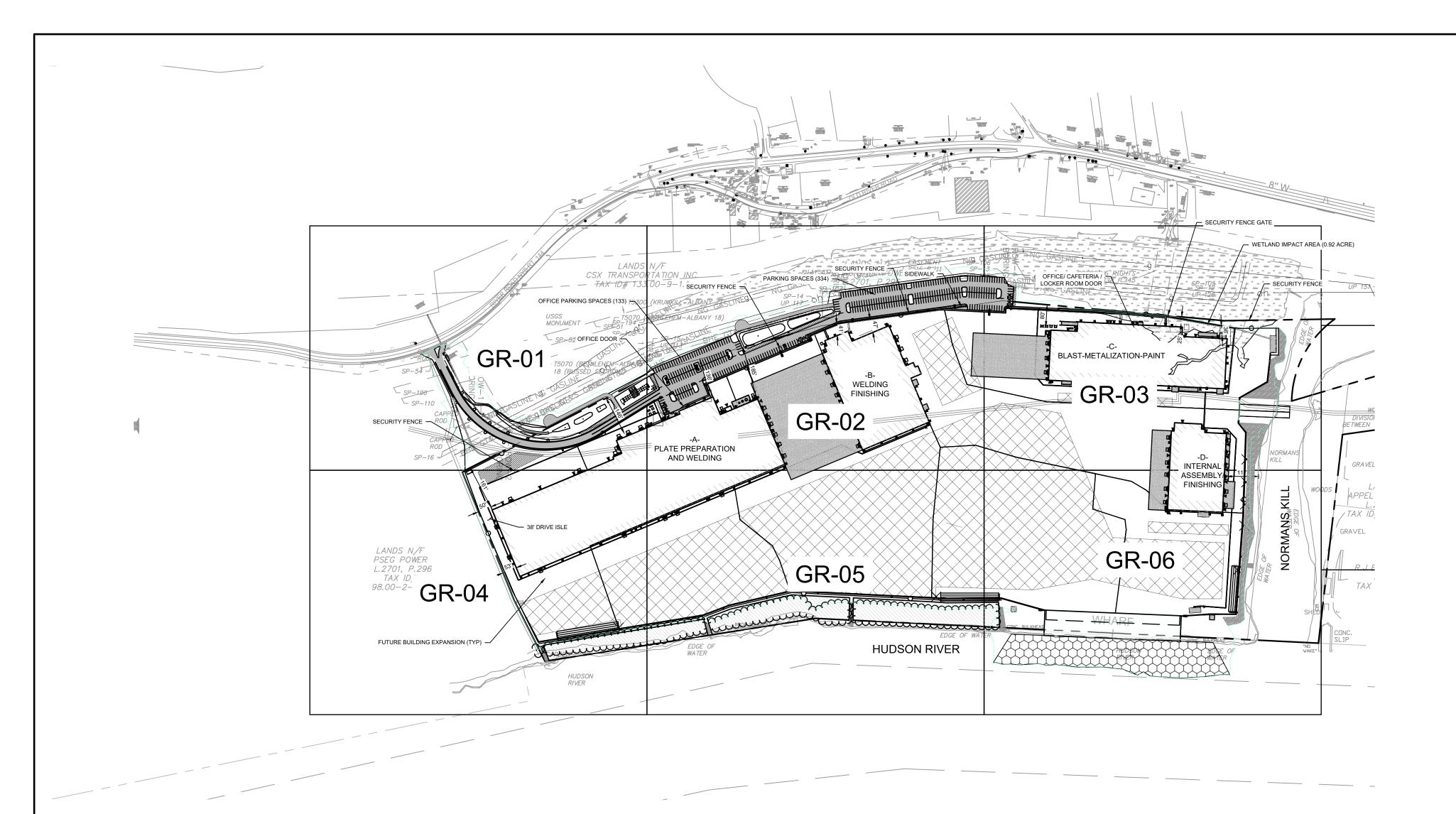
TYPICAL SECTION

DRAWING NUMBER

TP-02









PLANNING BOARD HTE# 21-00100006

## McFarland Johnson

60 RAILROAD PLACE SUITE 402 SARATOGA SPRINGS, NEW YORK 12866 P:518-580-9380 F:518-580-9383 SaratogaROM@mjinc.com

PROJECT MILESTONE

FINAL DESIGN PLANS

0.	DATE	DESCRIPTION
	05/20/22	TOWN COMMENTS

# COMMIS

DRAWN JES NSO DESIGNED AJF CHECKED SCALE AS SHOWN 05/10/2022

18641.00



ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSE PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSE PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION O

DRAWING TITLE

PROJECT

GRADING, DRAINAGE **NOTES & INDEX** 

DRAWING NUMBER

**GR-00** 

**19** OF **69** 

## **GRADING NOTES:**

- 1. REMOVE AND STOCKPILE TOPSOIL AS DIRECTED BY THE CONSTRUCTION MANAGER. REPLACE TOPSOIL TO A MINIMUM 3" DEPTH. ALL DISTURBED AREAS TO BE HYDROSEEDED AS DIRECTED BY THE CONSTRUCTION MANAGER.
- 2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REMOVAL OF TEMPORARY SEDIMENTATION CONTROLS, INCLUDING INLET PROTECTION AND SILT FENCE. EROSION CONTROL MEASURES SHALL NOT BE REMOVED BEFORE VEGETATION HAS ACHIEVED 80% STABILIZATION.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF TOPSOIL TO ALL DISTURBED AREAS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN EROSION CONTROL MEASURES AT ALL TIMES.
- 4. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED IN ACCORDANCE WITH THE PROJECTS EROSION AND SEDIMENT CONTROL PLANS, THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, ALBANY COUNTY HEALTH DEPARTMENT, AND THE TOWN OF BETHLEHEM REQUIREMENTS.
- 5. ALL INLETS TO THE STORM SEWER SHALL HAVE INLET PROTECTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING BEST MANAGEMENT PRACTICES (BMP'S) UNTIL GROUND COVER ACHIEVES 80% STABILIZATION.
- 6. SILT FENCE OR OTHER APPROVED EROSION CONTROL PRACTICE SHALL BE USED ON STEEP SLOPES AND WHEREVER NECESSARY TO CONTROL EROSION AND SILTATION OF EXISTING DRAINAGE SYSTEMS AS ORDERED BY THE ENGINEER OR SPECIFIED ON PLANS.

7. THE CONTRACTOR SHALL DESIGNATE A REPRESENTATIVE WITH NYSDEC CERTIFICATION TO

- MONITOR EROSION CONTROL PRACTICES, TREE PROTECTION AND PRESERVATION THROUGHOUT CONSTRUCTION.
- 8. ALL GRADING AND EARTHWORK SHALL BE IN CONFORMANCE WITH NEW YORK STATE STANDARD SPECIFICATIONS SECTION 203 - EXCAVATION AND EMBANKMENT, WHICH INCLUDES MAXIMUM EMBANKMENT LIFT THICKNESS ALLOWED BASED ON THE COMPACTION EQUIPMENT USED.
- 9. ALL PROPOSED ELEVATIONS SHOWN HEREON ARE FINISHED GRADE ELEVATION.
- 10. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING RIM ELEVATIONS IN RELATION TO PROPOSED GRADE PRIOR TO INSTALLATION.
- 11. CAUTION SHOULD BE USED WHEN COMPLETING ANY EXCAVATION WITHIN THE SITE WITH REGARD TO THE EXISTING CONDITIONS. ALL GRADING WORK SHALL BE IN COMPLIANCE WITH THE SOIL MANAGEMENT PLAN - PORT OF ALBANY EXPANSION PROJECT, BEACON ISLAND PARCEL, BETHLEHEM, ALBANY COUNTY, NEW YORK PREPARED BY ATL DATED "AUGUST 13, 2021".

## STORM SEWER:

- 1. ALL HDPE PIPES SHALL FOLLOW NYSDOT SECTION 603-2 AND 706-12, BE SMOOTH INTERIOR.
- 2. PLACE RIP-RAP AROUND ALL END SECTIONS.
- 3. IN INSTANCES WHERE THE STORM SEWER CROSSES THE SANITARY SEWER A CRUSHED STONE ENCASEMENT SHALL BE PROVIDED AROUND THE SANITARY SEWER UP TO THE STORM SEWER-COMPACT WITH APPROVED EQUIPMENT.
- 4. ALL CATCH BASINS AND STORM MANHOLES WITHIN PAVEMENT TO BE CONSTRUCTED TO WITHSTAND HS-20 LOADING.

<u>LEGEND</u>

PROPERTY LINE

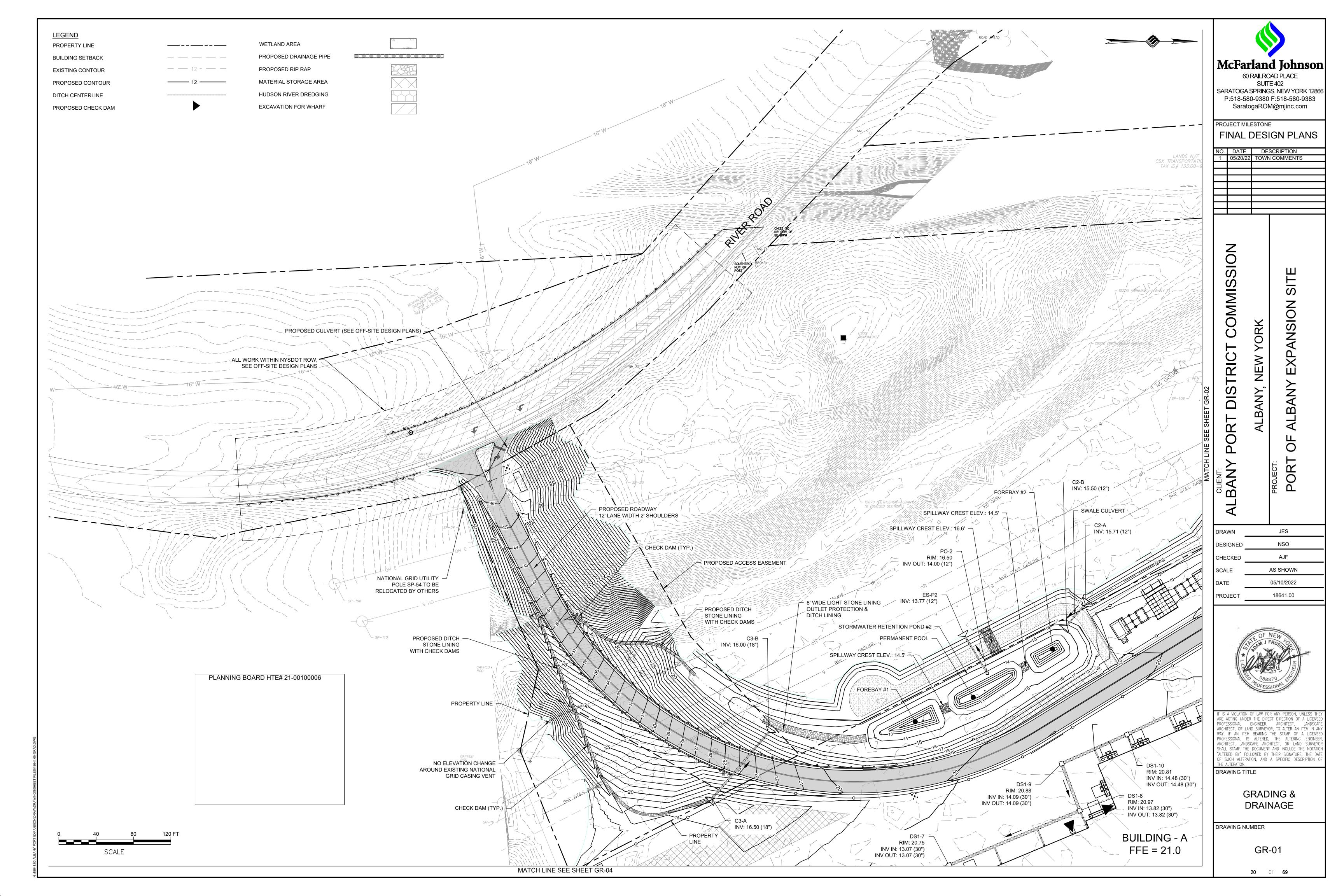
WETLAND AREA

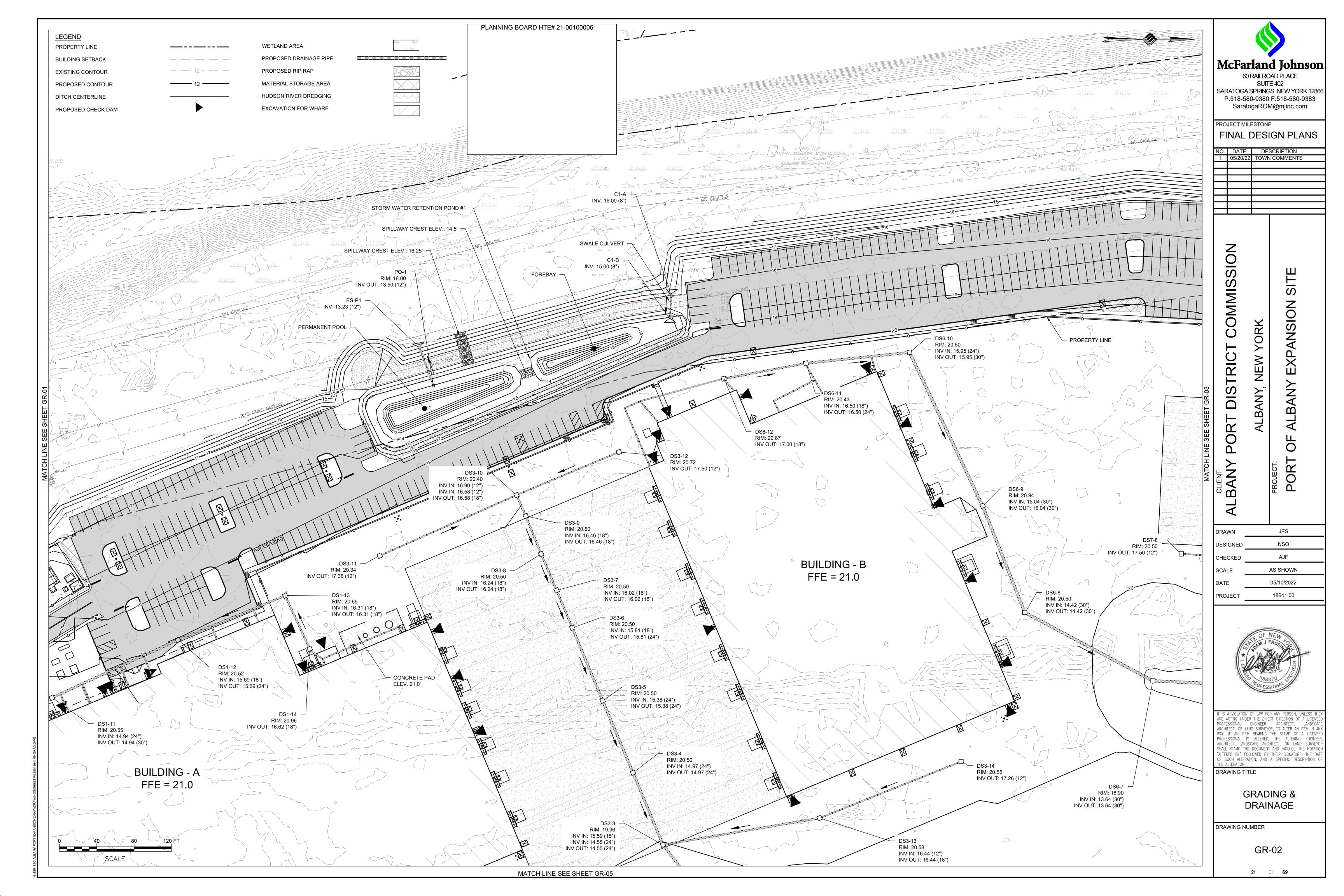
STORAGE AREA

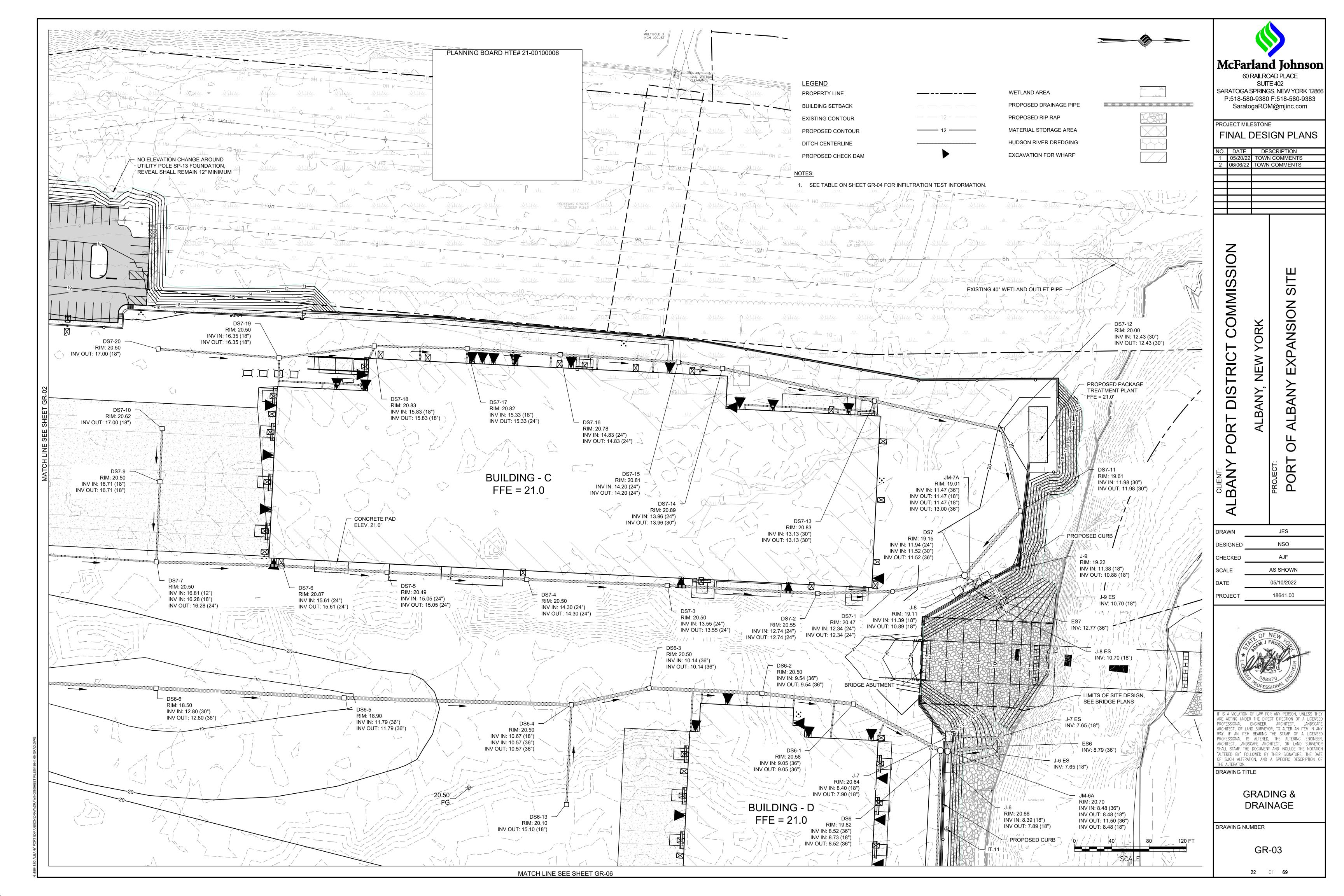
DREDGING AREA

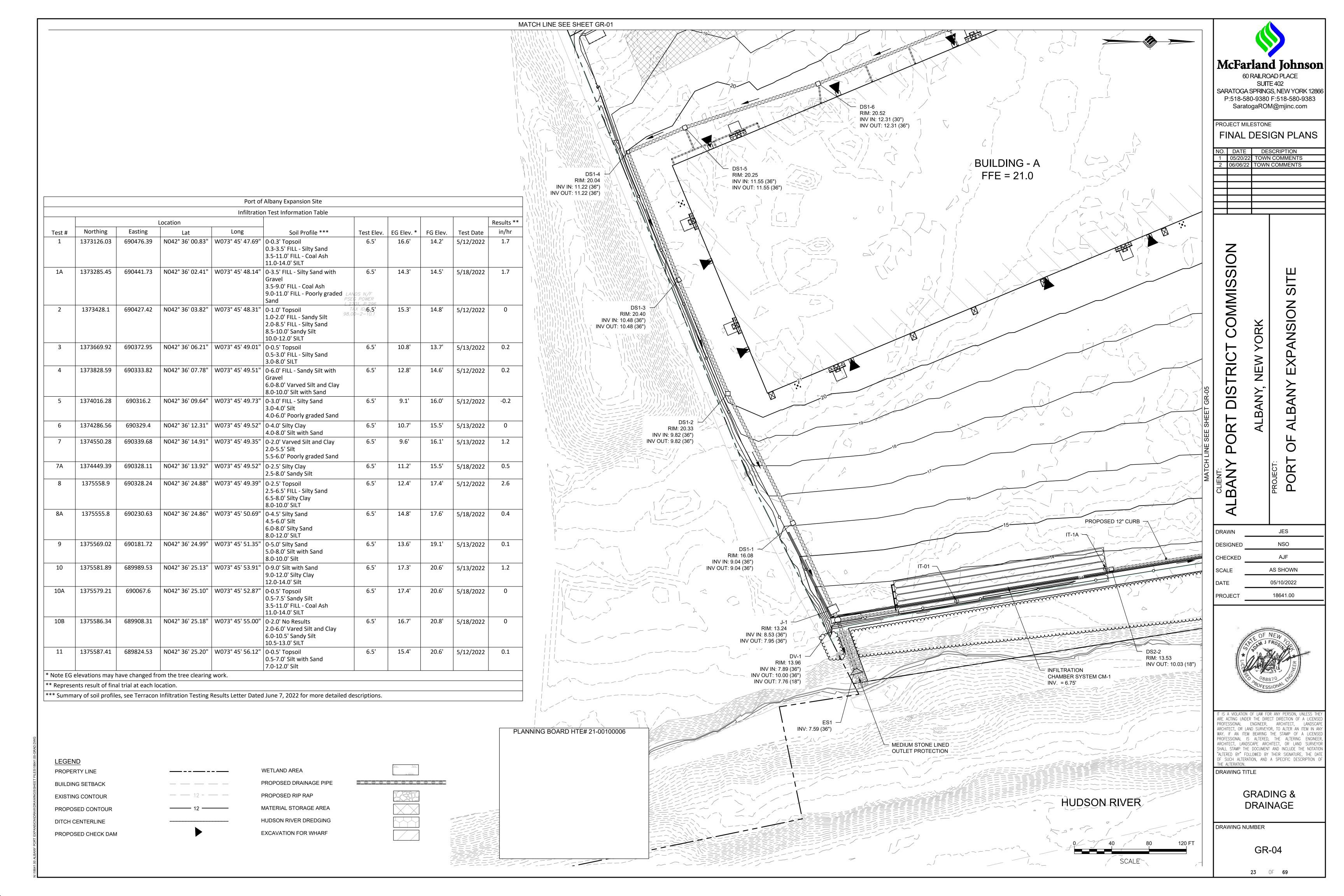
PAVEMENT AREA

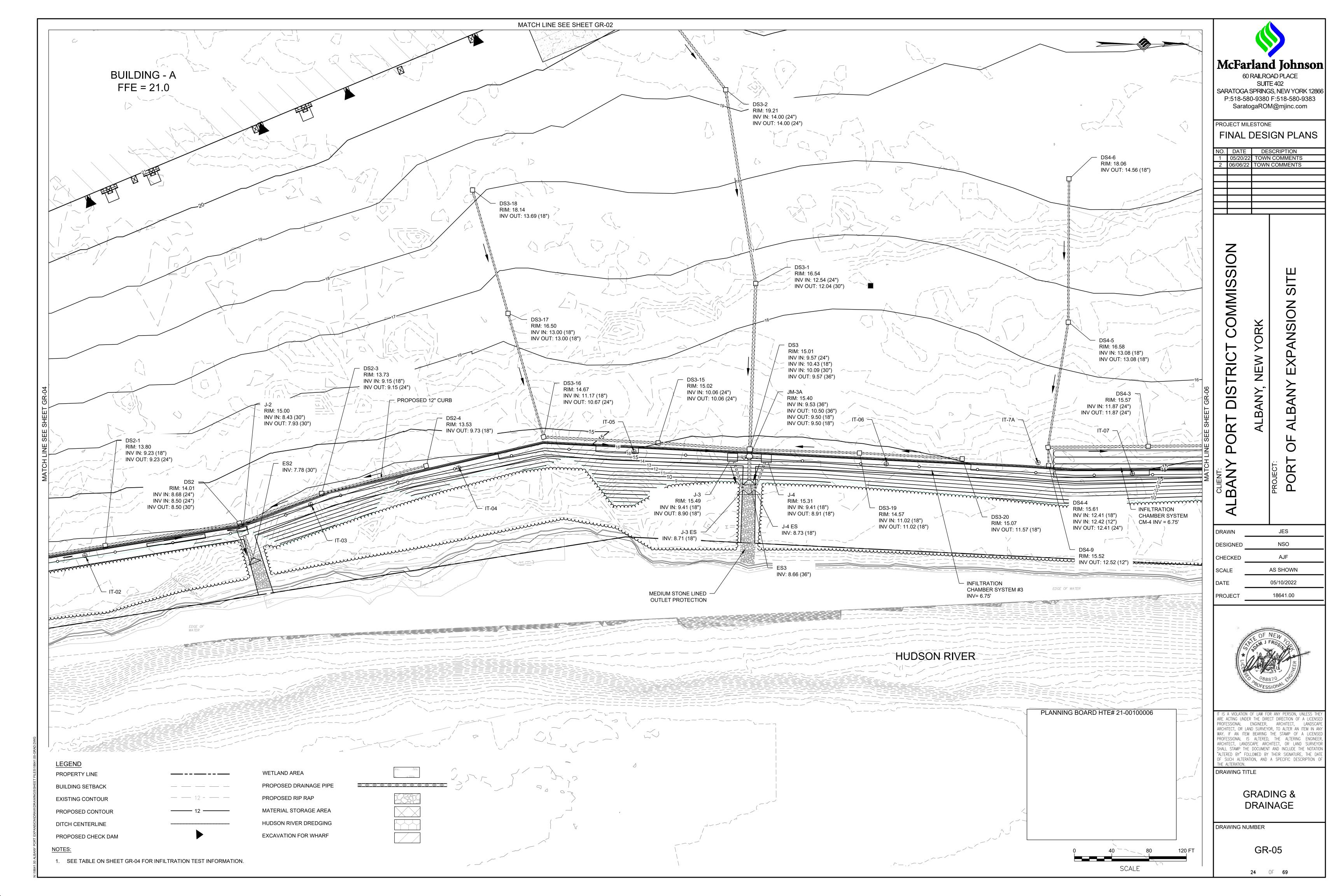
CONCRETE AREA

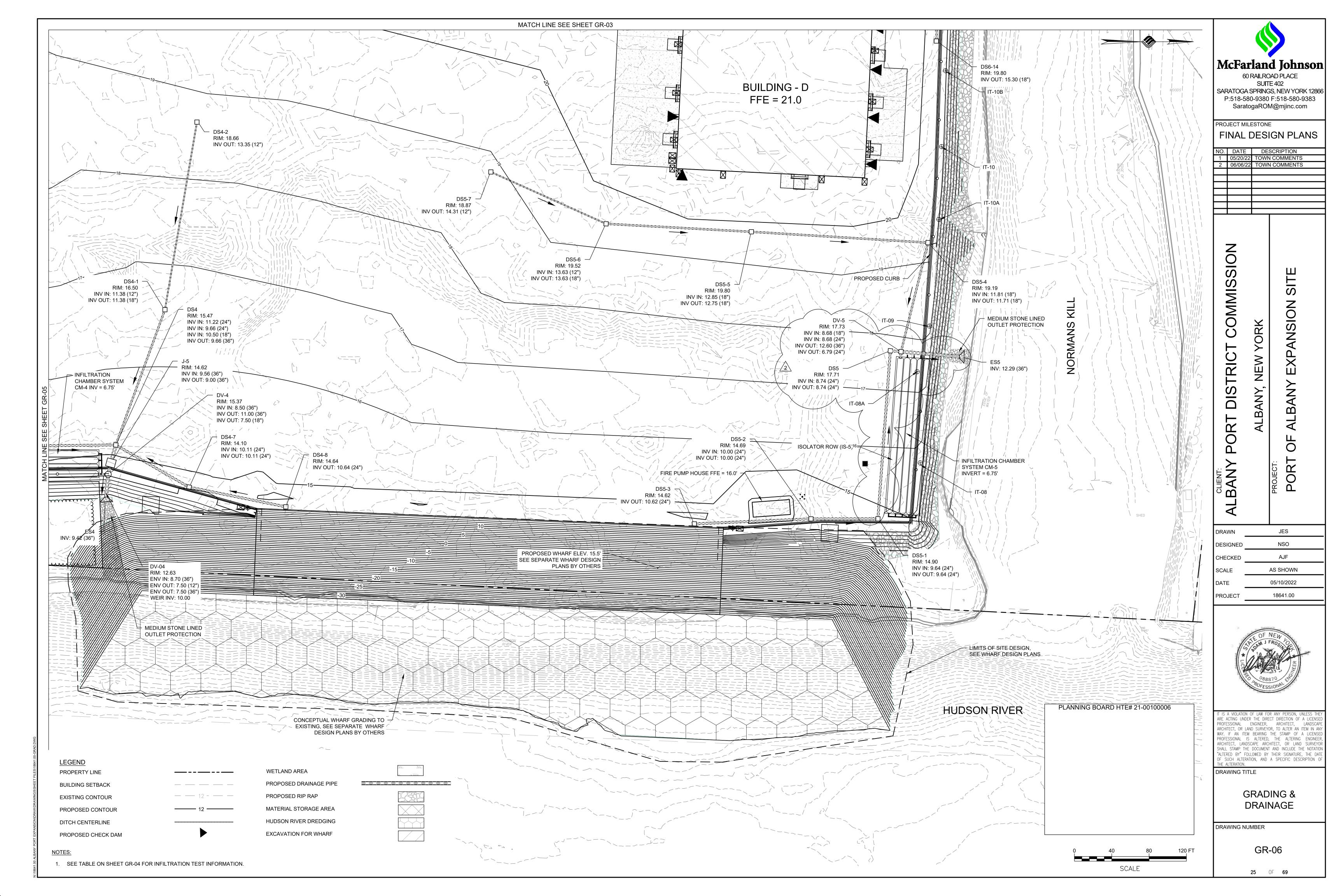


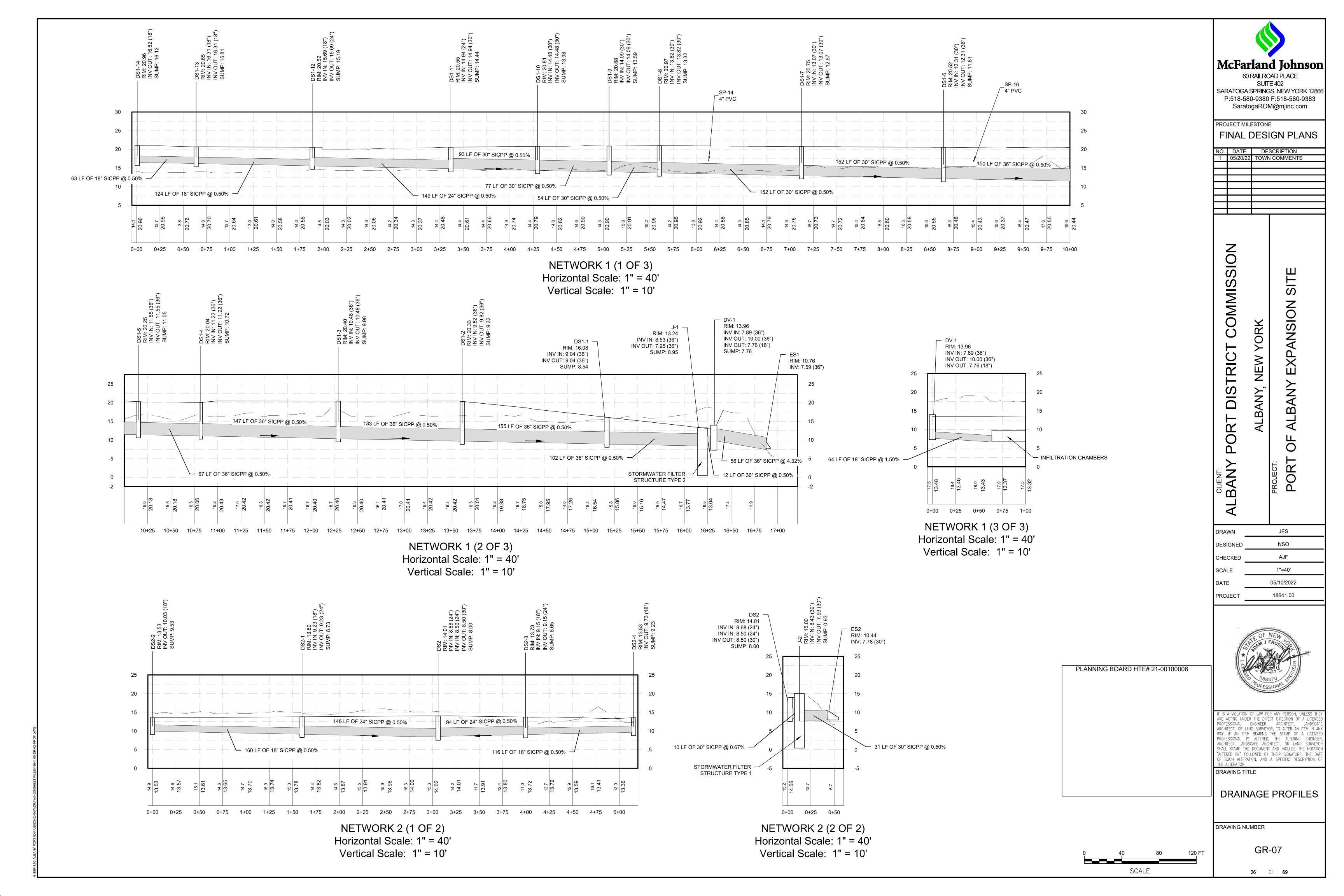


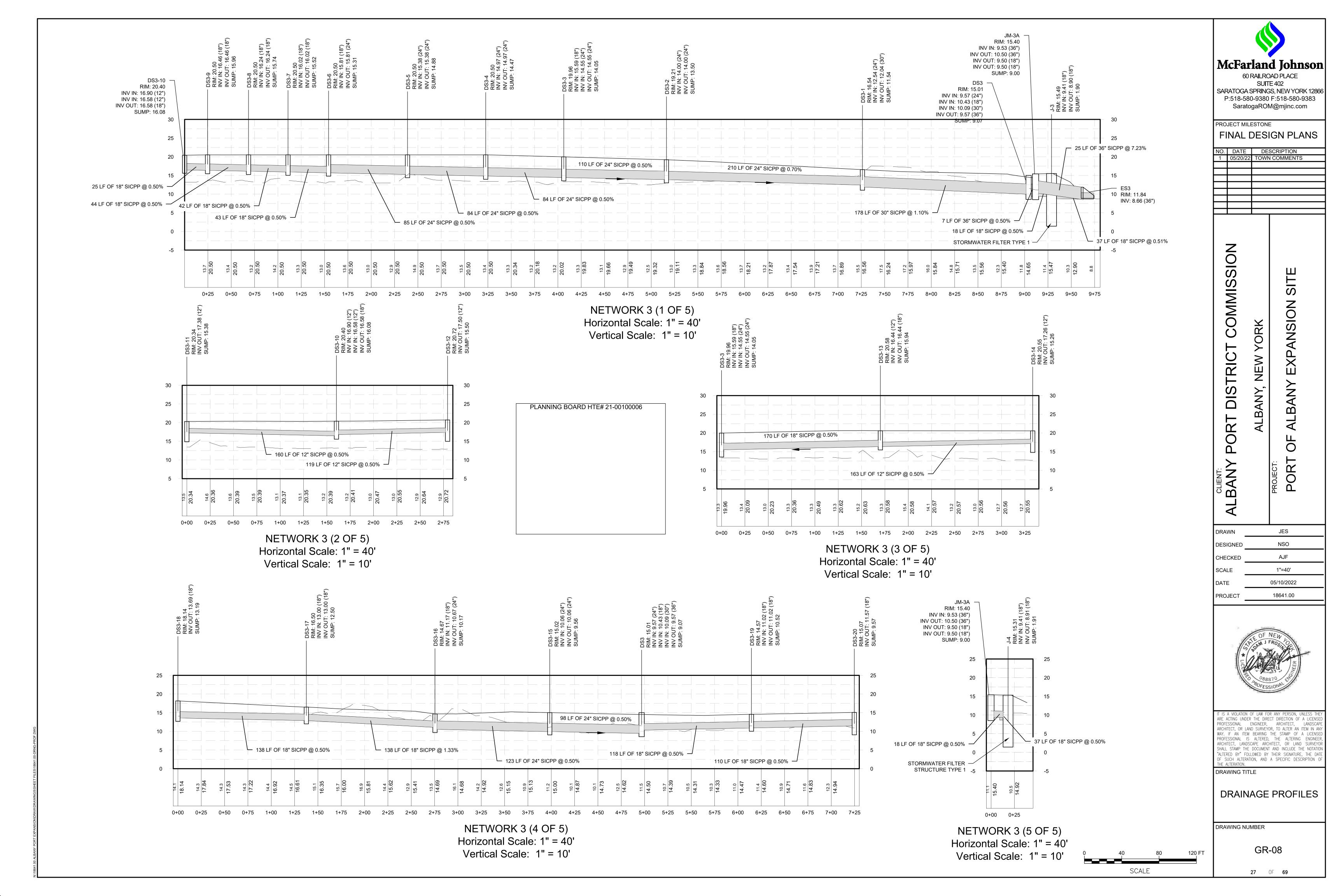


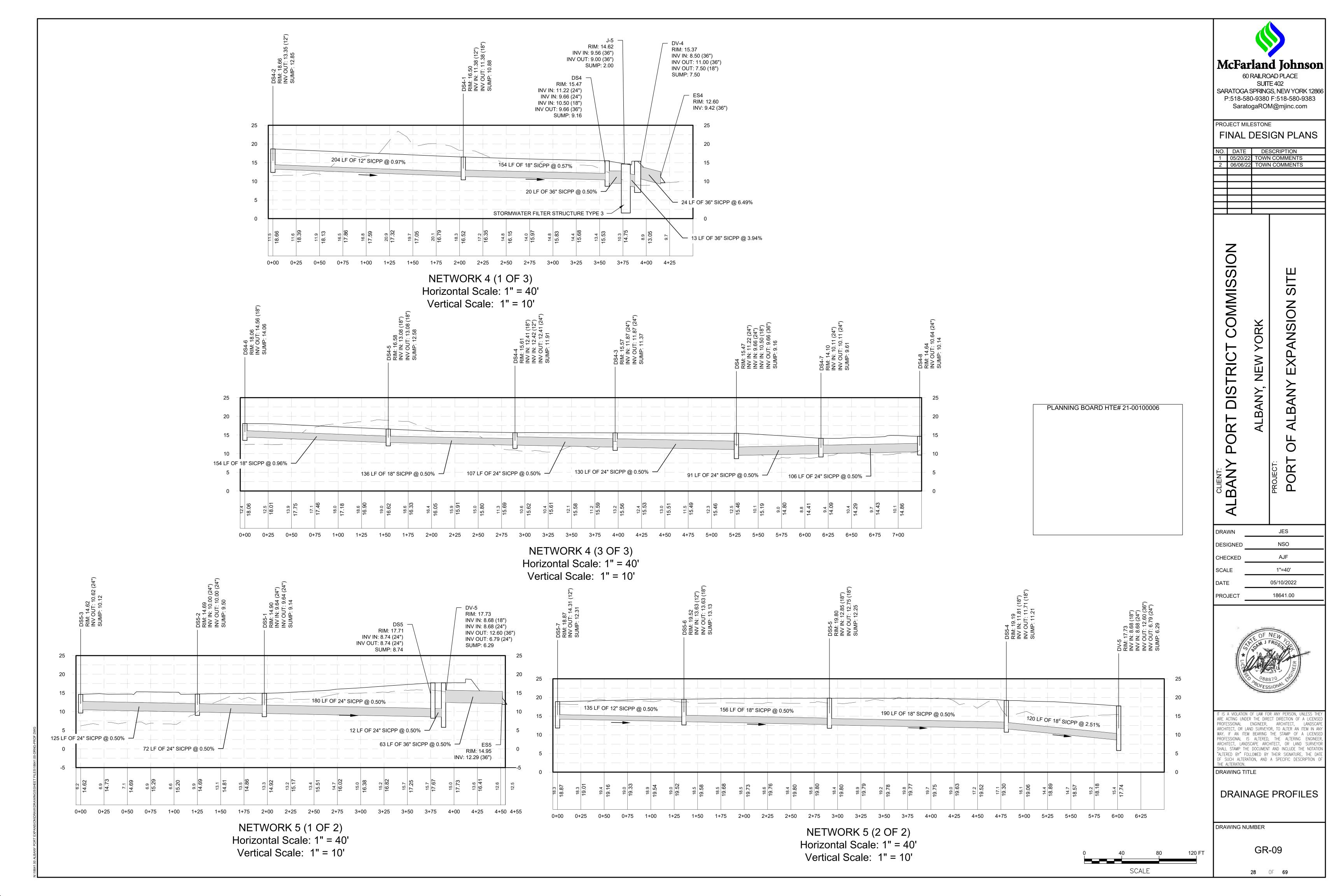


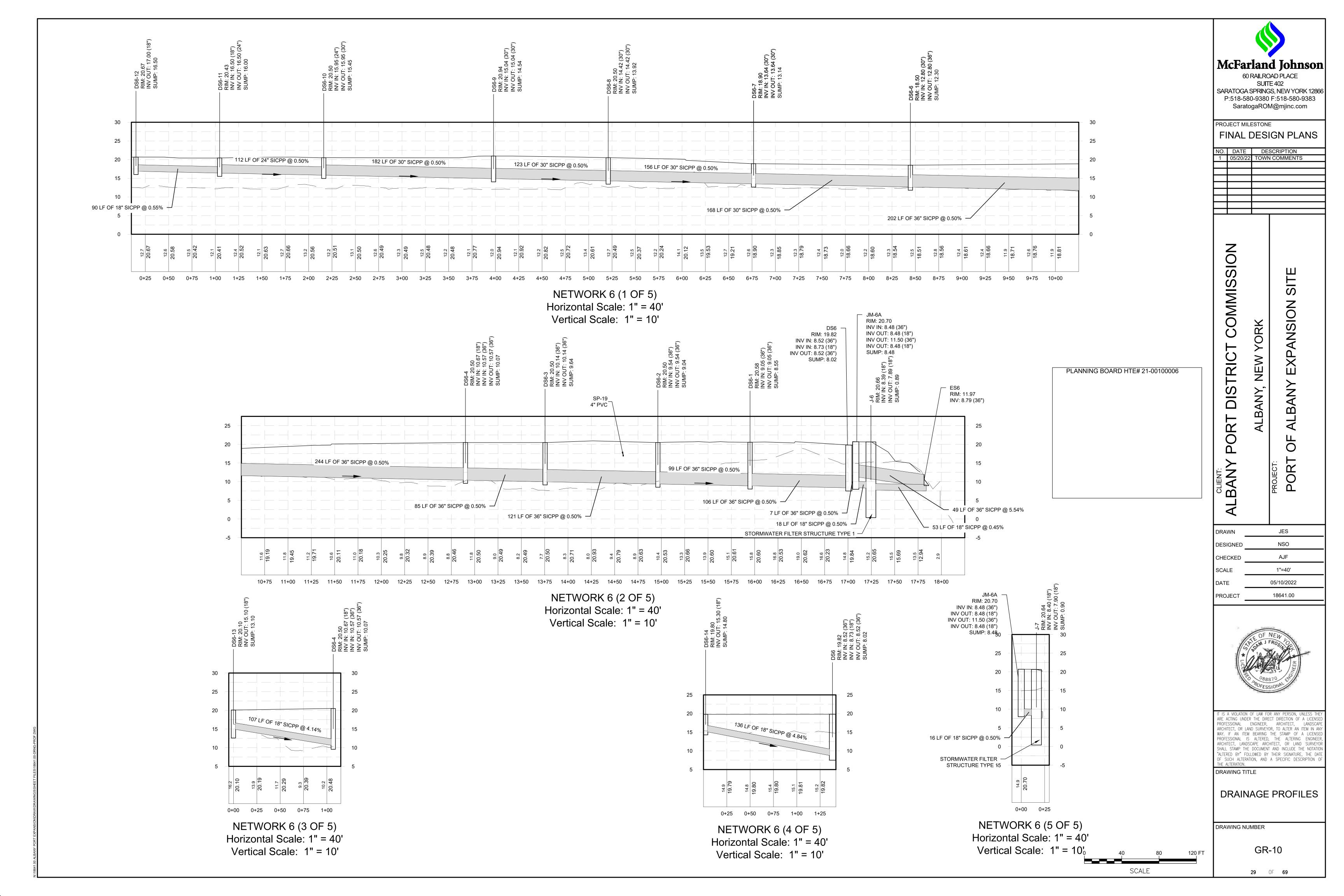


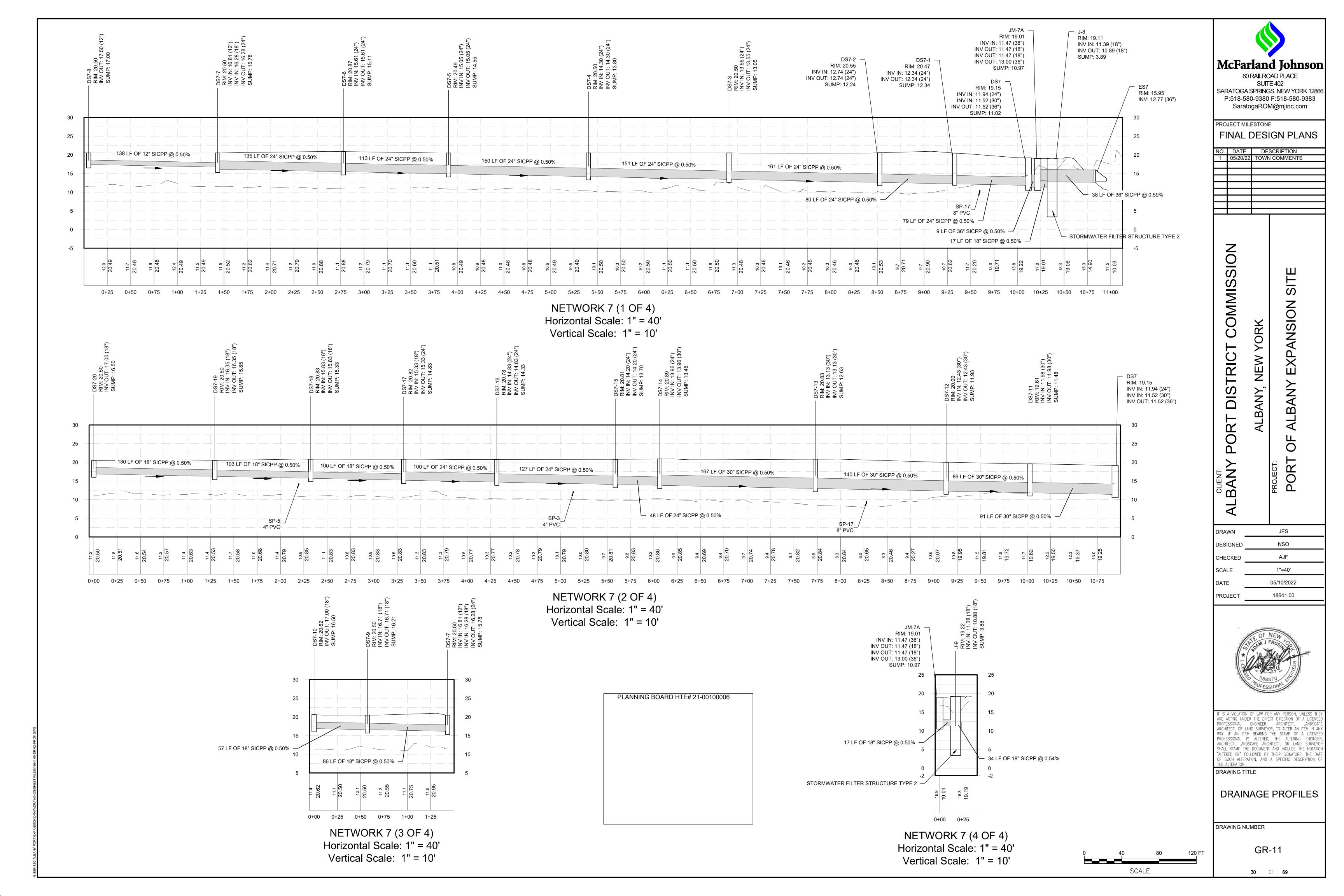


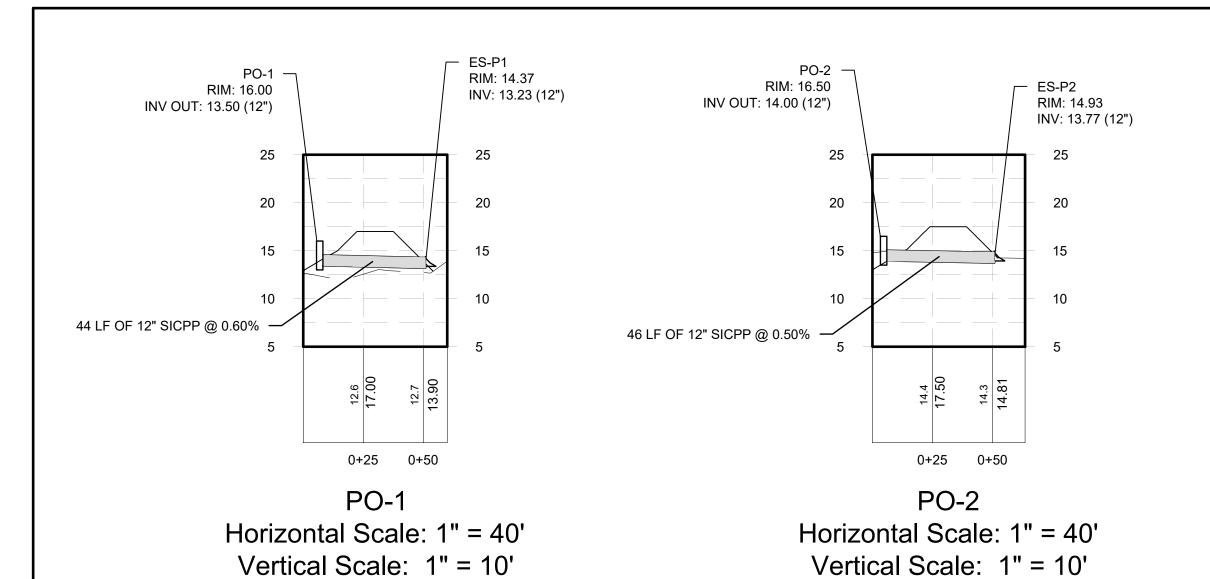


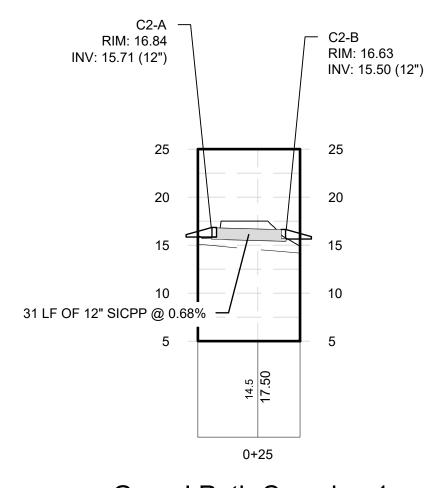


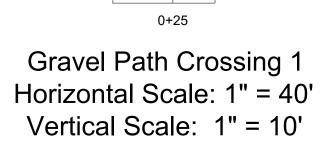






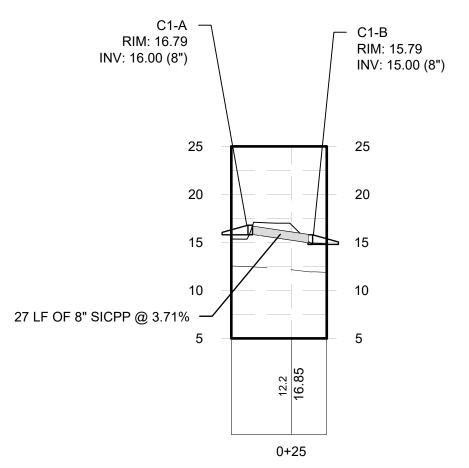




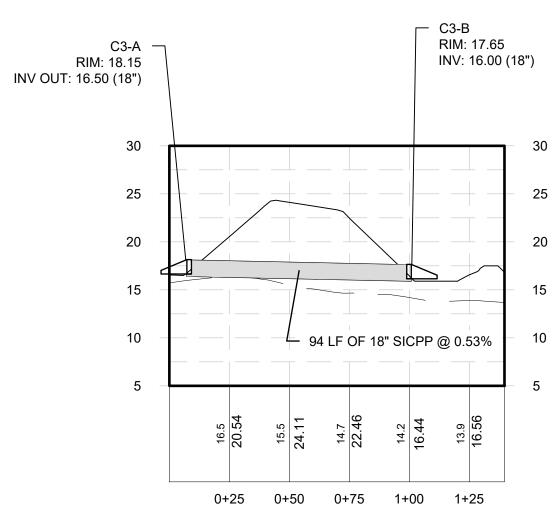


STRUCTURE TABLE (CONT.)

NETWORK 2



**GRAVEL ROAD CROSSING 2** Horizontal Scale: 1" = 40' Vertical Scale: 1" = 10'

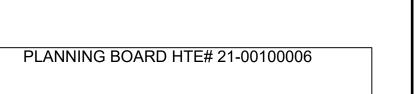


**ENTRANCE ROAD CULVERT** Horizontal Scale: 1" = 40' Vertical Scale: 1" = 10'

		ST	R	UCT	JR	Ε	TABLE						
CULVERTS													
STRUCTURE	RIM	INV(S) IN	II	NV OUT		-	ГҮРЕ	NORT	HING	EAST	ING		
C1-A	16.79		16	6.00 (C1)	СМ	P EN	ID SECTION	13740	56.35	68925	50.62		
C1-B	15.79	15.00 (C1)			СМ	P EN	ID SECTION	13740	54.69	68927	7.52		
C2-A	16.84		15	5.71 (C2)	СМ	P EN	ID SECTION	13732	64.09	68958	33.52	1	
C2-B	16.63	15.50 (C2)			СМ	P EN	ID SECTION	13732	243.91	68960	06.59		
C3-A	18.15		16	6.50 (C3)	СМ	P EN	ID SECTION	13728	63.95	68979	91.97	1	
С3-В	17.65	16.00 (C3)			СМ	P EN	ID SECTION	13729	24.77	68972	20.92	1	
	POND OUTLETS												
STRUCTURE	RIM	INV(S) IN		INV OU	Т		TYPE		NOR	THING	ΕA	STING	
ES-P1	14.37	13.23 (PO-1	)			Cl	MP END SECT	ΓΙΟΝ	1373	786.41	689	9308.09	
ES-P2	14.93	13.77 (PO-2	2)			Cl	MP END SECT	ΓΙΟΝ	1373	135.01	689	9618.12	
PO-1	16.00			13.50 (PC	)-1)	NY	SDOT STRUC	OOT STRUCTURE 13		1373801.49		9349.54	
PO-2	16.50			14.00 (PC	)-2)	NY	SDOT STRUC	TURE 13		1373158.88 6		9657.65	
				١	νEΤ\	NOI	RK 1				•		
STRUCTURE	RIM	INV(S) IN	1	INV	OUT		TYPE		1	NORTHING		EASTIN	۰ ۱G
DS1-1	16.08	9.04 (DP1-	-2)	9.04 (	DP1-	1)	NYSDOT TYPE G		; /	1372950.69		690392	.76
DS1-2	20.33	9.82 (DP1-	-3)	9.82 (	DP1-	2)	NYSDOT TYPE G		; /	1372881.05		690254	.10
DS1-3	20.40	10.48 (DP1	-4)	10.48	(DP1	-3)	NYSDOT TYPE G		; /	1372828	.17	690132	.28
DS1-4	20.04	11.22 (DP1	-5)	11.22	(DP1	-4)	NYSDOT TYPE G		; /	1372773	.75	689995	.36
DS1-5	20.25	11.55 (DP1	-6)	11.55	(DP1	-5)	NYSDOT TYPE G		; /	1372834	.87	689969	.04
DS1-6	20.52	12.31 (DP1	-7)	12.31	(DP1	-6)	NYSDOT TYPE G		; /	1372977	.60	689922	.02
DS1-7	20.75	13.07 (DP1	-8)	13.07	(DP1	-7)	NYSDOT	TYPE F	: /	1373118	.16	689863	.29
DS1-8	20.97	13.82 (DP1	-9)	13.82	(DP1	-8)	NYSDOT	TYPE F	: /	1373257.96		689804	.87
DS1-9	20.88	14.09 (DP1-	-10)	14.09	(DP1	-9)	NYSDOT	TYPE F	: /	1373238	.60	689754	.47
DS1-10	20.81	14.48 (DP1-	-11)	14.48 (	DP1-	10)	NYSDOT	TYPE F	: /	1373308	.58	689723	.33
DS1-11	20.55	14.94 (DP1-	-12)	14.94 (	DP1-	11)	NYSDOT	TYPE F	: /	1373392	.73	689683	.93
DS1-12	20.52	15.69 (DP1-	-13)	13) 15.69 (DP		12)	NYSDOT	TYPE A	, /	1373527	.70	689621	.87
DS1-13	20.65	16.31 (DP1-	-14)	16.31 (	DP1-	13)	NYSDOT	TYPE A	, /	1373642	.73	689574	.50
DS1-14	20.96			16.62 (	DP1-	14)	NYSDOT	TYPE A	, /	1373668	.96	689631	.51
DV-1	13.96	7.89 (JP-1	A)	10.00 7.76 (	(DP <sup>*</sup> JP-1	1) 3)	NYSDOT 72	" ROUN	ND /	1372998	.68	690496	.63
ES1	10.76	7.59 (DP1	1)				CMP END S	SECTIO	N	1373017	.76	690549	.19
J-1	13.24	8.53 (DP1-	-1)	7.95 (	JP-1/	۹)	STRM FILTE	R TYPI	E 2	1372993	.63	690485	.39

NETWORK Z							
STRUCTURE	RIM	INV(S) IN	INV OUT	TYPE	NORTHING	EASTING	
DS2	14.01	8.68 (DP2-3) 8.50 (DP2-1)	8.50 (JP-2)	NYSDOT TYPE F	1373593.64	690392.84	
DS2-1	13.80	9.23 (DP2-2)	9.23 (DP2-1)	NYSDOT TYPE A	1373449.84	690416.79	
DS2-2	13.53		10.03 (DP2-2)	NYSDOT TYPE A	1373291.69	690442.31	
DS2-3	13.73	9.15 (DP2-4)	9.15 (DP2-3)	NYSDOT TYPE A	1373681.77	690361.00	
DS2-4	13.53		9.73 (DP2-4)	NYSDOT TYPE A	1373793.63	690331.42	
ES2	10.44	7.78 (DP2)		CMP END SECTION	1373608.15	690430.67	
J-2	15.00	8.43 (JP-2)	7.93 (DP2)	STRM FILTER TYPE 1	1373597.10	690402.15	
			NETW	ORK 3			
STRUCTURE	RIM	INV(S) IN	INV OUT	TYPE	NORTHIN	NG EASTING	
DS3	15.01	9.57 (DP3-15) 10.43 (DP3-19) 10.09 (DP3-1)	9.57 (JP-3E)	NYSDOT TYPE K	1374140.	34 690313.95	
DS3-1	16.54	12.54 (DP3-2)	12.04 (DP3-1	) NYSDOT TYPE F	1374146.	75 690136.09	
DS3-2	19.21	14.00 (DP3-3)	14.00 (DP3-2	) NYSDOT 48" ROU	ND 1374114.	60 689928.57	
DS3-3	19.96	15.59 (DP3-13) 14.55 (DP3-4)	1 1/1 55 (1)12 3-3	) NYSDOT TYPE K	1374047.	44 689841.46	
DS3-4	20.50	14.97 (DP3-5)	14.97 (DP3-4	) NYSDOT TYPE A	1374015.	32 689764.2	
DS3-5	20.50	15.38 (DP3-6)	15.38 (DP3-5	) NYSDOT TYPE A	1373982.	78 689687.04	
DS3-6	20.50	15.81 (DP3-7)	15.81 (DP3-6	) NYSDOT TYPE A	1373950.	23 689608.94	
DS3-7	20.50	16.02 (DP3-8)	16.02 (DP3-7	) NYSDOT TYPE A	1373933.	50 689568.85	
DS3-8	20.50	16.24 (DP3-9)	16.24 (DP3-8	) NYSDOT TYPE A	1373916.	96 689529.88	
DS3-9	20.50	16.46 (DP3-10)	16.46 (DP3-9	) NYSDOT TYPE A	1373900.	43 689489.27	
DS3-10	20.40	16.90 (DP3-12) 16.58 (DP3-11)	16.58 (DP3-10	NYSDOT TYPE A	1373890.	52 689466.77	
DS3-11	20.34		17.38 (DP3-1	NYSDOT TYPE A	1373744.	03 689531.77	
DS3-12	20.72		17.50 (DP3-12	2) NYSDOT TYPE A	1374000.	31 689420.68	
DS3-13	20.58	16.44 (DP3-14)	16.44 (DP3-13	3) NYSDOT TYPE A	1374215.	20 689812.83	
DS3-14	20.55		17.26 (DP3-14	1) NYSDOT TYPE A	1374366.	78 689752.27	
DS3-15	15.02	10.06 (DP3-16)	10.06 (DP3-15	NYSDOT TYPE A	1374042.	18 690306.87	
DS3-16	14.67	11.17 (DP3-17)	10.67 (DP3-16	NYSDOT TYPE A	1373919.	51 690300.58	
DS3-17	16.50	13.00 (DP3-18)	13.00 (DP3-17	7) NYSDOT TYPE A	1373881.	39 690168.12	
DS3-18	18.14		13.69 (DP3-18	B) NYSDOT TYPE A	1373843.	35 690035.92	
DS3-19	14.57	11.02 (DP3-20)	11.02 (DP3-19	9) NYSDOT TYPE A	1374257.	92 690317.7	
DS3-20	15.07		11.57 (DP3-20	NYSDOT TYPE A	1374367.	98 690323.93	
ES3	11.84	8.66 (DS3)		CMP END SECTION	N 1374139.	84 690346.83	
J-3	15.49	9.41 (JP-3B)	8.90 (JP-3A)	STRM FILTER TYP	E 1 1374121.	92 690322.40	
J-3 ES	10.36	8.71 (JP-3A)		CMP END SECTION	N 1374133.	41 690357.79	
J-4	15.31	9.41 (JP-3D)	8.91 (JP-3C)	STRM FILTER TYP	E 1 1374158.	17 690323.43	
J-4 ES	10.37	8.73 (JP-3C)		CMP END SECTION	N 1374145.	54 690357.87	
JM-3A	15.40	9.53 (JP-3E)	10.50 (DS3) 9.50 (JP-3B) 9.50 (JP-3D)	NYSDOT 72" ROU	ND 1374140.	00 690321.4	

		SIRUCI	UKE IA	BLE (CONT.	<u>)                                    </u>	
			NETWO	ORK 4		
STRUCTURE	RIM	INV(S) IN	INV OUT	TYPE	NORTHING	EASTING
DS4	15.47	11.22 (DP4-3) 9.66 (DP4-7) 10.50 (DP4-1)	9.66 (JP-4B)	NYSDOT TYPE K	1374697.14	690309.15
DS4-1	16.50	11.38 (DP4-2)	11.38 (DP4-1)	NYSDOT TYPE A	1374749.79	690164.22
DS4-2	18.66		13.35 (DP4-2)	NYSDOT TYPE A	1374784.09	689963.21
DS4-3	15.57	11.87 (DP4-4)	11.87 (DP4-3)	NYSDOT TYPE A	1374567.27	690310.51
DS4-4	15.61	12.41 (DP4-5) 12.42 (DP4-9)	12.41 (DP4-4)	NYSDOT TYPE A	1374459.94	690311.57
DS4-5	16.58	13.08 (DP4-6)	13.08 (DP4-5)	NYSDOT TYPE A	1374481.61	690177.53
DS4-6	18.06		14.56 (DP4-6)	NYSDOT TYPE A	1374482.36	690023.98
DS4-7	14.10	10.11 (DP4-8)	10.11 (DP4-7)	NYSDOT TYPE A	1374775.70	690354.33
DS4-8	14.64		10.64 (DP4-8)	NYSDOT TYPE A	1374879.33	690375.41
DS4-9	15.52		12.52 (DP4-9)	NYSDOT TYPE A	1374460.58	690331.22
DV-4	15.37	8.50 (JP-4A)	11.00 (DP4) 7.50 (DVP4)	NYSDOT 72" ROUND	1374689.00	690340.73
ES4	12.60	9.42 (DP4)		CMP END SECTION	1374686.71	690364.94
J-5	14.62	9.56 (JP-4B)	9.00 (JP-4A)	STRM FILTER TYPE 3	1374691.92	690328.39
			NETWO	RK 5		
STRUCTURE	RIM	INV(S) IN	INV OUT	TYPE	NORTHING	EASTING
DS5	17.71	8.74 (DP5-1)	8.74 (IS 5-2)	NYSDOT TYPPE F	1375526.96	690208.24
DS5-1	14.90	9.64 (DP5-2)	9.64 (DP5-1)	NYSDOT TYPE F	1375513.69	690388.25
DS5-2	14.69	10.00 (DP5-3)	10.00 (DP5-2)	NYSDOT TYPE A	1375441.96	690388.31
DS5-3	14.62		10.62 (DP5-3)	NYSDOT TYPE A	1375316.98	690393.68
DS5-4	19.19	11.81 (DP5-5)	11.71 (DP5-4)	NYSDOT TYPE A	1375567.28	690092.37
DS5-5	19.80	12.85 (DP5-6)	12.75 (DP5-5)	NYSDOT TYPE A	1375378.09	690080.72
DS5-6	19.52	13.63 (DP5-7)	13.63 (DP5-6)	NYSDOT TYPE A	1375222.43	690072.18
DS5-7	18.87		14.31 (DP5-7)	NYSDOT TYPE A	1375098.98	690016.64
DV-5	17.73	8.68 (DP5-4) 8.68 (IS 5-2)	12.60 (DP5) 6.79 (IS 5-1)	NYSDOT TYPE F	1375538.44	690209.21
ES5	14.95	12.29 (DP5)		CMP END SECTION	1375601.03	690214.59



McFarland Johnson 60 RAILROAD PLACE

SUITE 402 SARATOGA SPRINGS, NEW YORK 12866 P:518-580-9380 F:518-580-9383 SaratogaROM@mjinc.com

PROJECT MILESTONE FINAL DESIGN PLANS

	NO.	DATE	DESCRIPTION
	1		TOWN COMMENTS
	2	06/06/22	TOWN COMMENTS
1			·

COMMISSION SITE **EXPANSION NEW YORK** DISTRICT PORT

DRAWN JES NSO DESIGNED CHECKED SCALE 1"=40' 05/10/2022

18641.00



ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSE PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSE PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYO SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION (

DRAWING TITLE

PROJECT

DRAINAGE PROFILES & TABLES

DRAWING NUMBER

GR-12

STRUCTURE TABLE (CONT.)									
			NETWOF	RK 6					
STRUCTURE	RIM	INV(S) IN	INV OUT	TYPE	NORTHING	EASTING			
DS6	19.82	8.52 (DP6-1) 8.73 (DP6-14)	8.52 (JP-6E)	NYSDOT 72" ROUND	1375580.78	689740.56			
DS6-1	20.58	9.05 (DP6-2)	9.05 (DP6-1)	NYSDOT TYPE K	1375487.52	689690.63			
DS6-2	20.50	9.54 (DP6-3)	9.54 (DP6-2)	NYSDOT TYPE G	1375389.41	689679.32			
DS6-3	20.50	10.14 (DP6-4)	10.14 (DP6-3)	NYSDOT TYPE G	1375268.69	689673.63			
DS6-4	20.50	10.67 (DP6-13) 10.57 (DP6-5)	10.57 (DP6-4)	NYSDOT TYPE G	1375185.29	689691.50			
DS6-5	18.90	11.79 (DP6-6)	11.79 (DP6-5)	NYSDOT TYPE G	1374941.78	689684.09			
DS6-6	18.50	12.80 (DP6-7)	12.80 (DP6-6)	NYSDOT TYPE G	1374740.25	689673.81			
DS6-7	18.90	13.64 (DP6-8)	13.64 (DP6-7)	NYSDOT 60" ROUND	1374572.38	689665.83			
DS6-8	20.50	14.42 (DP6-9)	14.42 (DP6-8)	NYSDOT 60" ROUND	1374435.02	689592.48			
DS6-9	20.94	15.04 (DP6-10)	15.04 (DP6-9)	NYSDOT TYPE F	1374389.86	689478.22			
DS6-10	20.50	15.95 (DP6-11)	15.95 (DP6-10)	NYSDOT TYPE K	1374311.52	689313.86			
DS6-11	20.43	16.50 (DP6-12)	16.50 (DP6-11)	NYSDOT TYPE A	1374200.61	689325.51			
DS6-12	20.67		17.00 (DP6-12)	NYSDOT TYPE A	1374112.51	689342.06			
DS6-13	20.10		15.10 (DP6-13)	NYSDOT TYPE A	1375180.02	689798.34			
DS6-14	19.80		15.30 (DP6-14)	NYSDOT TYPE A	1375576.32	689876.35			
ES6	11.97	8.79 (DP6)		CMP END SECTION	1375636.86	689736.21			
J-6	20.66	8.39 (JP-6B)	7.89 (JP-6A)	STRM FILTER TYPE 1	1375589.41	689759.02			
J-6 ES	9.30	7.65 (JP-6A)		CMP END SECTION	1375640.05	689743.85			
J-7	20.64	8.40 (JP-6D)	7.90 (JP-6C)	STRM FILTER TYPE 1	1375590.45	689725.15			
J-7 ES	9.30	7.65 (JP-6C)		CMP END SECTION	1375642.36	689726.45			
JM-6A	20.70	8.48 (JP-6E)	8.48 (JP-6D) 11.50 (DP6) 8.48 (JP-6B)	NYSDOT 72" ROUND	1375588.17	689741.27			
			NETWOF	RK 7					
STRUCTURE	RIM	INV(S) IN	INV OUT	TYPE	NORTHING	EASTING			
DS7	19.15	11.94 (DP7-1) 11.52 (DP7-11)	11.52 (JP-7E)	NYSDOT 72" ROUND	1375606.68	689552.87			
DS7-1	20.47	12.34 (DP7-2)	12.34 (DP7-1)	NYSDOT 48" ROUND	1375529.41	689570.08			
DS7-2	20.55	12.74 (DP7-3)	12.74 (DP7-2)	NYSDOT TYPE F	1375449.21	689572.28			
DS7-3	20.50	13.55 (DP7-4)	13.55 (DP7-3)	NYSDOT TYPE A	1375287.96	689563.66			
DS7-4	20.50	14.30 (DP7-5)	14.30 (DP7-4)	NYSDOT TYPE A	1375137.47	689557.17			
DS7-5	20.49	15.05 (DP7-6)	15.05 (DP7-5)	NYSDOT TYPE A	1374987.87	689549.50			
DS7-6	20.87	15.61 (DP7-7)	15.61 (DP7-6)	NYSDOT TYPE A	1374875.35	689542.60			
DS7-7	20.50	16.81 (DP7-8) 16.28 (DP7-9)	16.28 (DP7-7)	NYSDOT TYPE A	1374740.71	689538.37			
DS7-8	20.50		17.50 (DP7-8)	NYSDOT TYPE A	1374602.76	689529.78			
DS7-9	20.50	16.71 (DP7-10)	16.71 (DP7-9)	NYSDOT TYPE A	1374744.43	689452.51			
DS7-10	20.62		17.00 (DP7-10)	NYSDOT TYPE A	1374746.87	689395.47			
DS7-11	19.61	11.98 (DP7-12)	11.98 (DP7-11)	NYSDOT 60" ROUND	1375666.39	689483.79			
DS7-12	20.00	12.43 (DP7-13)	12.43 (DP7-12)	NYSDOT 60" ROUND	1375646.72	689396.85			
DS7-13	20.83	13.13 (DP7-14)	13.13 (DP7-13)	NYSDOT TYPE F	1375509.92	689366.00			
DS7-14	20.89	13.96 (DP7-15)	13.96 (DP7-14)	NYSDOT TYPE F	1375347.07	689331.11			
DS7-15	20.81	14.20 (DP7-16)	14.20 (DP7-15)	NYSDOT TYPE F	1375299.84	689324.34			
DS7-16	20.78	14.83 (DP7-17)	14.83 (DP7-16)	NYSDOT TYPE A	1375173.23	689316.34			
DS7-17	20.82	15.33 (DP7-18)	15.33 (DP7-17)	NYSDOT TYPE A	1375073.62	689309.81			
DS7-18	20.83	15.83 (DP7-19)	15.83 (DP7-18)	NYSDOT TYPE A	1374974.05	689307.09			
DS7-19	20.50	16.35 (DP7-20)	16.35 (DP7-19)	NYSDOT TYPE A	1374872.04	689319.75			
DS7-20	20.50	,	17.00 (DP7-20)	NYSDOT TYPE A	1374742.73	689310.29			
ES7	15.95	12.77 (DP7)	, , , , , , , , , , , , , , , , , , ,	CMP END SECTION	1375644.70	689580.44			
J-8	19.11	11.39 (JP-7B)	10.89 (JP-7A)	STRM FILTER TYPE 2	1375599.57	689570.28			
J-8 ES	12.35	10.70 (JP-7A)	` '	CMP END SECTION	1375640.71	689586.64			
J-9	19.22	11.38 (JP-7D)	10.88 (JP-7C)	STRM FILTER TYPE 2	1375628.64	689554.69			
J-9 ES	12.35	10.70 (JP-7C)	(3. 10)	CMP END SECTION	1375654.35	689576.33			
JM-7A	19.01	11.47 (JP-7E)	11.47 (JP-7B) 11.47 (JP-7D) 13.00 (DP7)	NYSDOT 72" ROUND	1375612.48	689559.96			
			` ′		<u> </u>				

	PIPE TABLE										
NETWORK 1											
NAME	SIZE	LENGTH	SLOPE	MAT.	FROM STRC	TO STRC					
DP1	36"	55.91'	4.32%	SICPP	DV-1	ES1					
DP1-1	36"	102.10'	0.50%	SICPP	DS1-1	J-1					
DP1-2	36"	155.16'	0.50%	SICPP	DS1-2	DS1-1					
DP1-3	36"	132.81'	0.50%	SICPP	DS1-3	DS1-2					
DP1-4	36"	147.34'	0.50%	SICPP	DS1-4	DS1-3					
DP1-5	36"	66.55'	0.50%	SICPP	DS1-5	DS1-4					
DP1-6	36"	150.27'	0.50%	SICPP	DS1-6	DS1-5					
DP1-7	30"	152.33'	0.50%	SICPP	DS1-7	DS1-6					
DP1-8	30"	151.52'	0.50%	SICPP	DS1-8	DS1-7					
DP1-9	30"	53.99'	0.50%	SICPP	DS1-9	DS1-8					
DP1-10	30"	76.60'	0.50%	SICPP	DS1-10	DS1-9					
DP1-11	30"	92.92'	0.50%	SICPP	DS1-11	DS1-10					
DP1-12	24"	148.55'	0.50%	SICPP	DS1-12	DS1-11					
DP1-13	18"	124.39'	0.50%	SICPP	DS1-13	DS1-12					
DP1-14	18"	62.75'	0.50%	SICPP	DS1-14	DS1-13					
JP-1A	36"	12.32'	0.50%	SICPP	J-1	DV-1					
JP-1B	18"	63.64'	1.59%	SICPP	DV-1						
		NF	ETWORK	( 2	-						
		. 42		· <del>-</del>	FROM	ТО					
NAME	SIZE	LENGTH	SLOPE	MAT.	STRC	STRC					
DP2	30"	30.59'	0.50%	SICPP	J-2	ES2					
DP2-1	24"	145.78'	0.50%	SICPP	DS2-1	DS2					
DP2-2	18"	160.20'	0.50%	SICPP	DS2-2	DS2-1					
DP2-3	24"	93.70'	0.50%	SICPP	DS2-3	DS2					
DP2-4	18"	115.71'	0.50%	SICPP	DS2-4	DS2-3					
JP-2	30"	9.93'	0.67%	SICPP	DS2	J-2					
		NE	ETWORK	3							
NAME	SIZE	LENGTH	SLOPE	MAT.	FROM STRC	TO STRC					
DP3-1	30"	177.98'	1.10%	SICPP	DS3-1	DS3					
DP3-2						500					
	24"	209.99'	0.70%	SICPP	DS3-2	DS3-1					
DP3-3	24" 24"	209.99' 109.99'	0.70% 0.50%	SICPP	DS3-2 DS3-3						
						DS3-1					
DP3-3	24"	109.99'	0.50%	SICPP	DS3-3	DS3-1 DS3-2					
DP3-3 DP3-4	24" 24"	109.99' 83.67'	0.50%	SICPP	DS3-3 DS3-4	DS3-1 DS3-2 DS3-3					
DP3-3 DP3-4 DP3-5	24" 24" 24"	109.99' 83.67' 83.75'	0.50% 0.50% 0.50%	SICPP SICPP	DS3-3 DS3-4 DS3-5	DS3-1 DS3-2 DS3-3 DS3-4					
DP3-3 DP3-4 DP3-5 DP3-6	24" 24" 24" 24"	109.99' 83.67' 83.75' 84.60'	0.50% 0.50% 0.50% 0.50%	SICPP SICPP SICPP	DS3-3 DS3-4 DS3-5 DS3-6	DS3-1 DS3-2 DS3-3 DS3-4 DS3-5					
DP3-3 DP3-4 DP3-5 DP3-6 DP3-7	24" 24" 24" 24" 18"	109.99' 83.67' 83.75' 84.60' 43.45'	0.50% 0.50% 0.50% 0.50%	SICPP SICPP SICPP SICPP	DS3-3 DS3-4 DS3-5 DS3-6 DS3-7	DS3-1 DS3-2 DS3-3 DS3-4 DS3-5 DS3-6					
DP3-3 DP3-4 DP3-5 DP3-6 DP3-7 DP3-8	24" 24" 24" 24" 18"	109.99' 83.67' 83.75' 84.60' 43.45' 42.33'	0.50% 0.50% 0.50% 0.50% 0.50%	SICPP SICPP SICPP SICPP SICPP	DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8	DS3-1 DS3-2 DS3-3 DS3-4 DS3-5 DS3-6 DS3-7					
DP3-3 DP3-4 DP3-5 DP3-6 DP3-7 DP3-8 DP3-9	24" 24" 24" 24" 18" 18"	109.99' 83.67' 83.75' 84.60' 43.45' 42.33' 43.84'	0.50% 0.50% 0.50% 0.50% 0.50% 0.50%	SICPP SICPP SICPP SICPP SICPP	DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9	DS3-1 DS3-2 DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9					
DP3-3 DP3-4 DP3-5 DP3-6 DP3-7 DP3-8 DP3-9 DP3-10	24" 24" 24" 24" 18" 18" 18"	109.99' 83.67' 83.75' 84.60' 43.45' 42.33' 43.84' 24.59'	0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50%	SICPP SICPP SICPP SICPP SICPP SICPP	DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9	DS3-1 DS3-2 DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9					
DP3-3 DP3-4 DP3-5 DP3-6 DP3-7 DP3-8 DP3-9 DP3-10 DP3-11	24" 24" 24" 18" 18" 18" 18"	109.99' 83.67' 83.75' 84.60' 43.45' 42.33' 43.84' 24.59'	0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50%	SICPP SICPP SICPP SICPP SICPP SICPP SICPP	DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-11	DS3-1 DS3-2 DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9					
DP3-3 DP3-4 DP3-5 DP3-6 DP3-7 DP3-8 DP3-9 DP3-10 DP3-11 DP3-12	24" 24" 24" 18" 18" 18" 18" 12"	109.99' 83.67' 83.75' 84.60' 43.45' 42.33' 43.84' 24.59' 160.26' 119.07'	0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50%	SICPP SICPP SICPP SICPP SICPP SICPP SICPP SICPP	DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-11 DS3-12	DS3-1 DS3-2 DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-10 DS3-3					
DP3-3 DP3-4 DP3-5 DP3-6 DP3-7 DP3-8 DP3-9 DP3-10 DP3-11 DP3-12 DP3-13	24" 24" 24" 18" 18" 18" 18" 12" 12" 18"	109.99' 83.67' 83.75' 84.60' 43.45' 42.33' 43.84' 24.59' 160.26' 119.07' 170.19'	0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50%	SICPP	DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-11 DS3-12 DS3-13	DS3-1 DS3-2 DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-10 DS3-3					
DP3-3 DP3-4 DP3-5 DP3-6 DP3-7 DP3-8 DP3-9 DP3-10 DP3-11 DP3-12 DP3-13 DP3-14	24" 24" 24" 24" 18" 18" 18" 12" 12" 12"	109.99' 83.67' 83.75' 84.60' 43.45' 42.33' 43.84' 24.59' 160.26' 119.07' 170.19'	0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50%	SICPP	DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-11 DS3-12 DS3-13 DS3-14	DS3-1 DS3-2 DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-10 DS3-10 DS3-3 DS3-3					
DP3-3 DP3-4 DP3-5 DP3-6 DP3-7 DP3-8 DP3-9 DP3-10 DP3-11 DP3-12 DP3-13 DP3-14 DP3-15 DP3-16	24" 24" 24" 18" 18" 18" 12" 12" 24"	109.99' 83.67' 83.75' 84.60' 43.45' 42.33' 43.84' 24.59' 160.26' 119.07' 170.19' 163.23' 98.41'	0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50%	SICPP	DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-11 DS3-12 DS3-13 DS3-14 DS3-15 DS3-16	DS3-1 DS3-2 DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-10 DS3-10 DS3-13 DS3-13					
DP3-3 DP3-4 DP3-5 DP3-6 DP3-7 DP3-8 DP3-9 DP3-10 DP3-11 DP3-12 DP3-13 DP3-14 DP3-15	24" 24" 24" 24" 18" 18" 18" 12" 12" 24" 24"	109.99' 83.67' 83.75' 84.60' 43.45' 42.33' 43.84' 24.59' 160.26' 119.07' 170.19' 163.23' 98.41' 122.84' 137.83'	0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50%	SICPP	DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-11 DS3-12 DS3-13 DS3-14 DS3-15 DS3-16 DS3-17	DS3-1 DS3-2 DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-10 DS3-10 DS3-15 DS3-15					
DP3-3 DP3-4 DP3-5 DP3-6 DP3-7 DP3-8 DP3-9 DP3-10 DP3-11 DP3-12 DP3-13 DP3-14 DP3-15 DP3-16 DP3-17 DP3-18	24" 24" 24" 24" 18" 18" 18" 12" 12" 12" 24" 24" 18"	109.99' 83.67' 83.75' 84.60' 43.45' 42.33' 43.84' 24.59' 160.26' 119.07' 170.19' 163.23' 98.41' 122.84' 137.83' 137.57'	0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50%	SICPP	DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-11 DS3-12 DS3-13 DS3-14 DS3-15 DS3-16 DS3-17 DS3-18	DS3-1 DS3-2 DS3-3 DS3-4 DS3-5 DS3-6 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-10 DS3-10 DS3-10 DS3-15 DS3-15 DS3-15					
DP3-3 DP3-4 DP3-5 DP3-6 DP3-7 DP3-8 DP3-9 DP3-10 DP3-11 DP3-12 DP3-13 DP3-14 DP3-15 DP3-16 DP3-17 DP3-18 DP3-19	24" 24" 24" 24" 18" 18" 18" 12" 12" 12" 18" 12" 18" 12" 18" 18" 18"	109.99' 83.67' 83.75' 84.60' 43.45' 42.33' 43.84' 24.59' 160.26' 119.07' 170.19' 163.23' 98.41' 122.84' 137.83' 137.57' 117.65'	0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50%	SICPP	DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-11 DS3-12 DS3-13 DS3-14 DS3-15 DS3-16 DS3-17 DS3-18 DS3-19	DS3-1 DS3-2 DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-10 DS3-10 DS3-10 DS3-11 DS3-15 DS3-15 DS3-15					
DP3-3 DP3-4 DP3-5 DP3-6 DP3-7 DP3-8 DP3-9 DP3-10 DP3-11 DP3-12 DP3-13 DP3-14 DP3-15 DP3-16 DP3-17 DP3-18 DP3-19 DP3-20	24" 24" 24" 24" 18" 18" 18" 12" 12" 12" 24" 24" 18" 18" 18"	109.99' 83.67' 83.75' 84.60' 43.45' 42.33' 43.84' 24.59' 160.26' 119.07' 170.19' 163.23' 98.41' 122.84' 137.83' 137.57' 117.65' 110.23'	0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50%	SICPP	DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-11 DS3-12 DS3-13 DS3-14 DS3-15 DS3-16 DS3-17 DS3-18 DS3-19 DS3-20	DS3-1 DS3-2 DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-10 DS3-10 DS3-10 DS3-17 DS3 DS3-15 DS3-15					
DP3-3 DP3-4 DP3-5 DP3-6 DP3-7 DP3-8 DP3-9 DP3-10 DP3-11 DP3-12 DP3-13 DP3-14 DP3-15 DP3-16 DP3-17 DP3-18 DP3-19 DP3-20 DS3	24" 24" 24" 24" 18" 18" 18" 12" 12" 12" 24" 24" 18" 18" 36"	109.99' 83.67' 83.75' 84.60' 43.45' 42.33' 43.84' 24.59' 160.26' 119.07' 170.19' 163.23' 98.41' 122.84' 137.83' 137.57' 117.65' 110.23'	0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50%	SICPP	DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-11 DS3-12 DS3-13 DS3-14 DS3-15 DS3-16 DS3-17 DS3-18 DS3-19 DS3-20 JM-3A	DS3-1 DS3-2 DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-10 DS3-10 DS3-17 DS3 DS3-15 DS3-15 DS3-16 DS3-17 DS3 DS3-17					
DP3-3 DP3-4 DP3-5 DP3-6 DP3-7 DP3-8 DP3-9 DP3-10 DP3-12 DP3-13 DP3-14 DP3-15 DP3-16 DP3-16 DP3-17 DP3-18 DP3-19 DP3-20 DS3 JP-3A	24" 24" 24" 24" 18" 18" 12" 12" 12" 24" 24" 18" 12" 24" 18" 18" 18" 18" 18"	109.99' 83.67' 83.75' 84.60' 43.45' 42.33' 43.84' 24.59' 160.26' 119.07' 170.19' 163.23' 98.41' 122.84' 137.83' 137.57' 117.65' 110.23' 25.42' 37.21'	0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50%	SICPP	DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-11 DS3-12 DS3-13 DS3-14 DS3-15 DS3-16 DS3-17 DS3-18 DS3-19 DS3-20 JM-3A J-3	DS3-1 DS3-2 DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-10 DS3-10 DS3-17 DS3 DS3-15 DS3-15 DS3-15 DS3-16 DS3-17 DS3 DS3-19 ES3 J-3 ES					
DP3-3 DP3-4 DP3-5 DP3-6 DP3-7 DP3-8 DP3-10 DP3-11 DP3-12 DP3-13 DP3-14 DP3-15 DP3-16 DP3-17 DP3-18 DP3-19 DP3-20 DS3 JP-3A JP-3A	24" 24" 24" 18" 18" 18" 12" 12" 12" 18" 12" 24" 18" 36" 18" 18"	109.99' 83.67' 83.75' 84.60' 43.45' 42.33' 43.84' 24.59' 160.26' 119.07' 170.19' 163.23' 98.41' 122.84' 137.83' 137.57' 117.65' 110.23' 25.42' 37.21' 18.11'	0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50%	SICPP	DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-11 DS3-12 DS3-13 DS3-14 DS3-15 DS3-16 DS3-17 DS3-18 DS3-19 DS3-20 JM-3A J-3 JM-3A	DS3-1 DS3-2 DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-10 DS3-10 DS3-17 DS3 DS3-15 DS3-15 DS3-15 DS3-16 DS3-17 DS3 DS3-17 DS3 DS3-19 ES3 J-3 ES					
DP3-3 DP3-4 DP3-5 DP3-6 DP3-7 DP3-8 DP3-9 DP3-10 DP3-12 DP3-13 DP3-14 DP3-15 DP3-16 DP3-16 DP3-17 DP3-18 DP3-19 DP3-20 DS3 JP-3A	24" 24" 24" 24" 18" 18" 12" 12" 12" 24" 24" 18" 12" 24" 18" 18" 18" 18" 18"	109.99' 83.67' 83.75' 84.60' 43.45' 42.33' 43.84' 24.59' 160.26' 119.07' 170.19' 163.23' 98.41' 122.84' 137.83' 137.57' 117.65' 110.23' 25.42' 37.21'	0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50% 0.50%	SICPP	DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-11 DS3-12 DS3-13 DS3-14 DS3-15 DS3-16 DS3-17 DS3-18 DS3-19 DS3-20 JM-3A J-3	DS3-1 DS3-2 DS3-3 DS3-4 DS3-5 DS3-6 DS3-7 DS3-8 DS3-9 DS3-10 DS3-10 DS3-10 DS3-17 DS3 DS3-15 DS3-15 DS3-16 DS3-17 DS3 DS3-17 DS3 DS3-19 ES3 J-3 ES					

			TABL	•	ONT.)	)
	ī	NE	ETWORK	4		<u> </u>
NAME	SIZE	LENGTH	SLOPE	MAT.	FROM STRC	TO STR
DP4	36"	24.32'	6.49%	SICPP	DV-4	ES4
DP4-1	18"	154.20'	0.57%	SICPP	DS4-1	DS4
DP4-2	12"	203.91'	0.97%	SICPP	DS4-2	DS4-
DP4-3	24"	129.88'	0.50%	SICPP	DS4-3	DS4
DP4-4	24"	107.34'	0.50%	SICPP	DS4-4	DS4-
DP4-5	18"	135.78'	0.50%	SICPP	DS4-5	DS4-
DP4-6	18"	153.55'	0.96%	SICPP	DS4-6	DS4-
DP4-7	24"	90.62'	0.50%	SICPP	DS4-7	DS4
DP4-8	24"	105.76'	0.50%	SICPP	DS4-8	DS4-
DP4-9	12"	19.66'	0.50%	SICPP	DS4-9	DS4-
DVP4	18"	9.44'	7.94%	SICPP	DV-4	
JP-4A	36"	12.68'	3.94%	SICPP	J-5	DV-4
JP-4B	36"	19.93'	0.50%	SICPP	DS4	J-5
	•	NE	ETWORK	5		
NAME	SIZE	LENGTH	SLOPE	MAT.	FROM STRC	TO STR
DP5	36"	62.82'	0.50%	SICPP	DV-5	ES5
DP5-1	24"	180.50'	0.50%	SICPP	DS5-1	DS5
DP5-2	24"	71.73'	0.50%	SICPP	DS5-2	DS5-
DP5-3	24"	125.09'	0.50%	SICPP	DS5-3	DS5-
DP5-4	18"	120.34'	2.51%	SICPP	DS5-4	DV-5
DP5-5	18"	189.54'	0.50%	SICPP	DS5-5	DS5-
DP5-6	18"	155.90'	0.50%	SICPP	DS5-6	DS5-
DP5-7	12"	135.37'	0.50%	SICPP	DS5-7	DS5-
IS 5-1	24"	7.25'	0.50%	SICPP	DV-5	
IS 5-2	24"	11.52'	0.50%	SICPP	DS5	DV-5
	l	NE	ETWORK	<b>6</b>		
NAME	SIZE	LENGTH	SLOPE	MAT.	FROM STRC	TO STR
DP6	36"	48.95'	5.54%	SICPP	JM-6A	ES6
DP6-1	36"	105.79'	0.50%	SICPP	DS6-1	DS6
DP6-2	36"	98.75'	0.50%	SICPP	DS6-2	DS6-
DP6-3	36"	120.86'	0.50%	SICPP	DS6-3	DS6-
DP6-4	36"	85.30'	0.50%	SICPP	DS6-4	DS6-
DP6-5	36"	243.62'	0.50%	SICPP	DS6-5	DS6-
DP6-6	36"	201.79'	0.50%	SICPP	DS6-6	DS6-
DP6-7	30"	168.06'	0.50%	SICPP	DS6-7	DS6-
DP6-8	30"	155.71'	0.50%	SICPP	DS6-8	DS6-
DP6-9	30"	122.86'	0.50%	SICPP	DS6-9	DS6-
DP6-10	30"	182.07'	0.50%	SICPP	DS6-10	DS6-
DP6-11	24"	111.52'	0.50%	SICPP	DS6-11	DS6-1
DP6-12	18"	89.64'	0.55%	SICPP	DS6-12	DS6-
DP6-13	18"	106.97'	4.14%	SICPP	DS6-13	DS6-
DP6-14	18"	135.86'	4.84%	SICPP	DS6-14	DS6
JP-6A	18"	52.87'	0.45%	SICPP	J-6	J-6 E
JP-6B	18"	17.79'	0.50%	SICPP	JM-6A	J-6
JP-6C	18"	51.92'	0.30 %	SICPP	J-7	J-7 E
JP-6D	18"	16.28'	0.48 %	SICPP	JM-6A	J-7 E
JP-0D	10	7.40	0.50%	SICPP	JIVI-OA	J-7

JP-6E 36" 7.43' 0.50% SICPP DS6 JM-6A

		PIPE	TABL	E (C	TNC.	)
			ETWORK	•		
NAME	SIZE	LENGTH	SLOPE	MAT.	FROM STRC	TO STR
DP7	36"	38.18'	0.59%	SICPP	JM-7A	ES7
DP7-1	24"	79.16'	0.50%	SICPP	DS7-1	DS7
DP7-2	24"	80.23'	0.50%	SICPP	DS7-2	DS7-
DP7-3	24"	161.48'	0.50%	SICPP	DS7-3	DS7-2
DP7-4	24"	150.63'	0.50%	SICPP	DS7-4	DS7-
DP7-5	24"	149.80'	0.50%	SICPP	DS7-5	DS7-4
DP7-6	24"	112.73'	0.50%	SICPP	DS7-6	DS7-
DP7-7	24"	134.71'	0.50%	SICPP	DS7-7	DS7-6
DP7-8	12"	138.21'	0.50%	SICPP	DS7-8	DS7-7
DP7-9	18"	85.94'	0.50%	SICPP	DS7-9	DS7-7
DP7-10	18"	57.09'	0.50%	SICPP	DS7-10	DS7-9
DP7-11	30"	91.31'	0.50%	SICPP	DS7-11	DS7
DP7-12	30"	89.14'	0.50%	SICPP	DS7-12	DS7-1
DP7-13	30"	140.23'	0.50%	SICPP	DS7-13	DS7-1
DP7-14	30"	166.54'	0.50%	SICPP	DS7-14	DS7-1
DP7-15	24"	47.72'	0.50%	SICPP	DS7-15	DS7-1
DP7-16	24"	126.86'	0.50%	SICPP	DS7-16	DS7-1
DP7-17	24"	99.82'	0.50%	SICPP	DS7-17	DS7-1
DP7-18	18"	99.61'	0.50%	SICPP	DS7-18	DS7-1
DP7-19	18"	102.80'	0.50%	SICPP	DS7-19	DS7-1
DP7-20	18"	129.65'	0.50%	SICPP	DS7-20	DS7-1
JP-7A	18"	44.27'	0.43%	SICPP	J-8	J-8 E
JP-7B	18"	16.53'	0.50%	SICPP	JM-7A	J-8
JP-7C	18"	33.61'	0.54%	SICPP	J-9	J-9 E
JP-7D	18"	17.00'	0.50%	SICPP	JM-7A	J-9
JP-7E	36"	9.15'	0.50%	SICPP	DS7	JM-7
		(	CULVER	TS		
NAME	SIZE	LENGTH	SLOPE	MAT.	FROM STRC	TO STR
C1	8"	26.96'	3.71%	SICPP	C1-A	C1-B
C2	12"	30.65'	0.68%	SICPP	C2-A	C2-B
C3	18"	93.53'	0.53%	SICPP	С3-А	C3-B
		POND	OUTLE	ΓS		
NAME	SIZE	LENGTH	SLOPE	MAT.	FROM STRC	TO STR
PO-1	12"	44.11'	0.60%	SICPP	PO-1	ES-P
PO-2	12"	46.19'	0.50%	SICPP	PO-2	ES-P2

PLANNING BOARD HTE# 21-00100006

	RO	OF LEAD	ERS	
NAME	SIZE	LENGTH	SLOPE	MAT.
R1	12"	6.20'	8.06%	SICPP
R2	12"	50.00'	1.22%	SICPP
R3	12"	37.82'	0.50%	SICPP
R4	12"	15.34'	0.50%	SICPP
R5	12"	6.19'	17.92%	SICPP
R6	12"	6.12'	21.24%	SICPP
R7	12"	13.81'	2.90%	SICPP
R8	12"	13.83'	4.84%	SICPP
R9	12"	22.82'	8.59%	SICPP
R9A	12"	23.82'	5.02%	SICPP
R10	12"	22.32'	5.38%	SICPP
R11	12"	20.68'	6.77%	SICPP
R11A	12"	21.72'	2.58%	SICPP
R12	12"	19.71'	15.32%	SICPP
R13	12"	17.32'	12.24%	SICPP
R14	12"	14.25'	24.56%	SICPP
R15	12"	14.41'	14.93%	SICPP
R16	12"	17.67'	5.66%	SICPP
R17	12"	19.56'	13.60%	SICPP
R18	12"	18.69'	15.20%	SICPP
R19	12"	17.81'	5.61%	SICPP
R20	12"	18.70'	17.49%	SICPP
R21	12"	18.71'	19.08%	SICPP
R22	12"	18.44'	5.42%	SICPP
R22 R23	12"		0.50%	SICPP
		6.12'		
R24	12"	50.50'	0.50%	SICPP
R25	12"	22.85'	0.50%	SICPP
R26	12"	23.30'	2.62%	SICPP
R27	12"	6.06'	4.62%	SICPP
R28	12"	6.02'	0.50%	SICPP
R29	12"	25.84'	1.39%	SICPP
R30	12"	68.00'	0.77%	SICPP
R31	12"	18.19'	0.50%	SICPP
R32	12"	90.38'	0.50%	SICPP
R33	12"	29.08'	2.73%	SICPP
R34	12"	15.37'	3.25%	SICPP
R35	12"	12.75'	0.50%	SICPP
	12"			
R36		49.40'	0.50%	SICPP
R38	12"	34.79'	2.23%	SICPP
R39	12"	16.61'	7.65%	SICPP
R40	12"	41.83'	8.68%	SICPP
R41	12"	11.57'	33.19%	SICPP
R41A	12"	11.75'	2.17%	SICPP
R42	12"	9.35'	43.42%	SICPP
R43	12"	37.28'	11.88%	SICPP
R44	12"	19.19'	25.02%	SICPP
R45	12"	5.50'	16.00%	SICPP
R46	12"	42.41'	1.00%	SICPP
R48	12"	5.52'	27.91%	SICPP
R48A	12"	22.41'	0.50%	SICPP
R49	12"	47.23'	0.50%	SICPP
R50	12"	5.53'	23.51%	SICPP
R51	12"	11.06'	4.52%	SICPP
R52	12"	13.17'	4.63%	SICPP
R53	12"	13.27'	6.71%	SICPP
R54	12"	12.51'	4.00%	SICPP
R55	12"	11.89'	11.27%	SICPP
R56	12"	10.99'	16.29%	SICPP
R57	12"	8.41'	5.94%	SICPP
R58	12"	2.64'	18.96%	SICPP
R59	12"	4.50'	0.56%	SICPP
R60	12"	50.00'	0.50%	SICPP
R61	12"	8.65'	26.48%	SICPP
R62	12"	50.00'	0.50%	SICPP
R63	12"	4.50'	6.00%	SICPP
R64	12"	38.59'	0.50%	SICPP
R65	12"	4.50'	11.56%	SICPP
R66	12"	6.99'	10.15%	SICPP

RO	OF LEAD	ERS	
IZE	LENGTH	SLOPE	MAT.
12"	6.20'	8.06%	SICPP
12"	50.00'	1.22%	SICPP
12"	37.82'	0.50%	SICPP
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12"	6.19'	17.92%	SICPP
12"	6.12'	21.24%	SICPP
12"	13.81'	2.90%	SICPP
12" 12"	13.83' 22.82'	4.84% 8.59%	SICPP
12"	23.82'	5.02%	SICPP
12"	22.32'	5.38%	SICPP
12"	20.68'	6.77%	SICPP
12"	21.72'	2.58%	SICPP
12"	19.71'	15.32%	SICPP
12"	17.32'	12.24%	SICPP
12"	14.25'	24.56%	SICPP
12"	14.41'	14.93%	SICPP
12"	17.67'	5.66%	SICPP
12"	19.56'	13.60%	SICPP
12"	18.69'	15.20%	SICPP
12"	17.81'	5.61%	SICPP
12"	18.70'	17.49%	SICPP
12"	18.71'	19.08%	SICPP
12" 12"	18.44' 6.12'	5.42% 0.50%	SICPP
12"  12"	6.12' 50.50'	0.50%	SICPP
12"	22.85'	0.50%	SICPP
12"	23.30'	2.62%	SICPP
12"	6.06'	4.62%	SICPP
12"	6.02'	0.50%	SICPP
12"	25.84'	1.39%	SICPP
12"	68.00'	0.77%	SICPP
12"	18.19'	0.50%	SICPP
12"	90.38'	0.50%	SICPP
12"	29.08'	2.73%	SICPP
12"	15.37'	3.25%	SICPP
12" 12"	12.75' 49.40'	0.50%	SICPP
12"	34.79'	0.50% 2.23%	SICPP
12"	16.61'	7.65%	SICPP
12"	41.83'	8.68%	SICPP
12"	11.57'	33.19%	SICPP
12"	11.75'	2.17%	SICPP
12"	9.35'	43.42%	SICPP
12"	37.28'	11.88%	SICPP
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12"	5.50'	16.00%	SICPP
12"	42.41'	1.00%	SICPP
12"	5.52'	27.91%	SICPP
12"	22.41'	0.50%	SICPP
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12" 12"	5.53' 11.06'	23.51% 4.52%	SICPP
12 12"	13.17'	4.63%	SICPP
12"	13.17	6.71%	SICPP
12"	12.51'	4.00%	SICPP
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12"	4.50'	0.56%	SICPP
12"	50.00'	0.50%	SICPP
12"	8.65'	26.48%	SICPP
12"	50.00'	0.50%	SICPP
12"	4.50'	6.00%	SICPP
12"	38.59'	0.50%	SICPP
12" 12"	4.50' 6.99'	11.56% 10.15%	SICPP
12" 12"	12.70'	3.94%	SICPP
· <del>-</del>	12.70	J.J-T /U	

<b>1cFarland Johnson</b>
60 RAILROAD PLACE SUITE 402
RATOGA SPRINGS, NEW YORK 12866 P:518-580-9380 F:518-580-9383
SaratogaROM@mjinc.com
DJECT MILESTONE
INAL DESIGN PLANS
DATE DESCRIPTION

FI	FINAL DESIGN PLANS						
NO.	DATE	DESCRIPTION					
1	05/20/22	TOWN COMMENTS					
2	06/06/22	TOWN COMMENTS					

1		TOWN COMMENTS
2	06/06/22	TOWN COMMENTS

JES
NSO
AJF
1"=40'
05/10/2022

18641.00



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

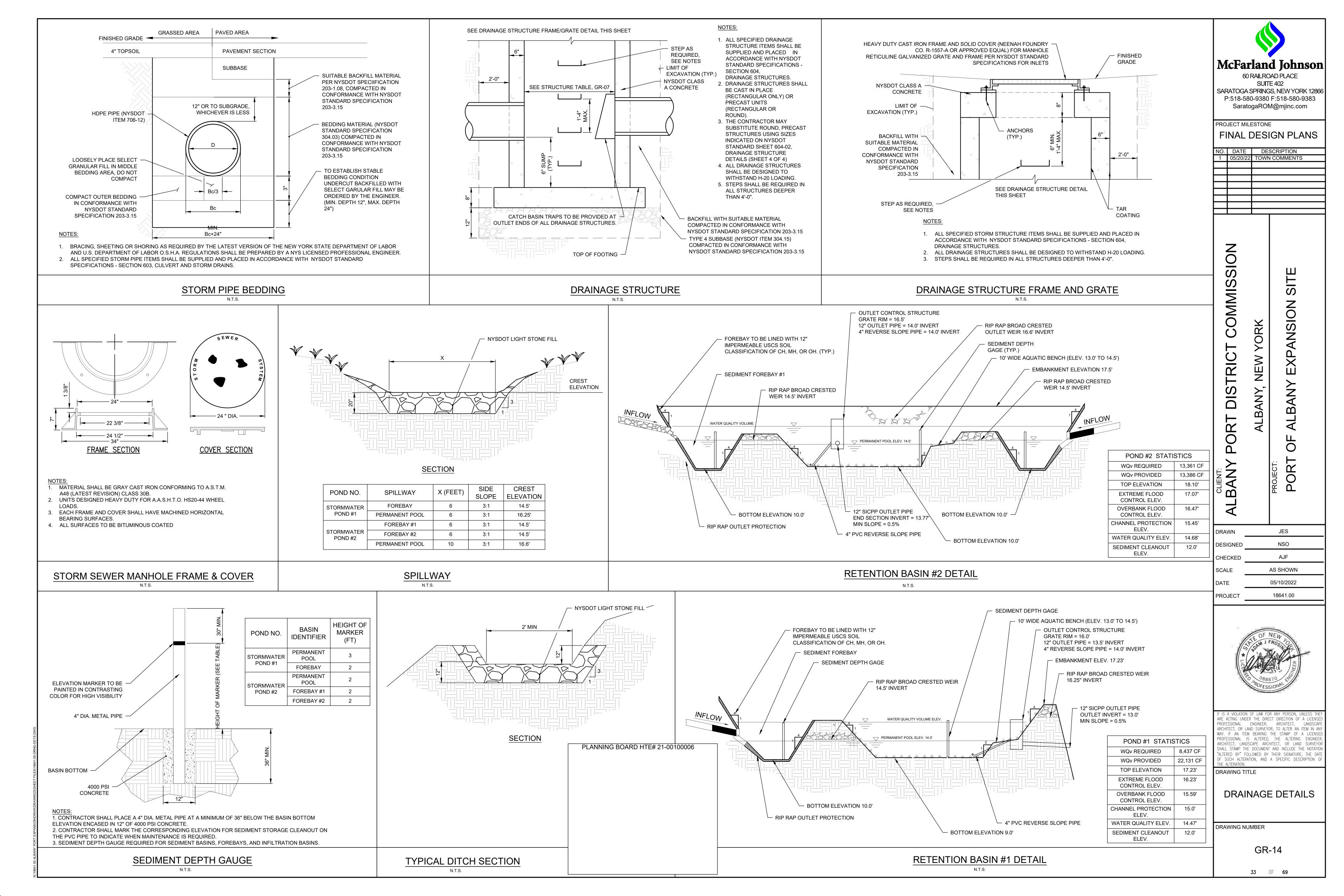
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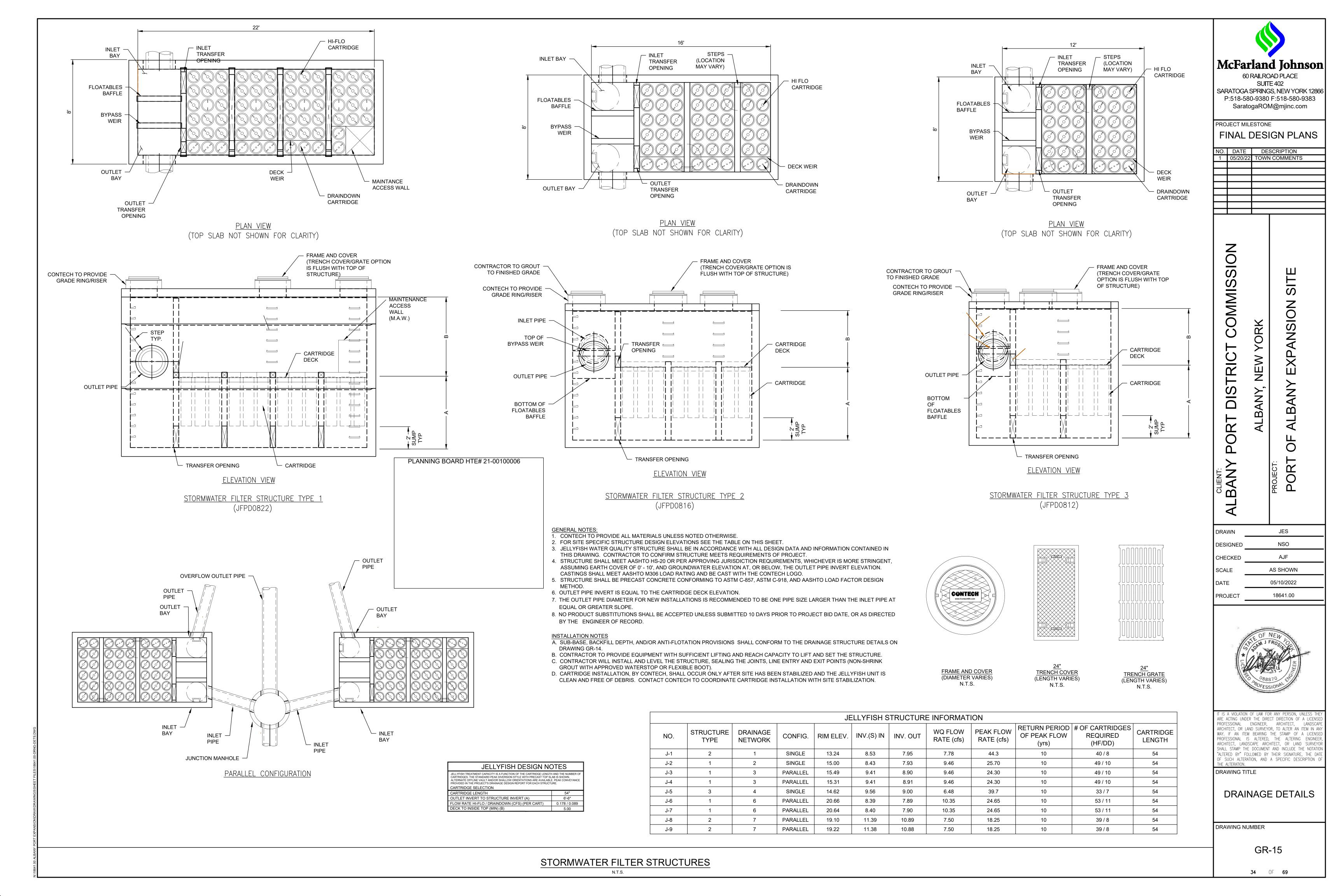
PROJECT

DRAINAGE TABLES

DRAWING NUMBER

GR-13





## STORMTECH CHAMBER SPECIFICATIONS

- 1. CHAMBERS SHALL BE STORMTECH MC-3500 AND STORM TECH MC-4500.
- 2. CHAMBERS SHALL BE MADE FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
- 3 CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16, "STANDARD SPECIFICATION FOR

POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".

- CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER
- 7. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
- a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC
- b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM
- c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
- 8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY

## IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500/ MC-4500 CHAMBER SYSTEM

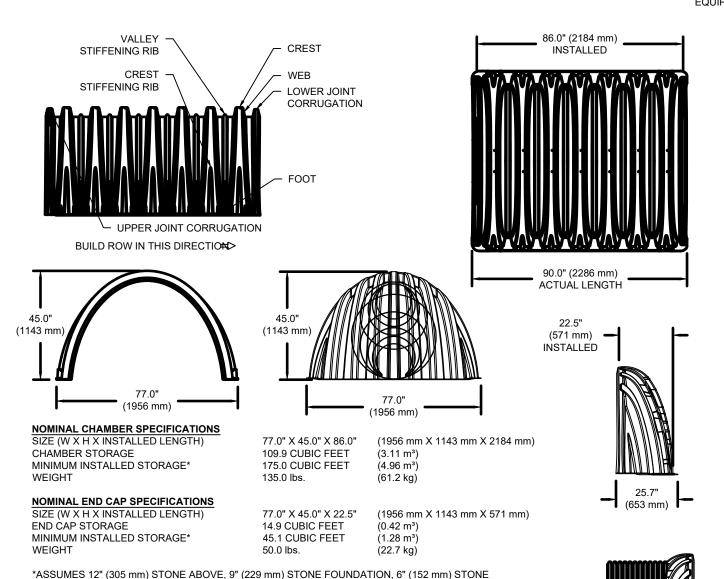
- STORMTECH CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
- STONESHOOTER LOCATED OFF THE CHAMBER BED BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
- BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- 4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- 5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- 6. MAINTAIN MINIMUM 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
- 7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3
- 9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
- 10. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN

## NOTES FOR CONSTRUCTION EQUIPMENT

- 1. STORMTECH CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- 2. THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED: NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
- NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE" WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE"
- 3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING

## USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT



110 074 0 111111711171112171	BRICATED WELDED STU	B END WITH "W"		$\neg$
PART#	STUB	В	С	'
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)		
MC3500IEPP06B	0 (130 11111)		0.66" (17 mm)	
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)		
MC3500IEPP08B	0 (200 11111)		0.81" (21 mm)	
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)		
MC3500IEPP10B	10 (230 11111)		0.93" (24 mm)	
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)		
MC3500IEPP12B	12 (300 11111)		1.35" (34 mm)	<b>'</b>
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)		CUSTOM PRECORED INVERT
MC3500IEPP15B	15 (37511111)		1.50" (38 mm)	AVAILABLE UPON REQUEST.
MC3500IEPP18TC		20.03" (509 mm)		INVENTORIED MANIFOLDS IN
MC3500IEPP18TW	18" (450 mm)	20.03 (309 11111)		12-24" (300-600 mm) SIZE ON AND 15-48" (375-1200 mm)
MC3500IEPP18BC	10 (450 11111)		1.77" (45 mm)	ECCENTRIC MANIFOLDS. CU
MC3500IEPP18BW			1.77 (45 11111)	INVERT LOCATIONS ON THE
MC3500IEPP24TC		14.48" (368 mm)		END CAP CUT IN THE FIELD A
MC3500IEPP24TW	24" (600 mm)	14.40 (300 111111)		RECOMMENDED FOR PIPE S
MC3500IEPP24BC	24 (600 11111)		2.06" (52 mm)	GREATER THAN 10" (250 mm) INVERT LOCATION IN COLUM
MC3500IEPP24BW			2.00 (52 11111)	ARE THE HIGHEST POSSIBLE
MC3500IEPP30BC	30" (750 mm)		2.75" (70 mm)	THE PIPE SIZE.

BETWEEN CHAMBERS, 6" (152 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE

NOT TO SCALE

COVER PIPE CONNECTION TO END

NON-WOVEN GEOTEXTILE -

CATCH BASIN

NOT TO SCALE

CAP WITH ADS GEOSYNTHETICS 601T

STORMTECH HIGHLY

8" ROOF DRAIN INLET

INV. DS-1: 43.49'

INV. DS-2: 43.31'

INV. DS-1: 42.73

INV. DS-2: 42.33'

INV. DS-1: 41.06' INV. DS-2: 40.66'

RECOMMENDS FLEXSTORM

INSERTS IN ANY UPSTREAM

STRUCTURES WITH OPEN GRATES

12" FLEVATED BYPASS MANIFOLD

TO SECOND ROW OF CHAMBERS

24" OUTLET TO ISOLATOR ROW

POROSITY

## MC-3500 TECHNICAL SPECIFICATIONS

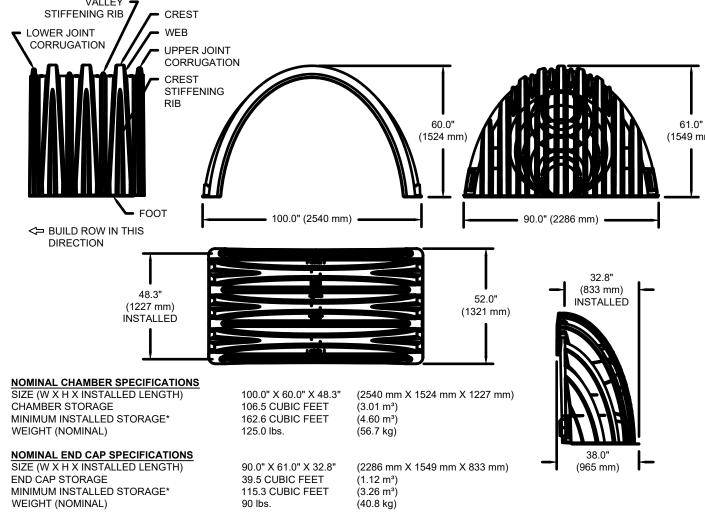
MC-4500 CHAMBER

24" (600 mm) HDPE ACCESS PIPE REQUIRED

MC3500IEPP24BC OR MC3500IEPP24BW

USE FACTORY PARTIAL CUT END CAP PART #:

MC-4500 ISOLATOR ROW PLUS DETAIL



\*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

OPTIONAL INSPECTION PORT

■ MC-4500

END CAP

(	,											
ARTIAL	CUT	HOLES	AT BOT	TOM OF	END	CAP FO	OR PART	NUME	BERS I	ENDING	3 W	ITH
ADTIAL	OUT	HOLEO	ATTOD	OF END	040	FOD D		4DED0	CND	NO MA	<del>-</del>	T.
ARHAL	CUI	HOLES	ALTOP	OF END	CAP	FOR PA	ART NUN	/IBEKS	FINDI	NG WI	IH "	1

PART#	STUB	В	С		
MC4500IEPP06T	6" (150 mm)	42.54" (1081 mm)			
MC4500IEPP06B	0 (130 11111)		0.86" (22 mm)		
MC4500IEPP08T	9" (200 mm)	40.50" (1029 mm)		¬ •	
MC4500IEPP08B	8" (200 mm)		1.01" (26 mm)		
MC4500IEPP10T	10" (250 mm)	38.37" (975 mm)			
MC4500IEPP10B	10 (230 11111)		1.33" (34 mm)		
MC4500IEPP12T	12" (300 mm)	35.69" (907 mm)			
MC4500IEPP12B	12 (300 11111)		1.55" (39 mm)		
MC4500IEPP15T	15" (375 mm)	32.72" (831 mm)			
MC4500IEPP15B			1.70" (43 mm)		
MC4500IEPP18T	18" (450 mm)	29.36" (746 mm)		<u> </u>	
MC4500IEPP18TW		,		CUSTOM PREFABRICATED I	
MC4500IEPP18B		10 (43011111)	10 (400 11111)		1.97" (50 mm)
MC4500IEPP18BW			1.57 (50 11111)	12-24" (300-600 mm) SIZE ON	
MC4500IEPP24T		23.05" (585 mm)		AND 15-48" (375-1200 mm)	
MC4500IEPP24TW	24" (600 mm)	23.03 (303 11111)		ECCENTRIC MANIFOLDS. CL	
MC4500IEPP24B	24 (000 11111)		2.26" (57 mm)	INVERT LOCATIONS ON THE	
MC4500IEPP24BW			2.20 (37 11111)	END CAP CUT IN THE FIELD RECOMMENDED FOR PIPE	
MC4500IEPP30BW	30" (750 mm)		2.95" (75 mm)	GREATER THAN 10" (250 mm	
MC4500IEPP36BW	36" (900 mm)		3.25" (83 mm)	INVERT LOCATION IN COLU	
MC4500IEPP42BW	42" (1050 mm)		3.55" (90 mm)	ARE THE HIGHEST POSSIBL	

## MC-4500 TECHNICAL SPECIFICATIONS

## **INSPECTION & MAINTENANCE**

## STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT

- A. INSPECTION PORTS (IF PRESENT) A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
- REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON
- MAINTENANCE LOG A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS

PLANNING BOARD HTE# 21-00100006

- A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3. B. ALL ISOLATOR PLUS ROWS
- B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
- ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN C. VACUUM STRUCTURE SUMP AS REQUIRED

## STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

## STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

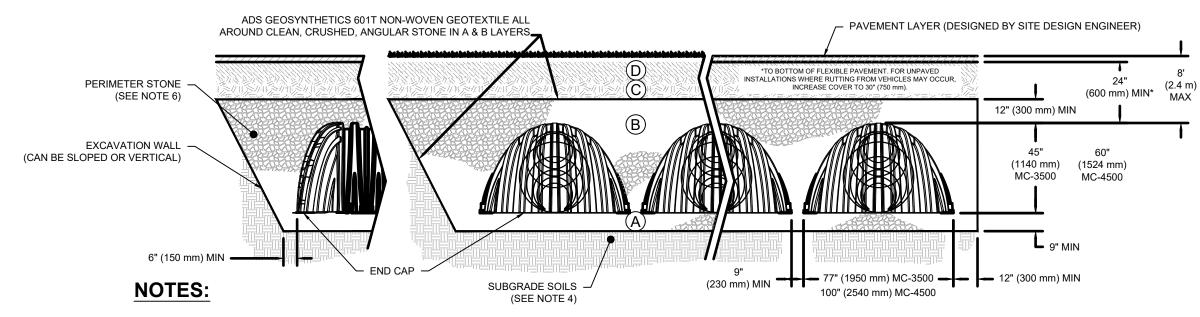
- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- 2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS

## ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500/ MC-4500 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL	COMPACTION / DENSITY
WIN CHERTIFICE EGGINTOIN	BESSIAI TISIA	CLASSIFICATIONS	REQUIREMENT
FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	FINES OR PROCESSED AGGREGATE.  MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU	OR AASHTO M43¹	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 <sup>1</sup> 3, 4	NO COMPACTION REQUIRED.
FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 <sup>1</sup> 3, 4	ROLL TO ACHIEVE A FLAT SURFACE. <sup>2,3</sup>
	FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER  INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.  EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.  FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM)	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER  INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.  EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.  FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM)  FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.  ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.  ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.  ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.   GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE.  MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.  CLEAN, CRUSHED, ANGULAR STONE	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADDE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER  INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE (B' LAYER) TO 24' (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.  BEMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE COUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.  BEMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE CULAYER ABOVE.  CLEAN, CRUSHED, ANGULAR STONE  CLEAN, CRUSHED, ANGULAR STONE  ASHTO M43' 3, 44  ASHTO M43' 3, 44

THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE."

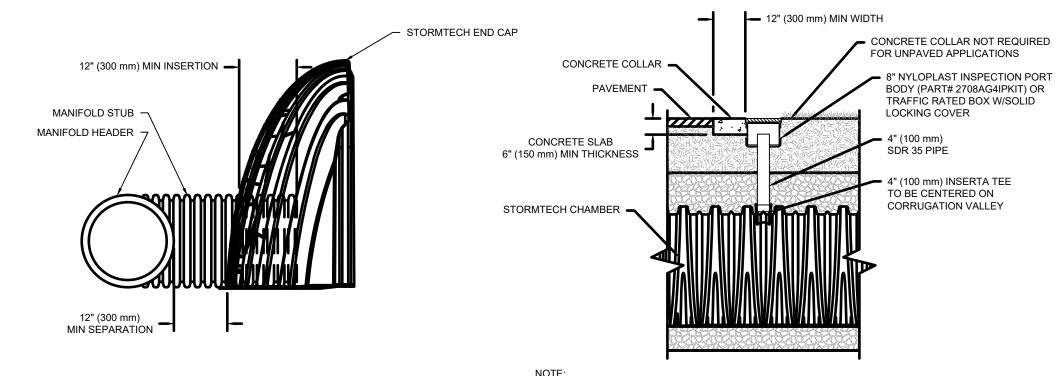
STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A COMPACTOR. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



- 1. CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- 2. CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH
- CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS
- 5. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
- 6. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.

## MC-3500/ MC-4500 CROSS SECTION DETAIL





NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

## MC-SERIES END CAP INSERTION DETAIL NOT TO SCALE

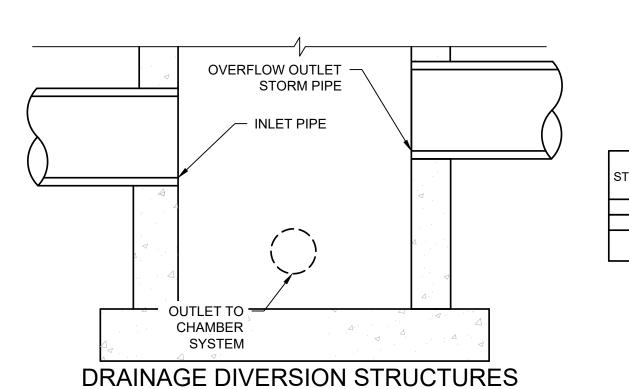
4" PVC INSPECTION PORT DETAIL NOT TO SCALE

INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY

	INFILTRATION CHAMBER SYSTEM DATA								
SYSTEM NO.	SYSTEM TYPE 1	DRAINAGE NETWORK	CHAMBER INV.	CHAMBER CROWN	WQv STORAGE VOLUME	WQv STORAGE ELEV.	PRE- TREATMENT		
CM-1	MC-3500	1	6.75'	10.5'	23,600 FT <sup>3</sup>	10.0'	J-1		
CM-4	MC-3500	4	6.75'	10.5'	20,500 FT <sup>3</sup>	11.0'	J-5		
CM-5	MC-4500	5	6.75'	11.75'	20,300 FT <sup>3</sup>	12.6'	IS-5 <sup>2</sup>		

## **NOTES:**

- 1. ENGINEER APPROVED EQUAL ALTERNATIVE MANUFACTURER UNDERGROUND STORM WATER STORAGE WILL BE CONSIDERED; IF AN ALTERNATIVE SYSTEM IS PROPOSED, IT SHALL MEET THE SAME PERFORMANCE CRITERIA WITH THE REQUIRED STORAGE VOLUME AT THE STATED WQV ELEVATION.
- 2. PRE-TREATMENT SHALL BE PROVIDED BY A MC-4500 ISOLATOR ROW OR AN APPROVED EQUAL DEVICE APPROVED BY THE NYSDEC TO PROVIDE PRE-TREATMENT



RUCTURE	INLET INVERT/ PIPE SIZE	OUTLET TO CHAMBER/ PIPE SIZE	OVERFLOW OUTLET/ PIPE SIZE
DV-1	7.89/ 36"	7.76/ 18"	10.00/ 36"
DV-4	8.50/ 36"	7.50/ 18"	11.00/ 36"
DV-5	8.68/ 24" 8.28/18"	6.79/ 24"	12.60/ 36"

**GR-16** 

**35** OF **69** 



PROJECT MILESTONE FINAL DESIGN PLANS

NO. DATE DESCRIPTION TOWN COMMENTS OWN COMMENTS

S

JES DRAWN NSO DESIGNED AJF CHECKED SCALE 1"=40' 05/10/2022

18641.00

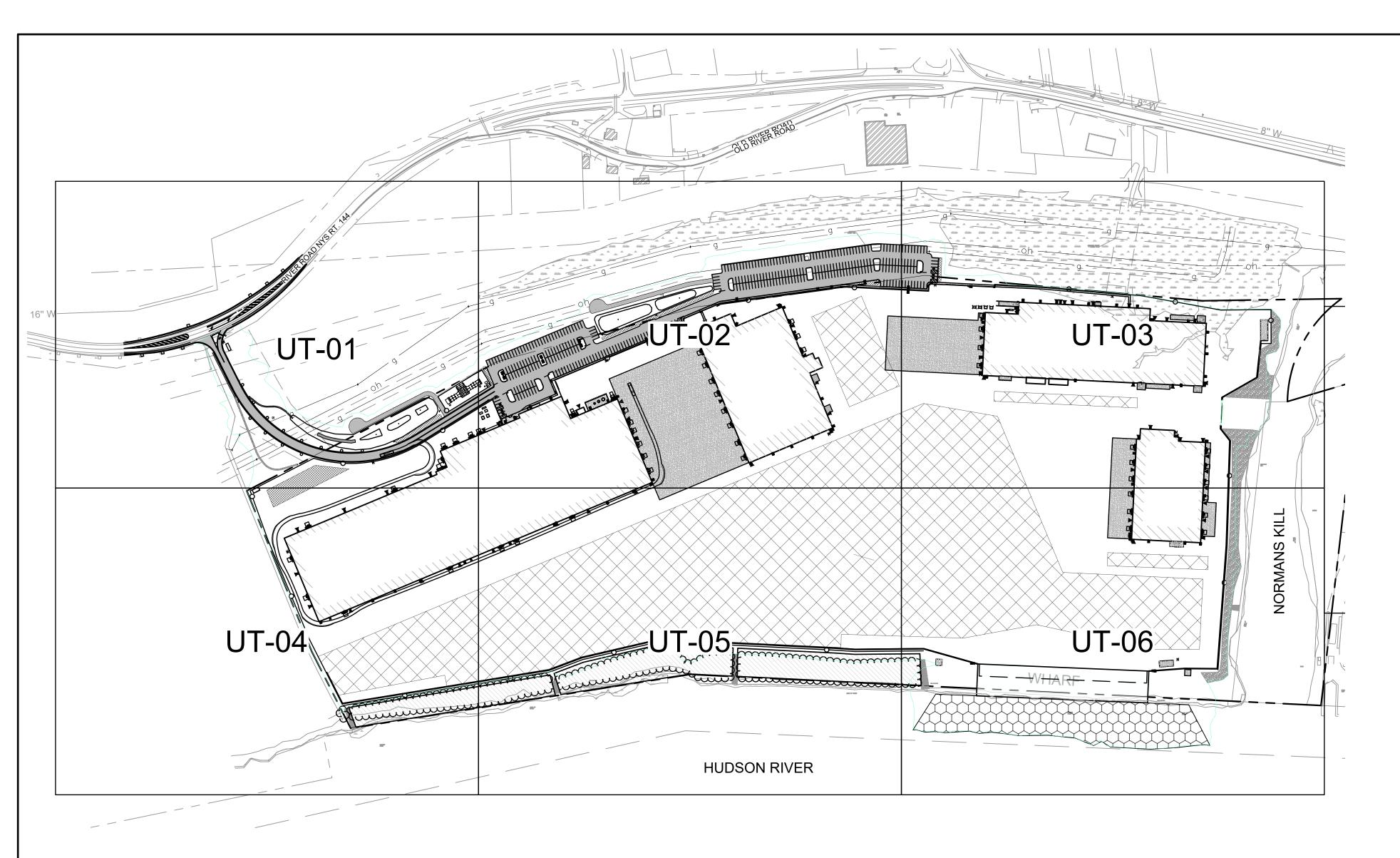
RE ACTING UNDER THE DIRECT DIRECTION OF A LICENS PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAF ARCHITECT. OR LAND SURVEYOR. TO ALTER AN ITEM IN AN VAY. IF AN ITEM BEARING THE STAMP OF A LICENS PROFESSIONAL IS ALTERED, THE ALTERING ENGINEE ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYO SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DA' F SUCH ALTERATION, AND A SPECIFIC DESCRIPTION

DRAWING TITLE

PROJECT

DRAINAGE DETAILS

DRAWING NUMBER



WATER MAIN INSTALLATION:

- 1. WATER SERVICE LINE (LATERALS) SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REGULATIONS AND SPECIFICATIONS OF THE ALBANY COUNTY HEALTH DEPARTMENT, AND THE LOCAL WATER AUTHORITY.
- 2. ALL EROSION CONTROL MEASURES SHALL BE EMPLOYED DURING ALL PHASES OF CONSTRUCTION IN ACCORDANCE WITH ALL APPROPRIATE STANDARDS AND REQUIREMENTS, BEST MANAGEMENT PRACTICES ARE TO BE FOLLOWED.
- 3. WATER MAINS AND ALL WATER SERVICE LINES SHALL HAVE A MINIMUM OF 5 FEET OF COVER FROM FINISH GRADE TO TOP OF PIPE.
- 4. LOCATIONS WHERE THERE ARE 90° BENDS SHALL BE CONSTRUCTED WITH 2 45°
- 5. THE MINIMUM VERTICAL SEPARATION BETWEEN WATER MAINS AND SEWER MAINS SHALL BE 18" MEASURED FROM THE OUTSIDE OF THE PIPES AT THE POINT OF CROSSING. THE MINIMUM HORIZONTAL SEPARATION BETWEEN WATER MAINS AND SEWER MAINS SHALL BE 10 FEET MEASURED FROM THE OUTSIDE OF THE PIPES. ONE FULL LENGTH OF WATER MAIN SHALL BE CENTERED UNDER OR OVER THE SEWER SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE, WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT (COMPACTED SELECT FILL) SHALL BE PROVIDED FOR THE SEWERS TO PREVENT EXCESSIVE DEFLECTION OF JOINTS AND SETTLING ON AND BREAKING THE WATER MAINS.
- 6. HYDRANT TYPE SHALL BE AS NOTED ON THE PLANS OR AS REQUIRED BY THE TOWN OF BETHLEHEM. GUARD VALVES SHALL BE USED AND ALL HYDRANT STUB PIPING SHALL BE MECHANICAL JOINT. FIRE HYDRANT WEEP HOLES (DRAINS) SHALL BE PLUGGED WHEN GROUND WATER IS ENCOUNTERED WITHIN 7 FEET OF THE FINISHED GRADE. ALL PLUGS SHALL BE MECHANICAL METAL PLUGS. ALL HYDRANTS WITH PLUGGED WEEP HOLES SHALL BE APPROPRIATELY TAGGED.
- 7. ALL MECHANICAL JOINTS, FITTINGS (TEES, BENDS, PLUGS), ETC. SHALL BE BACKED WITH 3,000 P.S.I. CONCRETE THRUST BLOCKS OR APPROVED MECHANICAL RESTRAINTS.
- 8. WHERE PIPING IS TO BE PLACED WITHIN FILL AREAS, THE FILL SHALL BE PLACED AND COMPACTED TO AT LEAST 95% MODIFIED PROCTOR PRIOR TO TRENCH EXCAVATION.
- 9. SHUTDOWN OF EXISTING WATER MAINS SHALL BE IN ACCORDANCE WITH THE LOCAL WATER AUTHORITY. THE TOWN OF BETHLEHEM WATER AND SEWER MANAGER MUST BE NOTIFIED IN ADVANCE OF ALL PROPOSED SHUTDOWNS IN ACCORDANCE WITH THEIR DIRECTION. WATER MUST BE TURNED BACK ON AS SOON AS POSSIBLE. ALL ENDS OF WATER MAINS MUST BE PROVIDED WITH ADEQUATE PLUG, BLOCK, AND BLOW-OFF AS INDICATED ON THE PLANS.
- 10. WATER SERVICE LINES SHALL BE SEPARATED AT LEAST 10 FEET, MEASURED FROM OUTSIDE OF THE PIPES, FROM SEWER MAINS AND SEPTIC SYSTEMS.
- 11.BACKFLOW PREVENTION SHALL BE PROVIDED IN BUILDING. (SEE BUILDING PLANS)
- 12. BACKFLOW PREVENTION APPLICATION MUST BE SUBMITTED TO AND APPROVED BY THE SUPPLIER WHO WILL FORWARD THE PLANS TO THE NYS DEPARTMENT OF HEALTH FOR THEIR APPROVAL. THE APPROVAL PROCESS MUST BE COMPLETED PRIOR TO INSTALLATION. THE APPROVAL PROCESS SHOULD BE STARTED EARLY TO AVOID UNNECESSARY DELAYS OR CONFLICTS WITH OTHER HEALTH DEPARTMENT APPROVALS.

# WATER MAIN MATERIALS:

 POLYETHYLENE (PE) PRESSURE PIPE MUST BE PE 3408-DR9 (DOMESTIC) PE 4710-DR11 (FIRE PROTECTION) MATERIAL MINIMUM. CONFORMING TO THE LATEST REVISION OF AWWA C901 AND C906.

# WATER SYSTEM TESTS:

- 1. SOIL TEST. THE CONTRACTOR SHALL PROVIDE A SOIL TEST EVALUATION TO DETERMINE THE NEED FOR POLYETHYLENE ENCASEMENT PER ANSI/AWWS C105/AZ1.5-82 PRIOR TO WATER MAIN INSTALLATION. SOIL TESTING SHALL BE CONDUCTED BY AN APPROVED SOIL TESTING LABORATORY IN ACCORDANCE WITH LOCAL WATER AUTHORITY STANDARDS.
- 2. WATER PIPING SHALL BE FLUSHED AND TESTED IN CONFORMANCE WITH THE LATEST REVISION OF ANSI/AWWA C600 STANDARD FOR DUCTILE IRON PIPE, C605 FOR PVC PIPE, OR EQUIVALENT OF C600 AND/OR C605 FOR PE PIPE.
- 3. THE PROPOSED WORKS MUST CONFORM TO THE LATEST REVISION OF ANSI/AWWA C651 STANDARD, TABLET METHOD EXCEPTED. FOLLOWING FLUSHING AND TESTING, THE ENGINEER SHALL OVERSEE COLLECTION OF AN APPROPRIATE NUMBER OF BACTERIOLOGICAL SAMPLES FOR THE TOTAL AND FECAL COLIFORM AND FOR STANDARD BACTERIAL PLATE COUNT AFTER THE FIELD FREE CHLORINE RESIDUAL IS LESS THAN 1.5 PPM AND THE SAMPLING POINTS HAVE BEEN DECONTAMINATED. PRIOR TO SAMPLING, THE ENGINEER SHALL COORDINATE THE APPROPRIATE NUMBER AND LOCATION OF SAMPLES TO BE COLLECTED WITH THE ALBANY COUNTY HEALTH DEPARTMENT.
- 4. THE COMPLETED WORKS SHALL BE VERIFIED WITH ALBANY COUNTY HEALTH DEPARTMENT. PRIOR TO ISSUANCE, A NYS-LICENCED PROFESSIONAL ENGINEER MUST SUBMIT CERTIFICATION TO THE HEALTH DEPARTMENT THAT: THEY OR THEIR DESIGNATED REPRESENTATIVE WITNESSED THAT CONSTRUCTION WAS IN CONFORMANCE WITH THE PLANS AS APPROVED; FLUSHING, TESTING, AND DISINFECTION PROCEDURES NOTED HEREIN HAD BEEN PROPERLY PERFORMED; AND, MICROBACTERIAL SAMPLE RESULTS FROM THE COMPLETED WORKS WERE ACCEPTABLE. COPIES OF THE OFFICIAL LABORATORY RESULTS ARE TO BE INCLUDED WITH THE CERTIFICATION.
- 5. FIRE HYDRANTS ARE NOT ACCEPTABLE TESTING/SAMPLING POINTS.
- 6. WATER SERVICE LINES SIZED 4-INCHES OR GREATER SHALL BE:

- PRESSURE TESTED IN ACCORDANCE WITH THE LATEST SPECIFICATIONS OF THE LOCAL WATER AUTHORITY. THE PRESSURE TEST SHALL BE WITNESSED BY A REPRESENTATIVE FROM THE LOCAL WATER AUTHORITY.

- DISINFECTION BY USING THE CONTINUOUS FEED METHOD ACCORDING TO AWWA STANDARD SPECIFICATIONS. AFTER FLUSHING AND DISINFECTING THE SERVICE LINE, WATER SAMPLES SHALL BE COLLECTED BY THE ALBANY COUNTY HEALTH DEPARTMENT. APPROVAL AND NOTIFICATION BY THE HEALTH DEPARTMENT MUST BE RECEIVED BEFORE THE LATERAL IS PLACED IN SERVICE.

# SANITARY SEWER NOTES:

LEGEND

PROPERTY LINE

WETLAND AREA

STORAGE AREA

DREDGING AREA

PAVEMENT AREA

CONCRETE AREA

- ONLY DOMESTIC WASTE FROM THE PROJECT SHALL BE DISCHARGED INTO THE SANITARY SEWER.
- 2. ALL SANITARY LATERALS SHALL BE 6" PVC SDR-21 ASTM D2241 UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PLANNING BOARD HTE# 21-00100006

- A MINIMUM OF 4 FEET OF COVER SHALL BE PROVIDED OVER ENTIRE LENGTH OF ALL SANITARY LATERALS.
- 4. THE TOWN OF BETHLEHEM WATER AND SEWER MANAGER SHALL BE NOTIFIED FORTY-EIGHT HOURS IN ADVANCE OF CONNECTION OR TAP. [518-439-4955].
- 5. SANITARY SEWER LATERAL(S) AND APPURTENANCES SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE REQUIREMENTS OF THE TOWN OF BETHLEHEM.
- 6. FLOOR DRAINS, IF CONSTRUCTED, SHALL BE CONNECTED TO THE SANITARY SEWER. FLOOR DRAINS DO NOT INCLUDE FOUNDATION/FOOTER DRAINS. NOTE: ALL DISCHARGES TO THE SANITARY SEWER MUST COMPLY WITH THE EFFLUENT LIMITS OF THE LOCAL AND/OR ALBANY COUNTY SEWER USE LAW.
- 7. MAXIMUM SPACING BETWEEN CLEANOUTS ON SANITARY LATERALS MAY NOT EXCEED SEVENTY-FIVE (75) FEET.
- 8. MAXIMUM SPACING BETWEEN SANITARY MANHOLES MAY NOT EXCEED FOUR-HUNDRED (400) FEET.
- 9. EXFILTRATION AND/OR INFILTRATION FOR SANITARY SEWERS SHALL BE LIMITED TO 100 GALLONS PER DAY, PER MILE OF PIPE, PER INCH DIAMETER, AND SHALL BE PERFORMED IN ACCORDANCE WITH DISTRICT PROCEDURES. AIR TESTS, INCLUDING VACUUM TESTS, SHALL NOT BE ALLOWED ON SANITARY MANHOLES.
- 10. UPON COMPLETING CONSTRUCTION AND AFTER THE PIPE BACKFILL HAS BEEN IN PLACE FOR A PERIOD OF 30 DAYS, THE NEW SANITARY SEWER SHALL BE SUBJECT TO THE FOLLOWING TESTS AND PROCEDURES. FLUSH AND CLEAN THE SYSTEM, SEWER MAIN AIR PRESSURE/ EXFILITRATION TESTING, SEWER MANHOLE VACUUM/INFILTRATION TESTING (PERFORMED ONLY AFTER INVERTS AND BENCHES ARE FORMED), AND SEWER MAIN DEFLECTION TEST. DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE PIPE. THE TEST SHALL BE CONDUCTED AFTER ALL FINAL BACKFILL HAS BEEN IN PLACE AT LEAST THIRTY (30) DAYS. NO PIPE SHALL EXCEED A DEFLECTION OF FIVE PERCENT (5%). IF THE DEFLECTION TEST IS RUN USING A RIGID BALL OR MANDREL, IT SHALL HAVE A MINIMUM DIAMETER EQUAL TO NINETY-FIVE PERCENT (95%) OF THE INSIDE DIAMETER OF THE PIPE. TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.
- 11. MANHOLES SHALL BE 4' INSIDE DIAMETER UNLESS OTHERWISE SPECIFIED ON PLANS. MANHOLE FRAMES AND COVERS SHALL BE CAMPBELL MODEL NO. 1009, NEENAH FOUNDRY, INC. MODEL NO. R-1556, OR APPROVED EQUAL.
- 12. MIN DEFLECTION OF 3" PVC SDR21 ASTM D2241 FORCE MAIN SEWER LINE IS 0.7' FOR 20' LENGTHS.



60 RAILROAD PLACE SUITE 402 SARATOGA SPRINGS, NEW YORK 1286 P:518-580-9380 F:518-580-9383 SaratogaROM@mjinc.com

ROJECT MILESTONE

FINAL DESIGN PLANS

NO.	DATE	DESCRIPTION
1	05/20/22	TOWN COMMENTS

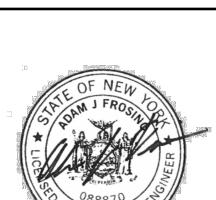
PORT DISTRICT COMMISSION ALBANY, NEW YORK

DRAWN JES
DESIGNED NSO
CHECKED AJF

AS SHOWN

05/10/2022

18641.00



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF

THE ALTERATION.

DRAWING TITLE

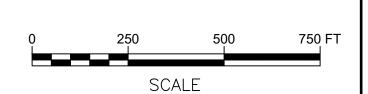
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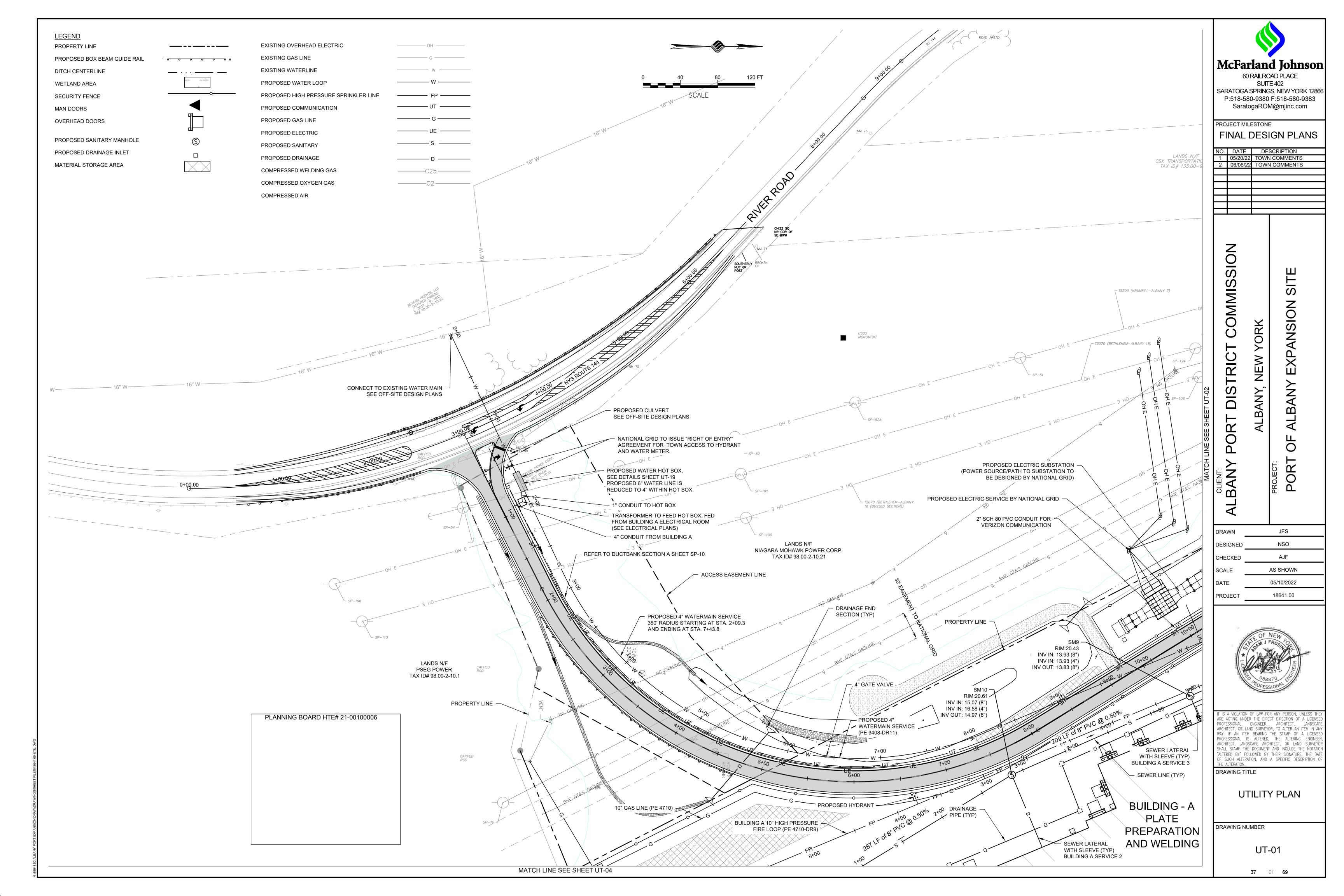
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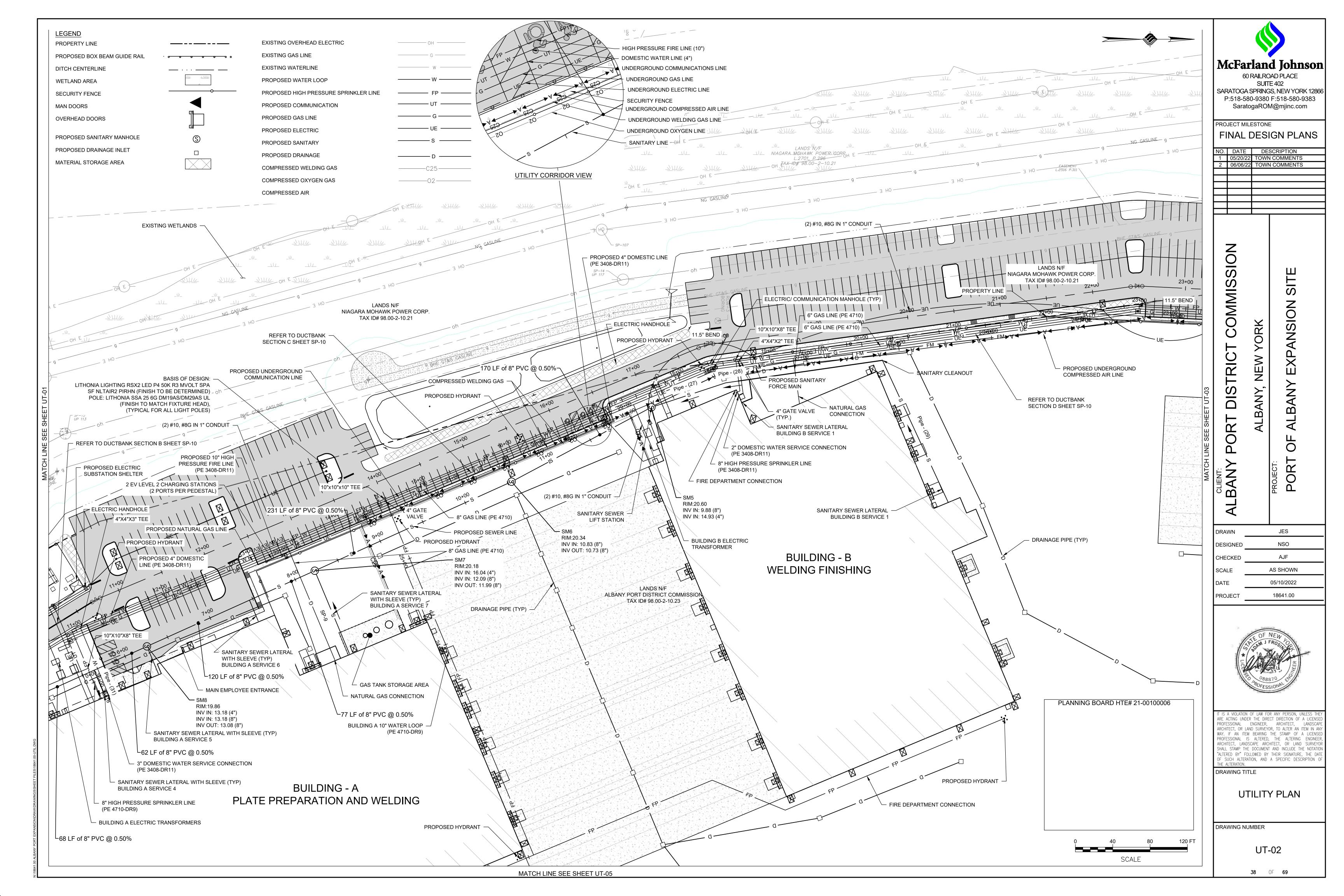
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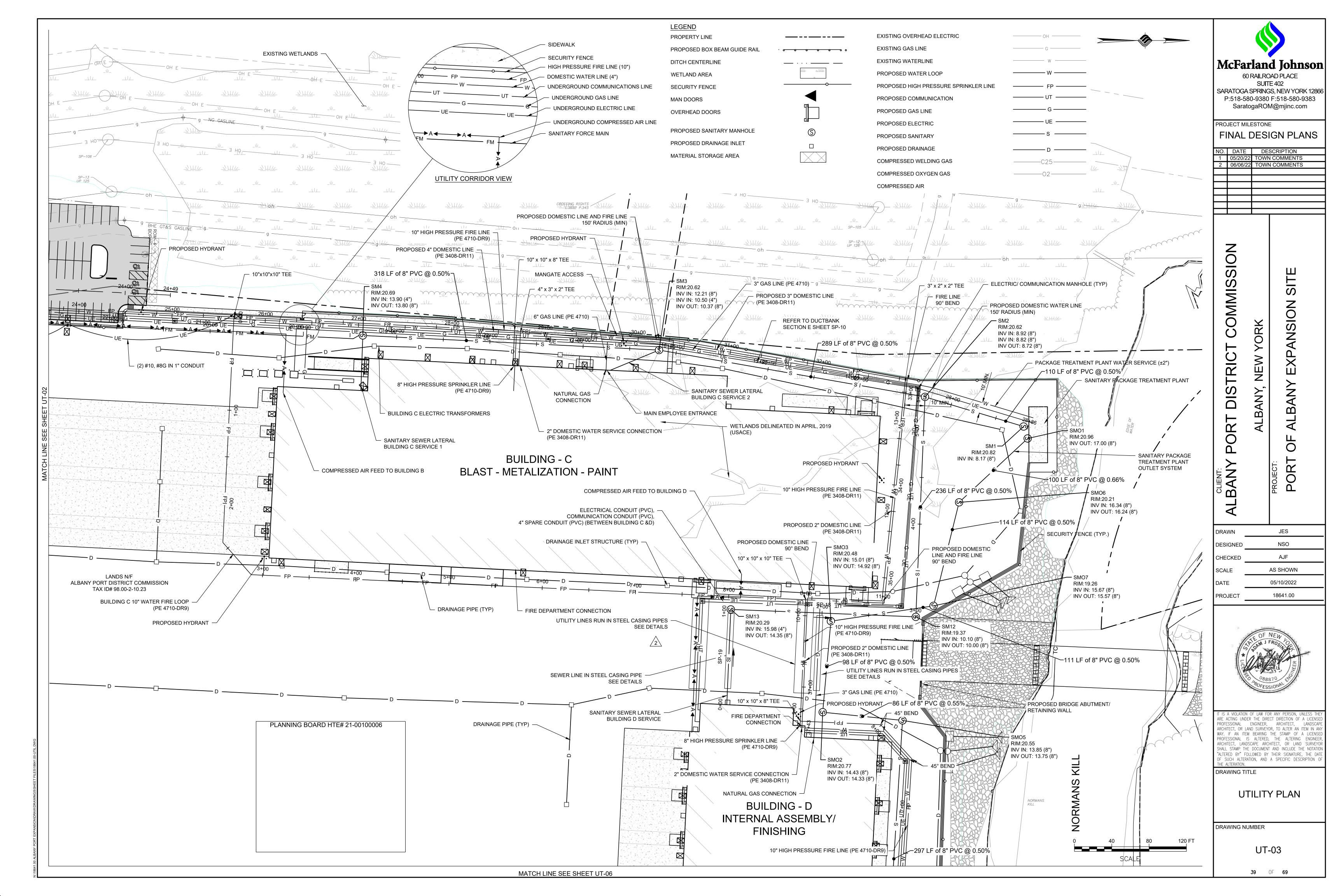
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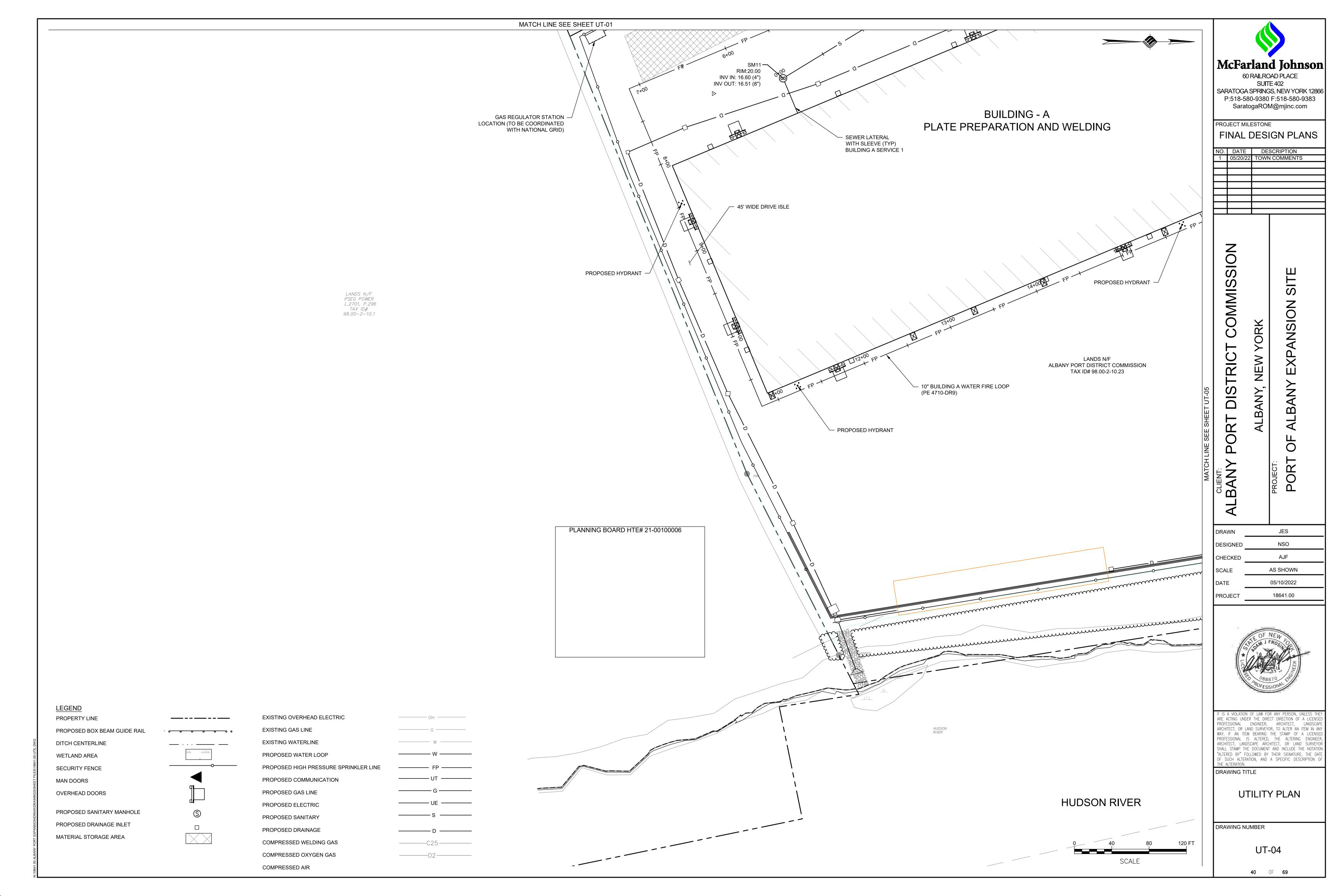
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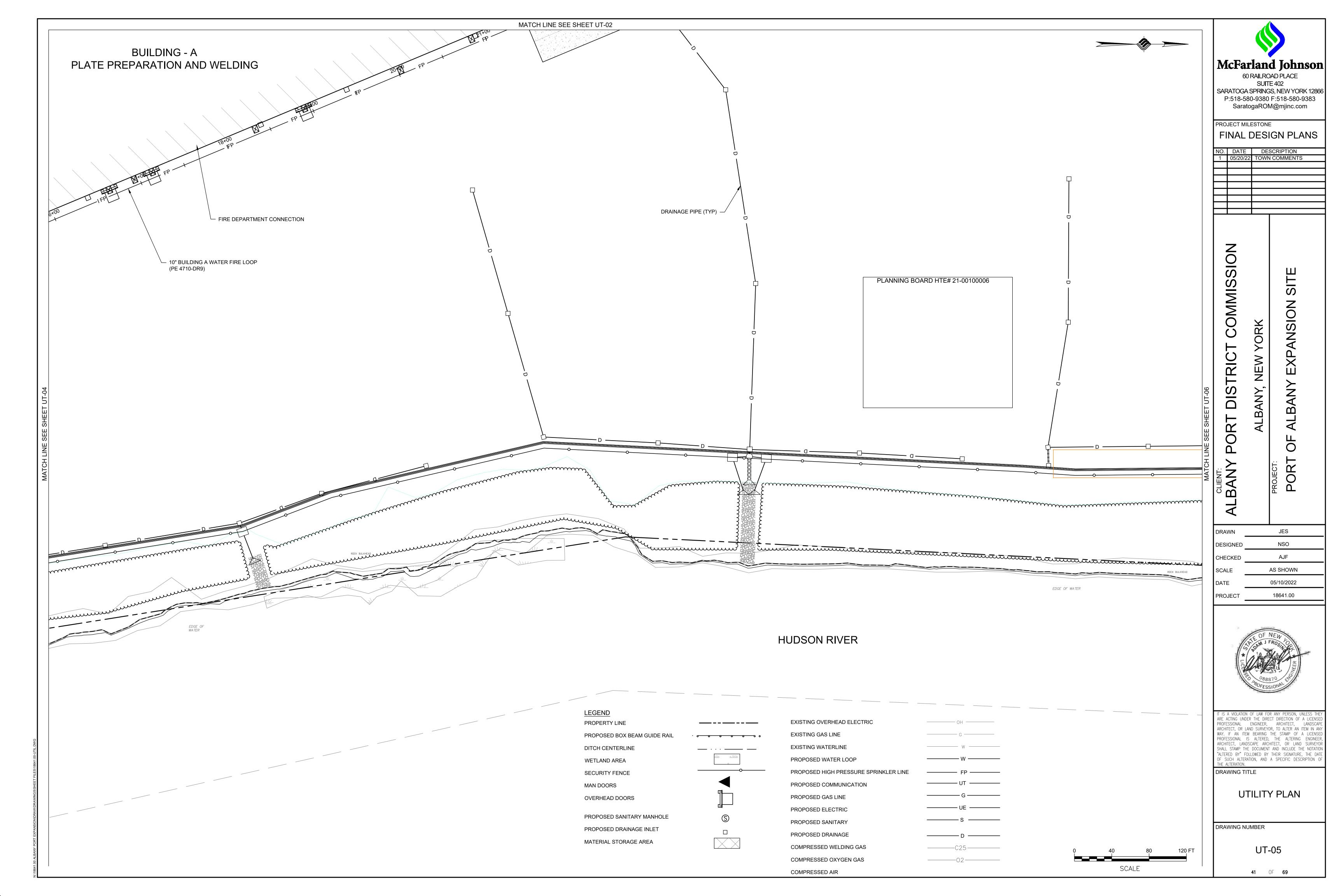


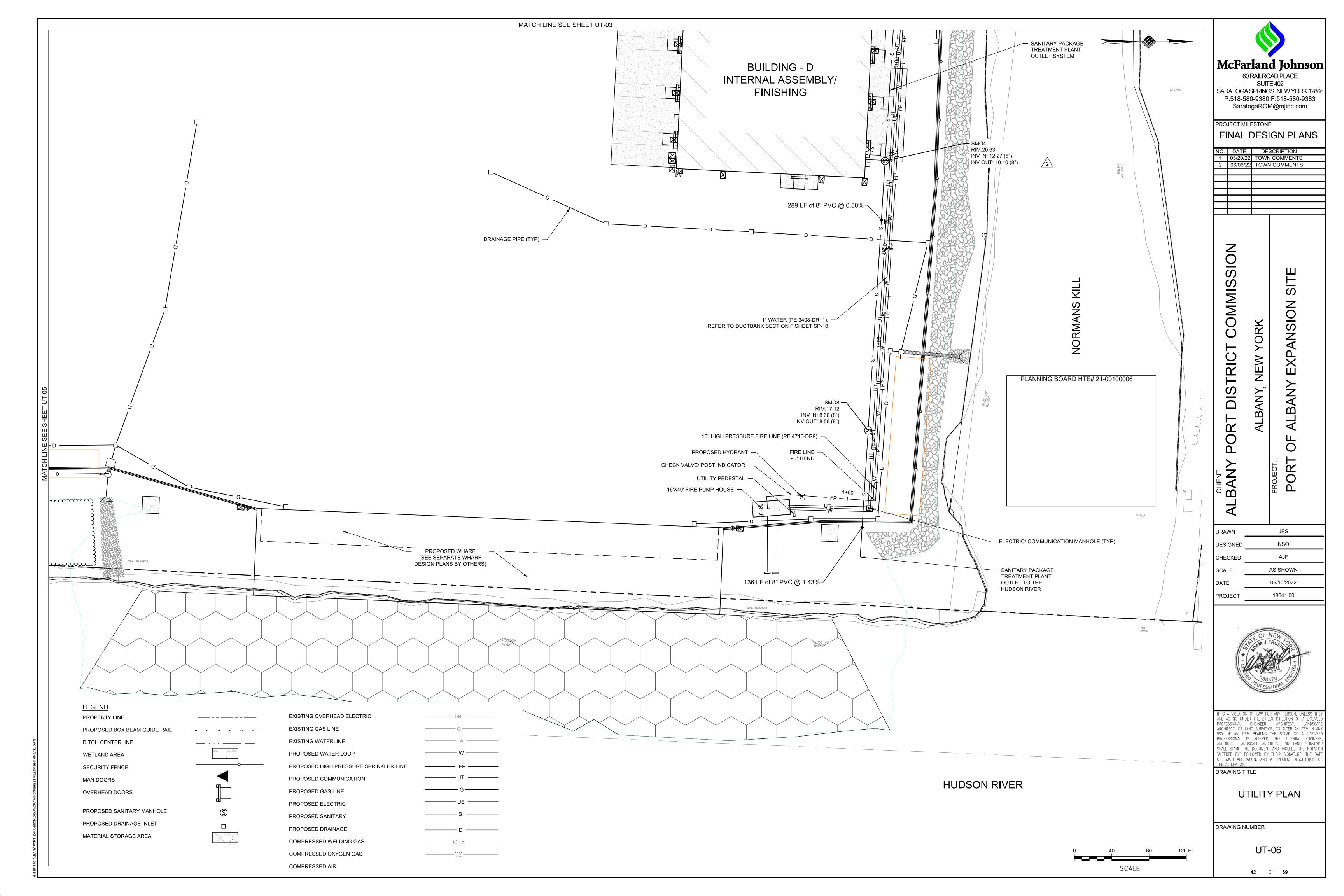


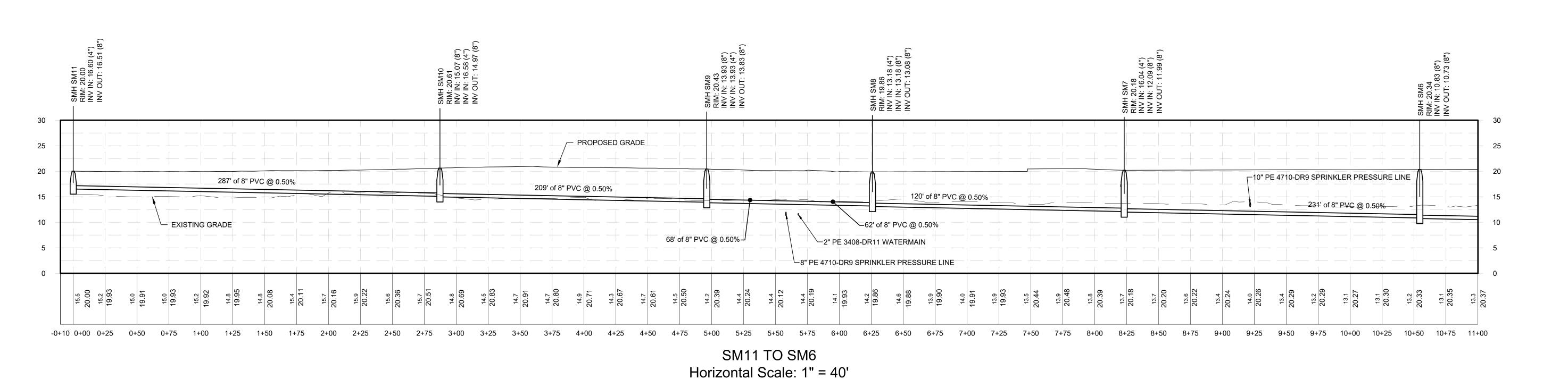






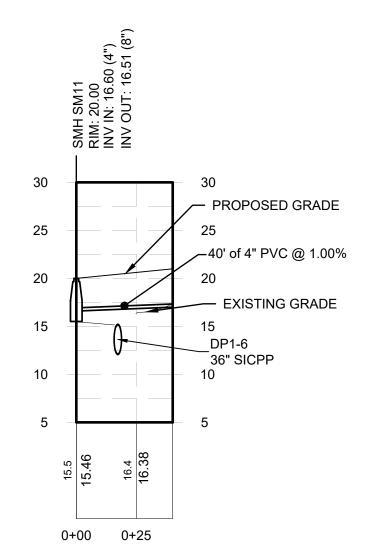




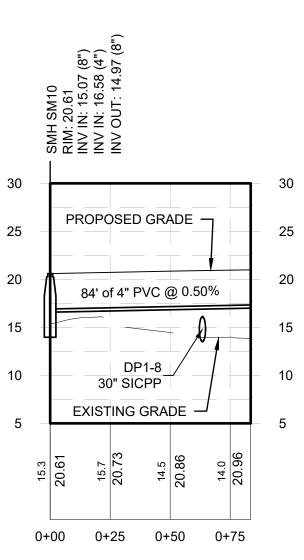


Vertical Scale: 1" = 10'

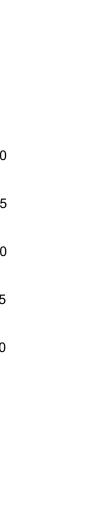
PLANNING BOARD HTE# 21-00100006



Bldg A service 1 Horizontal Scale: 1" = 40' Vertical Scale: 1" = 10'



Bldg A service 2 Horizontal Scale: 1" = 40' Vertical Scale: 1" = 10'



Bldg A- Service 3 Horizontal Scale: 1" = 40' Vertical Scale: 1" = 10'

0+00 0+25

SMH SM9 RIM: 20.43 INV IN: 13.93 (8") INV IN: 13.93 (4") INV OUT: 13.83 (8",

30" SICPP

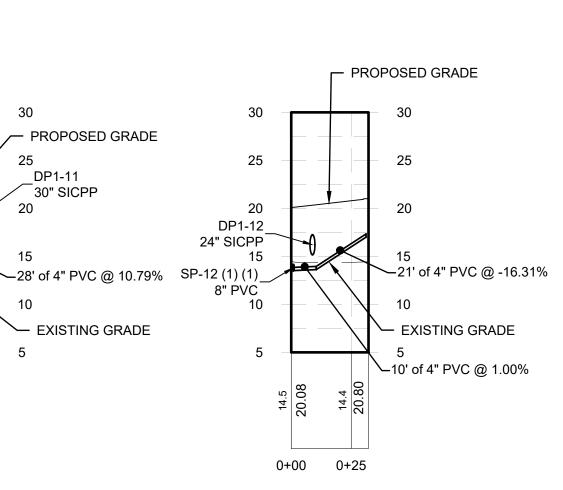
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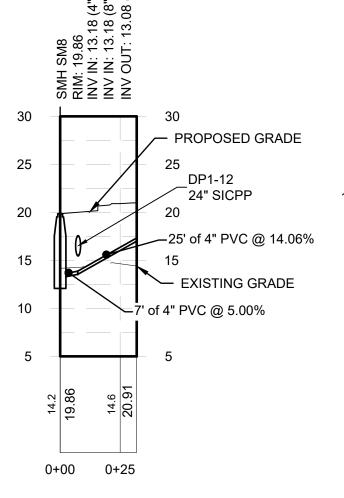
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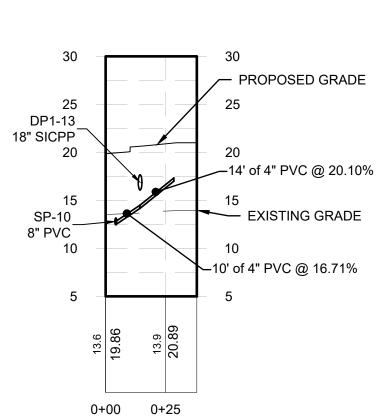
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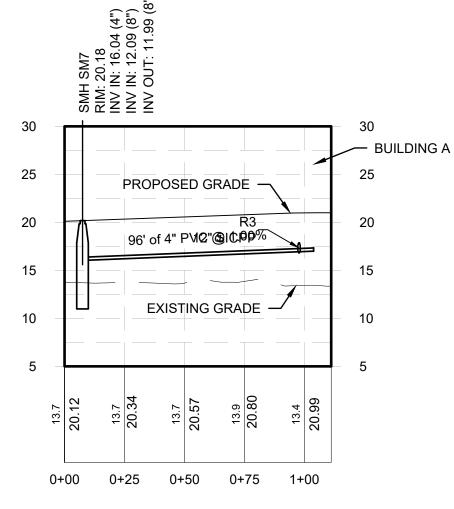
Bldg A- Service 4 Horizontal Scale: 1" = 40' Vertical Scale: 1" = 10'



Bldg A service 5 Horizontal Scale: 1" = 40' Vertical Scale: 1" = 10'



Bldg A- Service 6 Horizontal Scale: 1" = 40' Vertical Scale: 1" = 10'



Bldg A- Service 7 Horizontal Scale: 1" = 40' Vertical Scale: 1" = 10'



McFarland Johnson 60 RAILROAD PLACE

SUITE 402 SARATOGA SPRINGS, NEW YORK 12866 P:518-580-9380 F:518-580-9383 SaratogaROM@mjinc.com

PROJECT MILESTONE FINAL DESIGN PLANS

NO.	DATE	DESCRIPTION
1	05/20/22	TOWN COMMENTS

COMMISSION SITE **EXPANSION** YORK DISTRICT NEW **PORT** CLIENT:
ALBANY POR

1	
DRAWN	JES
DESIGNED	NSO
CHECKED	AJF
SCALE	AS SHOWN
DATE	05/10/2022
PROJECT	18641.00
	-



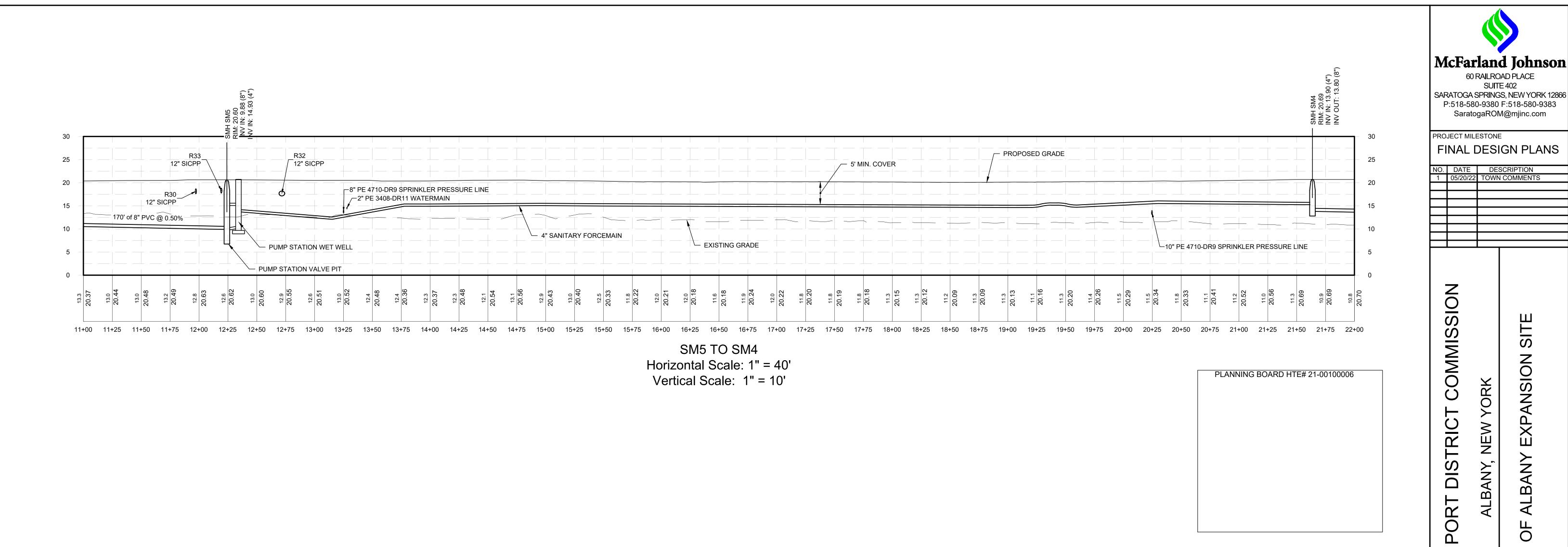
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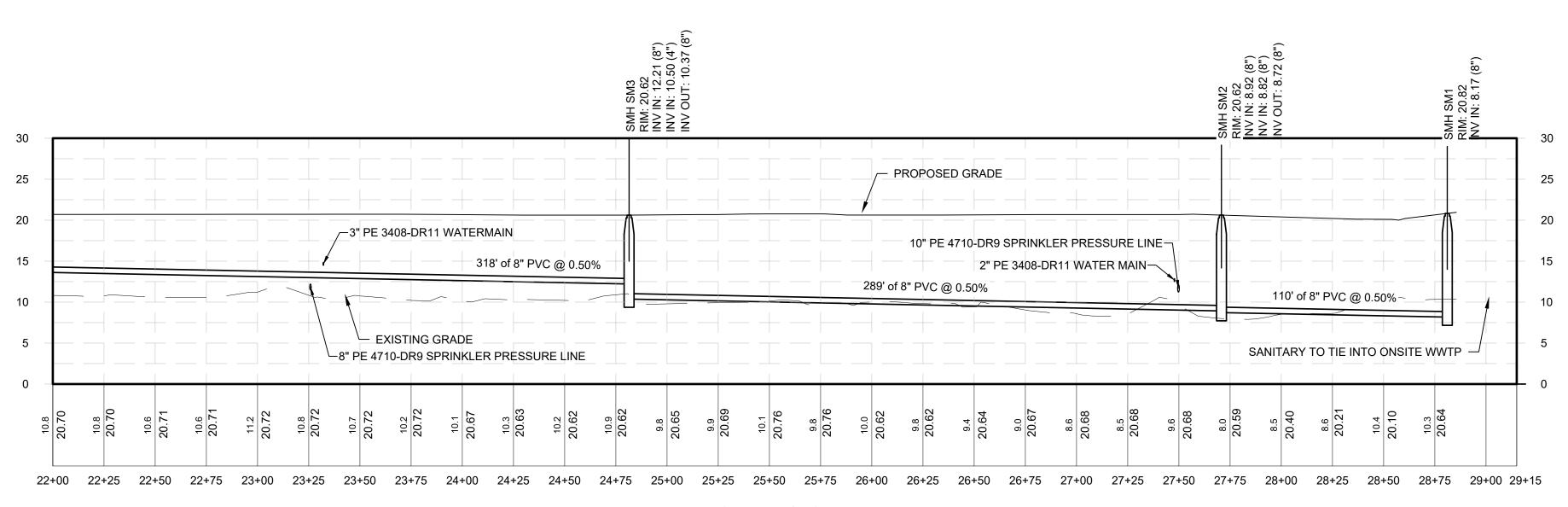
DRAWING TITLE

SANITARY SYSTEM PROFILE

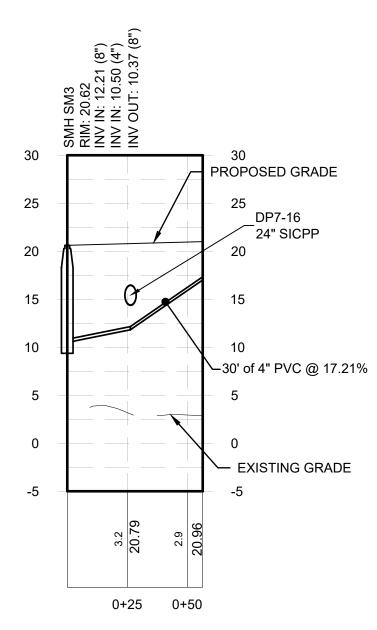
DRAWING NUMBER

UT-07

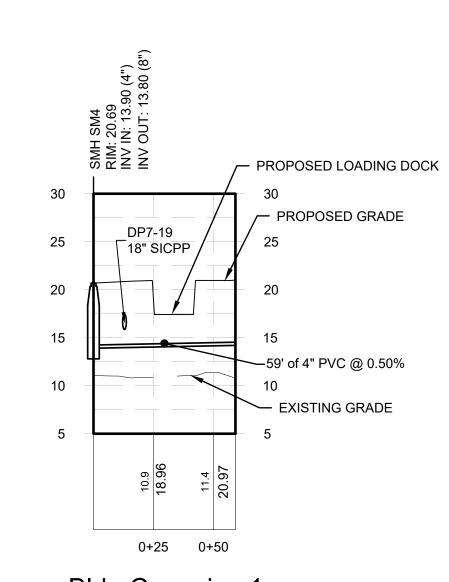




SM3 TO SM1 Horizontal Scale: 1" = 40' Vertical Scale: 1" = 10'



Bldg C service 2 Horizontal Scale: 1" = 40' Vertical Scale: 1" = 10'



Bldg C service 1 Horizontal Scale: 1" = 40' Vertical Scale: 1" = 10'

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SUITE 402

TOWN COMMENTS

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**AS SHOWN** 

05/10/2022

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PROJECT

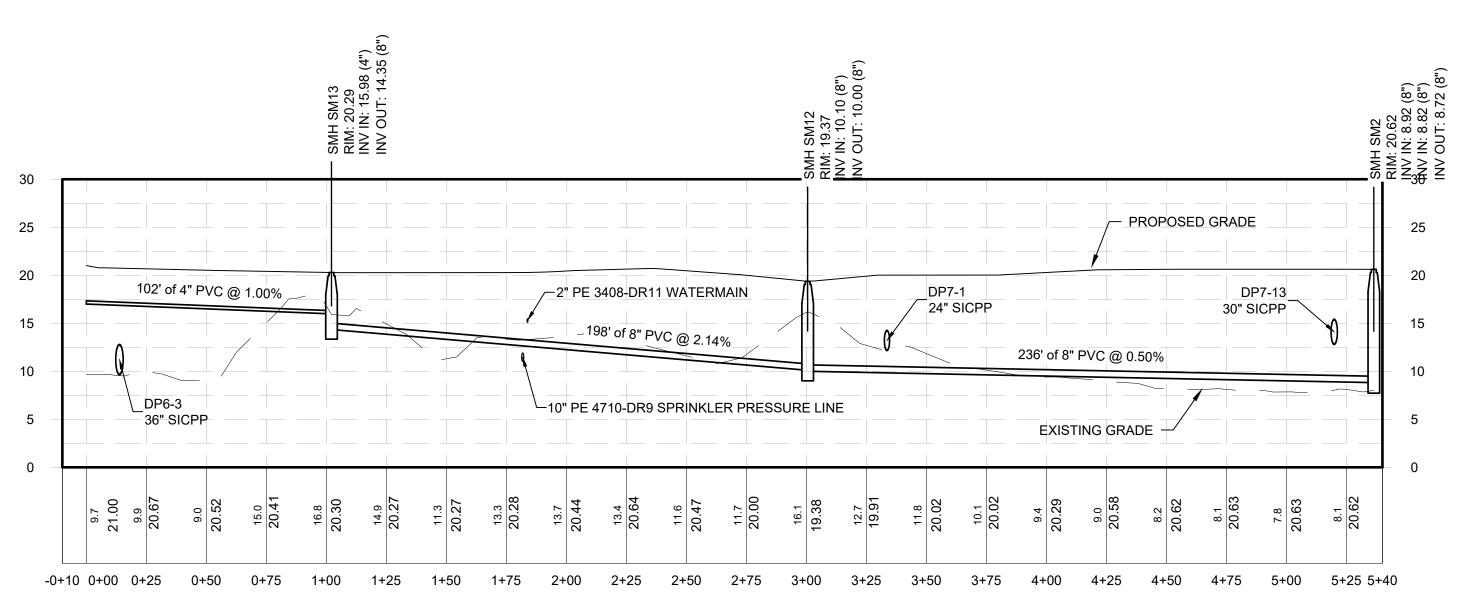
SCALE

SANITARY SYSTEM **PROFILE** 

DRAWING NUMBER

DRAWING TITLE

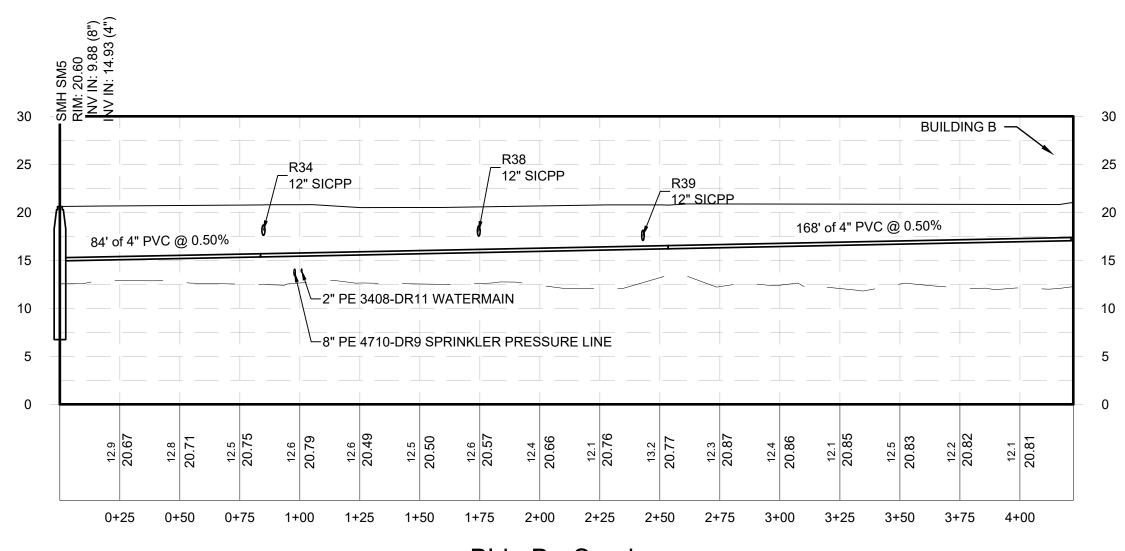
UT-08 **44** OF **69** 



SM13 TO SM2 Horizontal Scale: 1" = 40' Vertical Scale: 1" = 10'

	STRUCTURE TABLE								
STRUCTURE	RIM	INV(S) IN	INV OUT	TYPE	NORTHING	EASTING			
SM1	20.82	8.17		Concentric Cylindrical Structure	1375669.74	689393.32			
SM2	20.62	8.92 8.82	8.72	Concentric Cylindrical Structure	1375564.11	689361.57			
SM3	20.62	12.21 10.50	10.37	Concentric Cylindrical Structure	1375279.19	689311.41			
SM4	20.69	13.90	13.80	Concentric Cylindrical Structure	1374961.80	689295.77			
SM5	20.60	9.88 14.93		Concentric Cylindrical Structure	1374035.04	689372.69			
SM6	20.34	10.83	10.73	Concentric Cylindrical Structure	1373885.22	689452.44			
SM7	20.18	16.04 12.09	11.99	Concentric Cylindrical Structure	1373674.34	689547.82			
SM8	19.86	13.18 13.18	13.08	Concentric Cylindrical Structure	1373494.56	689628.88			
SM9	20.43	13.93 13.93	13.83	Concentric Cylindrical Structure	1373376.33	689682.17			
SM10	20.61	15.07 16.58	14.97	Concentric Cylindrical Structure	1373185.17	689766.52			
SM11	20.00	16.60	16.51	Concentric Cylindrical Structure	1372940.09	689916.22			
SM12	19.37	10.10	10.00	Concentric Cylindrical Structure	1375554.26	689597.25			
SM13	20.29	15.98	14.35	Concentric Cylindrical Structure	1375356.04	689589.29			
Structure - (27)	14.22	13.49 13.52	13.49	Null Structure	1373438.09	689654.33			
Structure - (29)	13.20	12.48 12.48	12.48	Null Structure	1373604.41	689579.35			
Structure - (30)	14.52	14.15	14.15	Null Structure	1373608.27	689588.58			
Structure - (31)	13.92	13.55	13.55	Null Structure	1373497.39	689635.65			
Structure - (32)	15.72	15.35	15.35	Null Structure	1374114.45	689346.57			
Structure - (33)	16.57	16.20	16.20	Null Structure	1374282.54	689322.39			
Structure - (34)	12.18	11.81	11.81	Null Structure	1375254.89	689321.47			
Structure - (35)	13.99		13.62 13.62	Null Structure	1373441.76	689663.12			
Structure - (36)	15.79	15.42	15.42	Null Structure	1374127.90	689344.63			
Structure - (37)	16.79			Null Structure	1374130.81	689364.86			
Structure - (47)	16.79	16.42	16.42	Null Structure	1374142.86	689363.11			

STRUCTURE TABLE										
STRUCTURE	RIM	INV(S) IN	INV OUT	TYPE	NORTHING	EASTING				
SMO1	20.96		17.00	Concentric Cylindrical Structure	1375674.11	689406.12				
SMO2	20.77	14.43	14.33	Concentric Cylindrical Structure	1375454.50	689699.41				
SMO3	20.48	15.01	14.92	Concentric Cylindrical Structure	1375463.28	689601.90				
SMO4	20.63	12.27	10.10	Concentric Cylindrical Structure	1375521.43	690004.82				
SMO5	20.55	13.85	13.75	Concentric Cylindrical Structure	1375540.04	689708.21				
SMO6	20.21	16.34	16.24	Concentric Cylindrical Structure	1375600.63	689474.56				
SMO7	19.26	15.67	15.57	Concentric Cylindrical Structure	1375573.29	689585.46				
SMO8	17.12	8.66	8.56	Concentric Cylindrical Structure	1375503.31	690293.58				



Bldg B - Service Horizontal Scale: 1" = 40' Vertical Scale: 1" = 10'

			PIPE	TABLE		
NAME	SIZE	LENGTH	SLOPE	MATERIAL	FROM STRC	TO STRC
Pipe - (22)	4"	28.45'	10.79%	PVC		SM9
Pipe - (23)	4"	9.52'	1.00%	PVC	Structure - (35)	Structure - (27)
Pipe - (24)	4"	10.00'	16.71%	PVC	Structure - (30)	Structure - (29)
Pipe - (25)	4"	14.18'	20.10%	PVC	Structure - (30)	
Pipe - (26)	4"	24.56'	14.06%	PVC		Structure - (31)
Pipe - (27)	4"	83.59'	0.50%	PVC	SM5	Structure - (32)
Pipe - (28)	4"	13.60'	0.50%	PVC	Structure - (32)	Structure - (36)
Pipe - (28) (1)	4"	156.23'	0.50%	PVC	Structure - (36)	Structure - (33)
Pipe - (29)	4"	167.83'	0.50%	PVC	Structure - (33)	
Pipe - (30)	4"	30.13'	17.21%	PVC		Structure - (34)
Pipe - (31)	4"	20.73'	-16.31%	PVC	Structure - (35)	
Pipe - (32)	4"	20.43'	-4.89%	PVC		Structure - (47)
Pipe - (33)	4"	12.25'	-2.61%	PVC	Structure - (47)	
SP-1	8"	110.30'	0.50%	PVC	SM2	SM1
SP-2	8"	289.30'	0.50%	PVC	SM3	SM2
SP-3	4"	26.30'	5.00%	PVC	Structure - (34)	SM3
SP-4	8"	317.77'	0.50%	PVC	SM4	SM3
SP-5	4"	59.14'	0.50%	PVC		SM4
SP-6	8"	169.72'	0.50%	PVC	SM6	SM5
SP-8	8"	231.45'	0.50%	PVC	SM7	SM6
SP-9	4"	96.28'	1.00%	PVC		SM7
SP-10	8"	120.49'	0.50%	PVC	SM8	Structure - (29)
SP-10 (1)	8"	76.71'	0.50%	PVC	Structure - (29)	SM7
SP-11	4"	7.34'	5.00%	PVC	Structure - (31)	SM8
SP-12 (1)	8"	67.75'	0.50%	PVC	SM9	Structure - (27)
SP-12 (1) (1)	8"	61.95'	0.50%	PVC	Structure - (27)	SM8
SP-13	8"	208.94'	0.50%	PVC	SM10	SM9
SP-14	4"	83.57'	0.50%	PVC		SM10
SP-15	8"	287.18'	0.50%	PVC	SM11	SM10
SP-16	4"	40.18'	1.00%	PVC		SM11
SP-17	8"	235.89'	0.50%	PVC	SM12	SM2
SP-18	8"	198.38'	2.14%	PVC	SM13	SM12
SP-19	4"	102.15'	1.00%	PVC		SM13

PIPE TABLE								
NAME	SIZE	LENGTH	SLOPE	MATERIAL	FROM STRC	TO STRC		
SPO-1	8"	100.42'	0.66%	PVC	SMO1	SMO6		
SPO-2	8"	114.22'	0.50%	PVC	SMO6	SMO7		
SPO-3	8"	111.23'	0.50%	PVC	SMO7	SMO3		
SPO-4	8"	97.90'	0.50%	PVC	SMO3	SMO2		
SPO-5	8"	86.00'	0.55%	PVC	SMO2	SMO5		
SPO-6	8"	297.19'	0.50%	PVC	SMO5	SMO4		
SPO-7	8"	289.33'	0.50%	PVC	SMO4	SMO8		
SPO-8	8"	135.97'	1.43%	PVC	SMO8			

PLANNING BOARD HTE# 21-00100006



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05/10/2022

18641.00

McFarland Johnson
60 RAILROAD PLACE

SUITE 402 SARATOGA SPRINGS, NEW YORK 12866 P:518-580-9380 F:518-580-9383

SaratogaROM@mjinc.com

FINAL DESIGN PLANS

2 TOWN COMMENTS

**EXPANSION** 

**NEW YORK** 

NO. DATE DESCRIPTION

PROJECT MILESTONE

COMMISSION

DISTRICT

ALBAN'

DRAWN

DESIGNED

CHECKED

PROJECT

SCALE

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION

DRAWING TITLE

SANITARY SYSTEM PROFILE & TABLES

DRAWING NUMBER

UT-09 45 OF 69

0 40 80 120 FT

Pipe - (28) (1)

4" PVC

15

15

12' of 4" PVC @ -2.61%

10

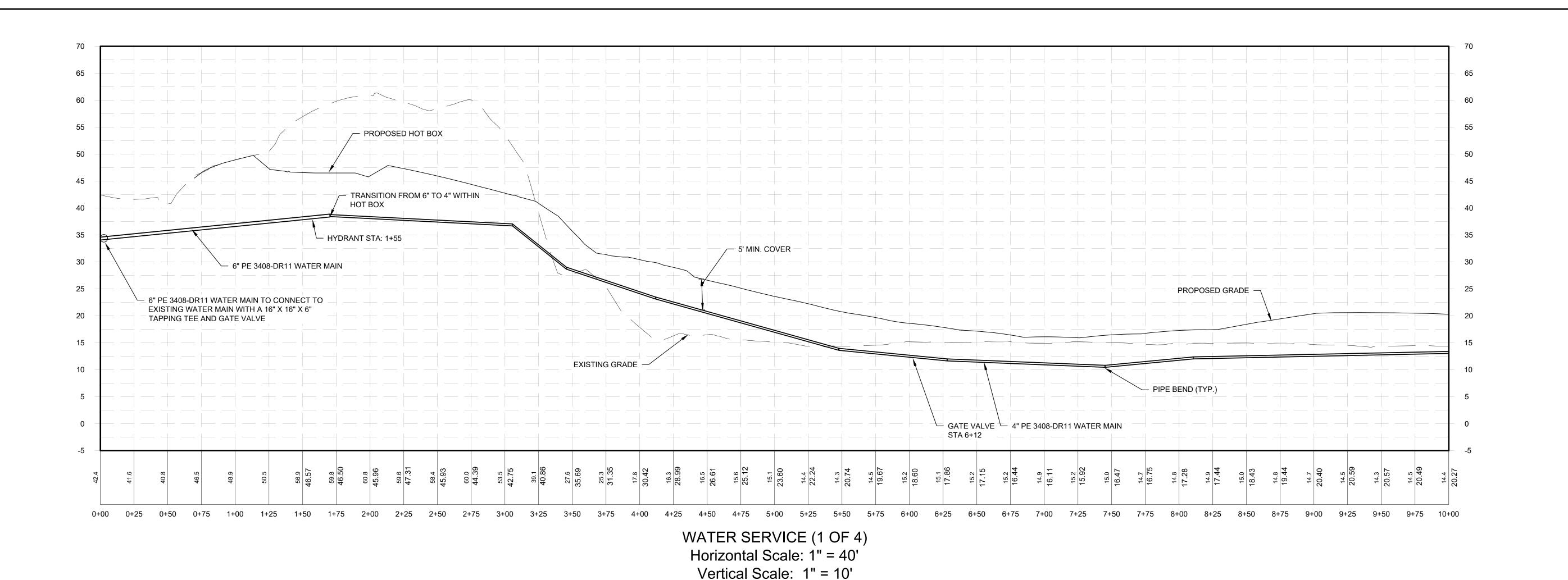
20' of 4" PVC @ -4.89%

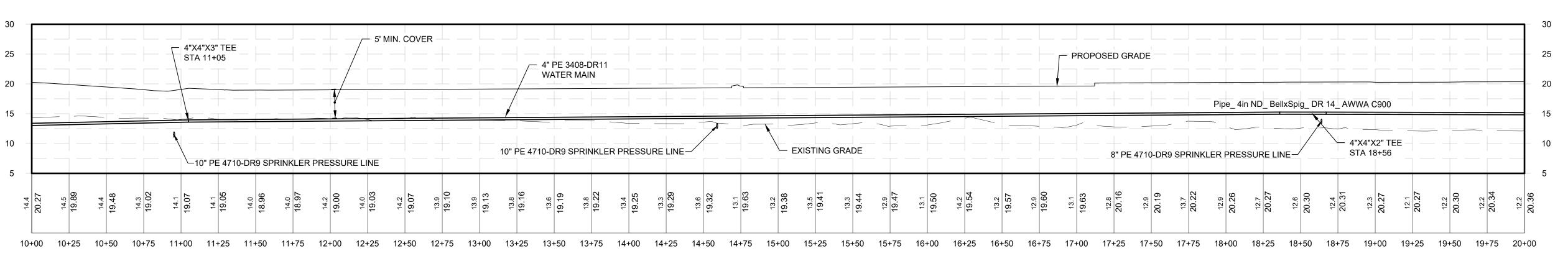
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BLDG B SERVICE 1

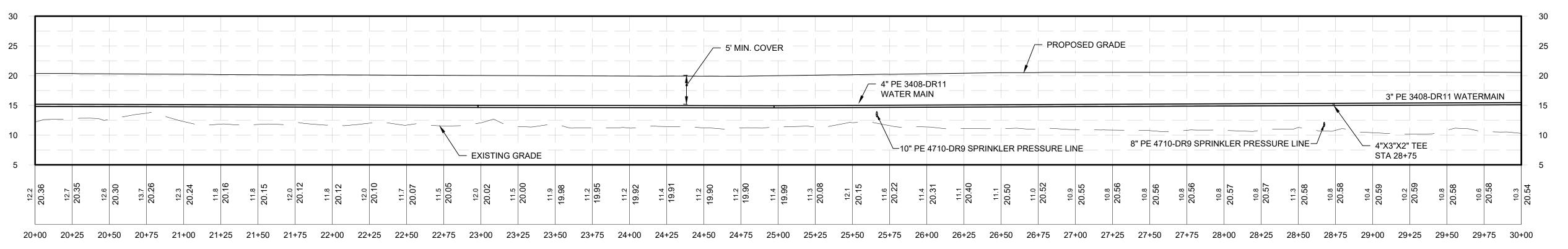
Horizontal Scale: 1" = 40'

Horizontal Scale: 1" = 40'
Vertical Scale: 1" = 10'





WATER SERVICE (2 OF 4)
Horizontal Scale: 1" = 40'
Vertical Scale: 1" = 10'



WATER SERVICE (3 OF 4)
Horizontal Scale: 1" = 40'
Vertical Scale: 1" = 10'

PLANNING BOARD HTE# 21-00100006

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McFarland Johnson

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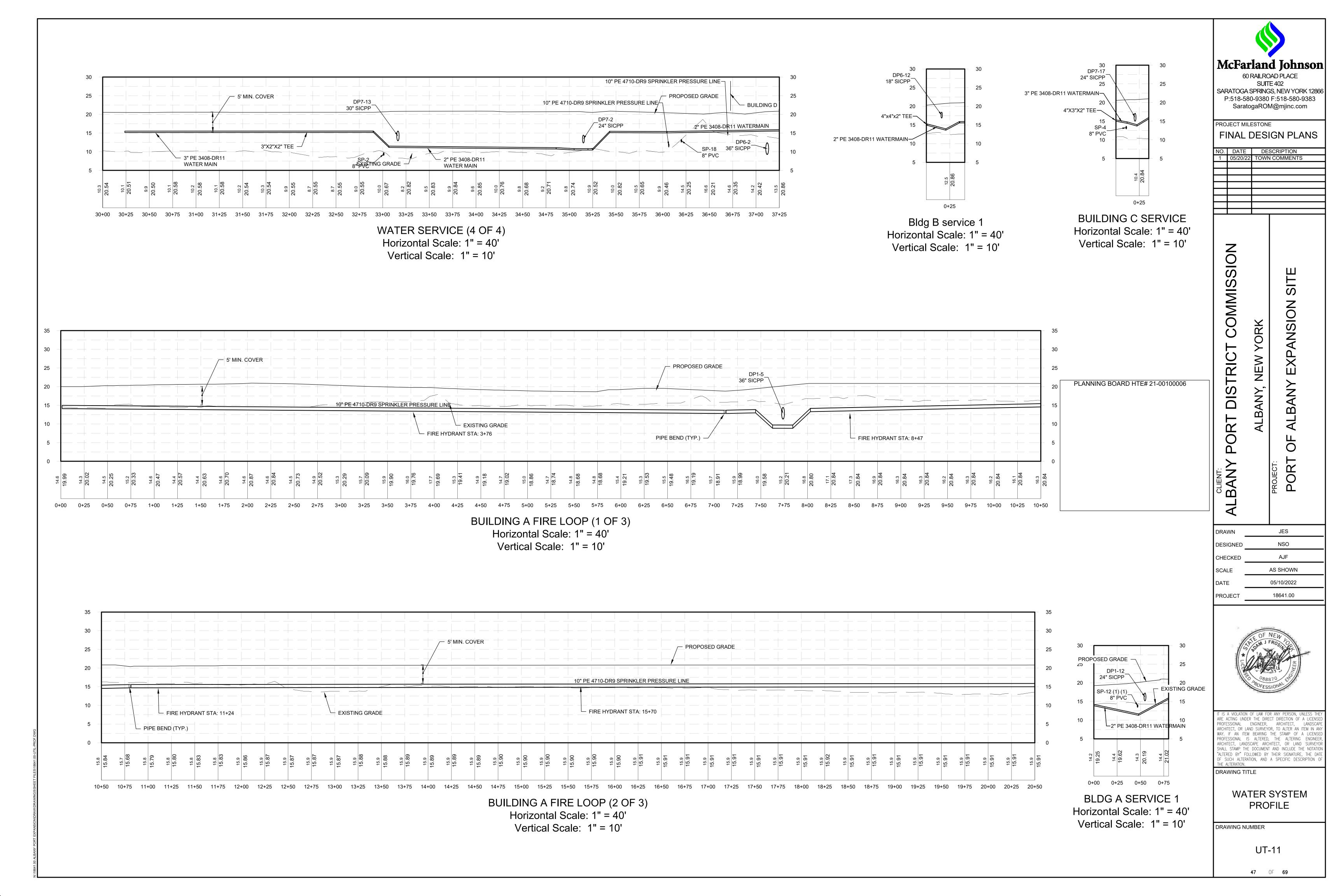
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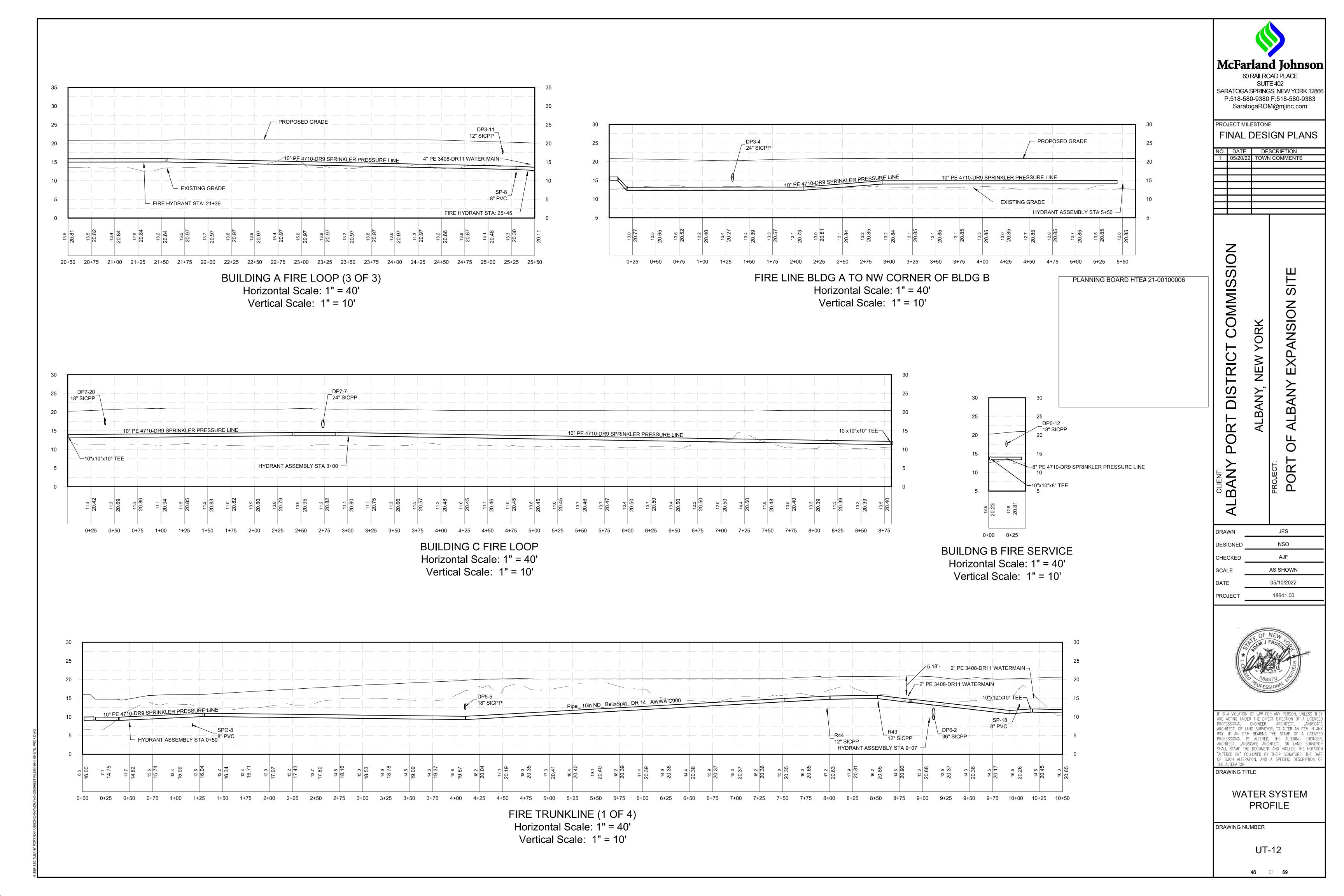
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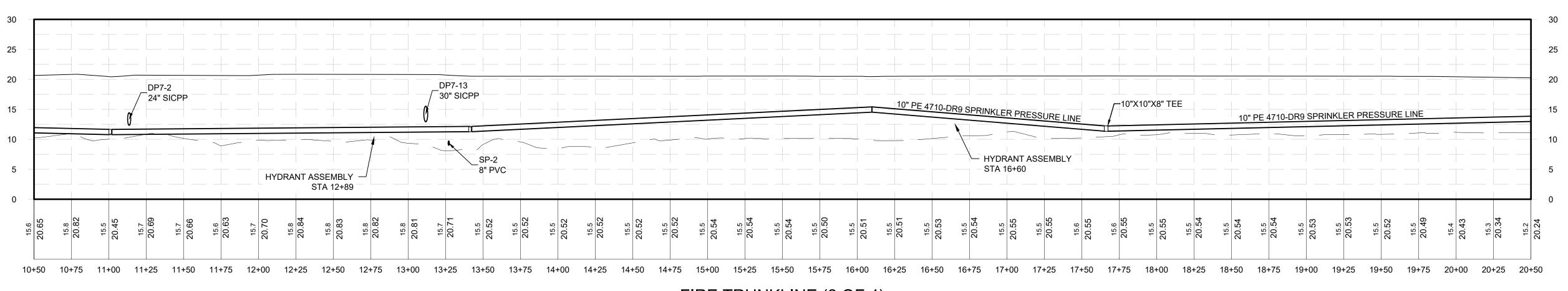
WATER SYSTEM PROFILE

DRAWING NUMBER

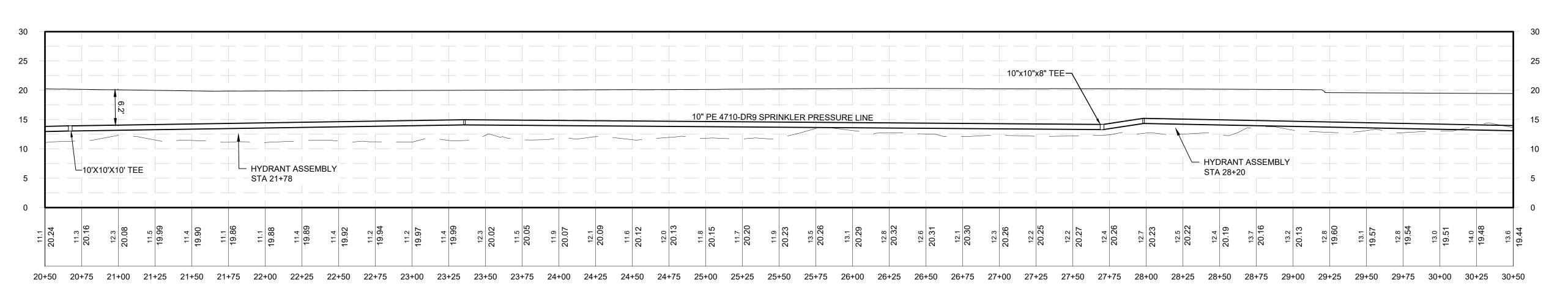
UT-10



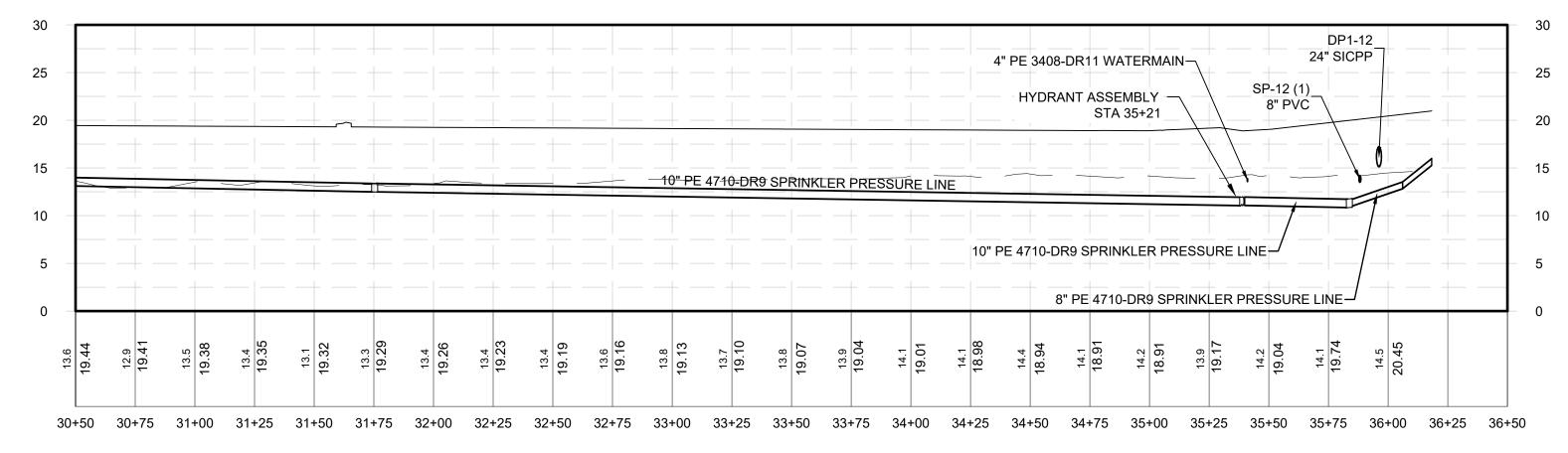




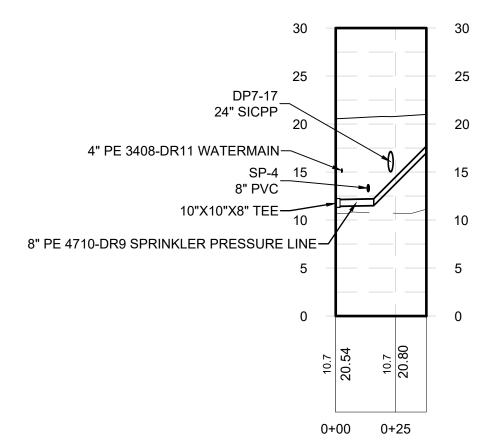
FIRE TRUNKLINE (2 OF 4) Horizontal Scale: 1" = 40' Vertical Scale: 1" = 10'



FIRE TRUNKLINE (3 OF 4) Horizontal Scale: 1" = 40' Vertical Scale: 1" = 10'



FIRE TRUNKLINE (4 OF 4) Horizontal Scale: 1" = 40' Vertical Scale: 1" = 10'



BUILDING C FIRE SERVICE Horizontal Scale: 1" = 40' Vertical Scale: 1" = 10'

PLANNING BOARD HTE# 21-00100006

OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION DRAWING TITLE

> WATER SYSTEM **PROFILE**

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FINAL DESIGN PLANS

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NO. DATE DESCRIPTION

PROJECT MILESTONE

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DISTRICT

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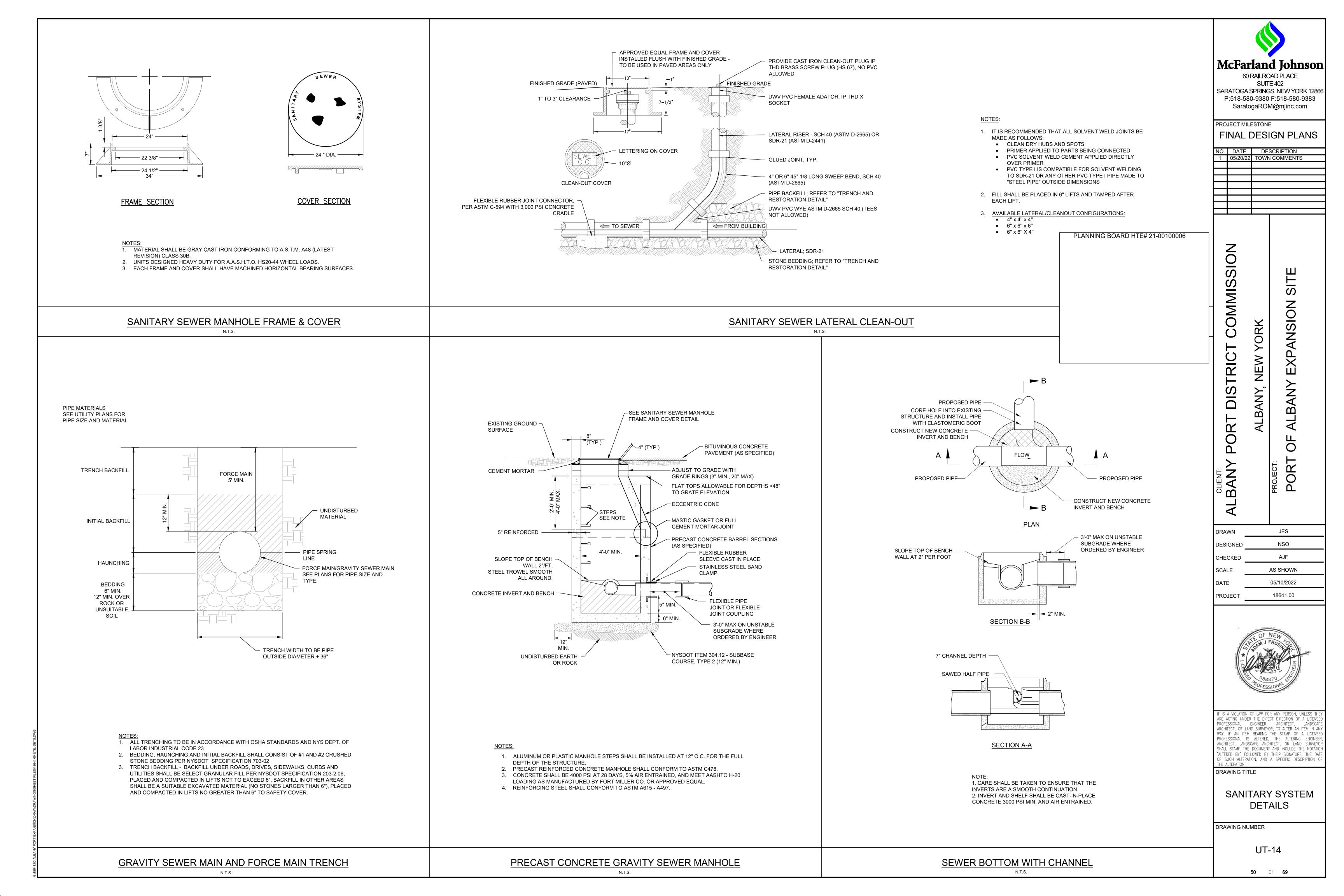
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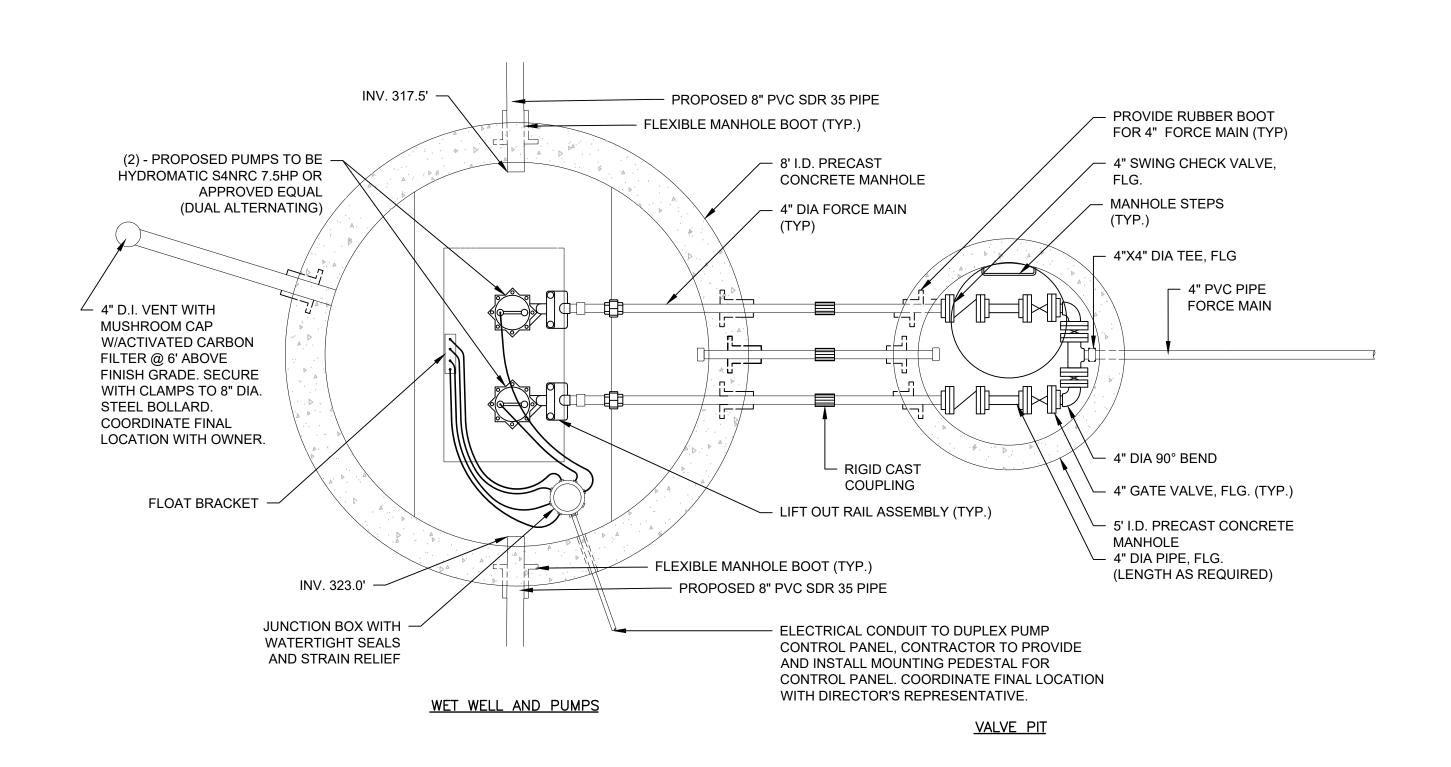
05/10/2022

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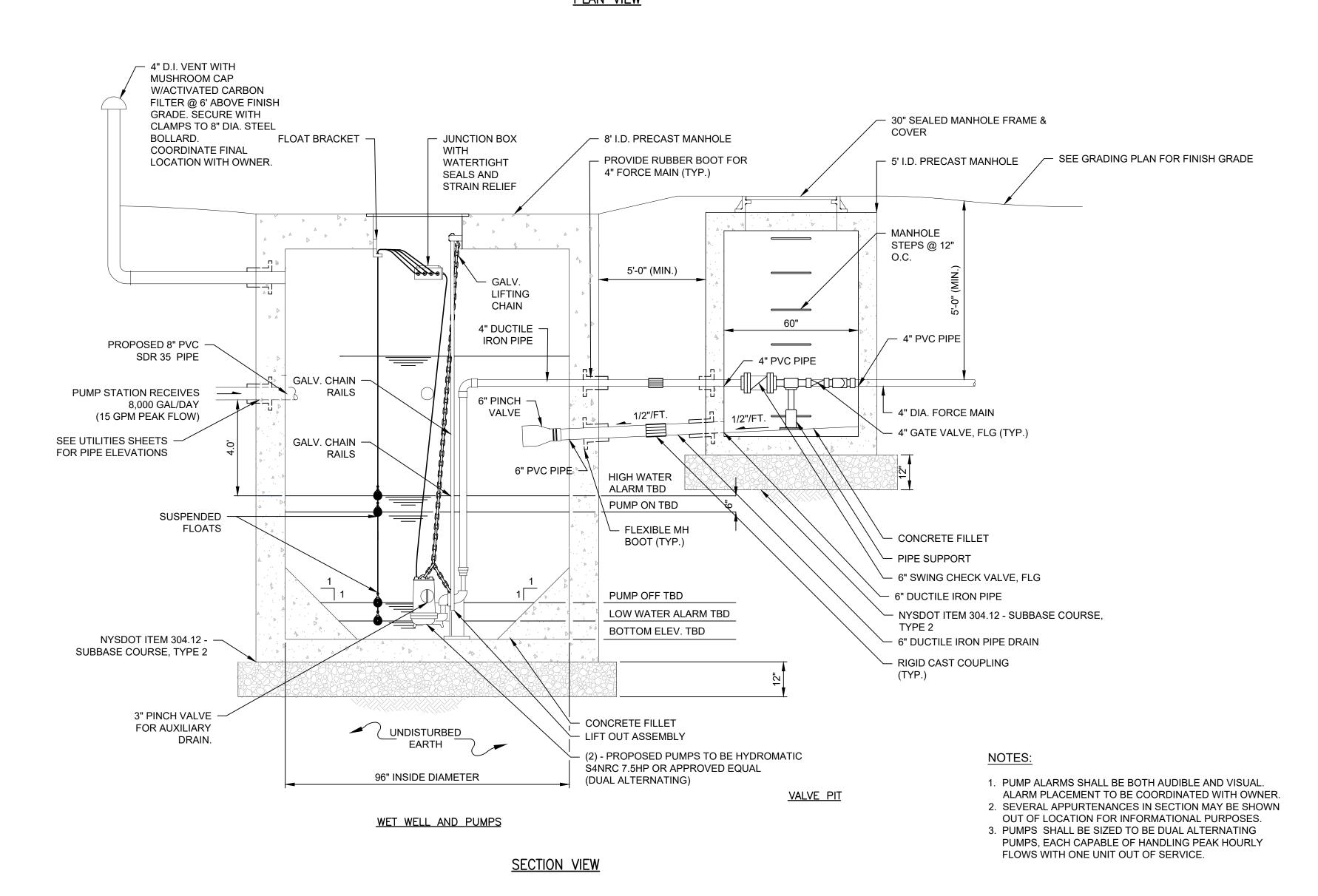
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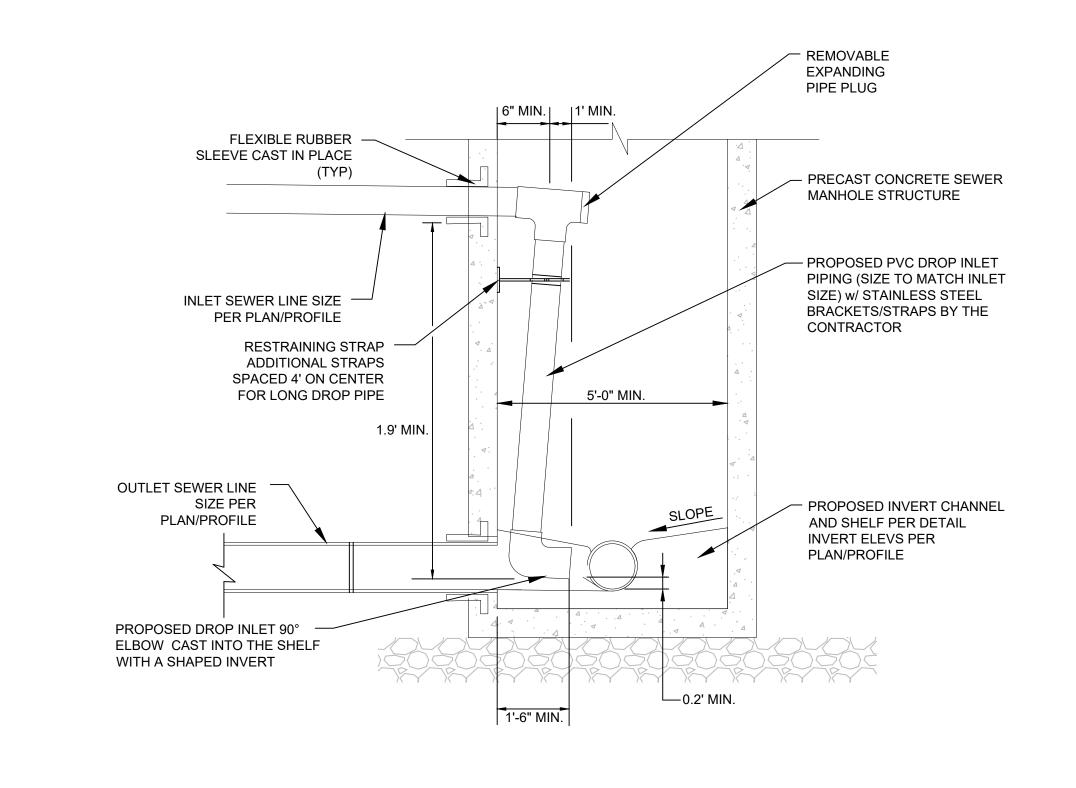
UT-13





# PLAN VIEW





# DROP MANHOLE

N.T.S.

PLANNING BOARD HTE# 21-00100006

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60 RAILROAD PLACE

SUITE 402

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NO. DATE DESCRIPTION

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DRAWING TITLE

SANITARY SYSTEM **DETAILS** 

DRAWING NUMBER

UT-15

**51** OF **69** 

**PUMP STATION** 

PROCESS DIAGRAM NOTES 1. THE DRAWINGS DEPICTED HEREIN REPRESENT PRELIMINARY LAYOUT(S) OF A WASTEWATER TREATMENT SYSTEM CAPABLE OF TREATING THE DESIGN

INFLUENT FLOW AND LOAD TO THE FEELUENT WATER QUALITY DENOTED IN

INAL DESIGN VALUES SHALL BE ESTABLISHED BY THE ENGINEER OF 4. SEE THE PROJECT SPECIFIC QUOTE FOR MORE INFORMATION REGARDING

SCOPE OF SUPPLY AND CORRESPONDING TERMS AND CONDITIONS.

INFLOENT FLOW AND LOAD TO THE EFFLUENT WATER QUALITY DENOTED IN						
THE EFFLUENT WASTELOAD SUMMARY.	AERATION	1	10	19	11.17	9.67
THE PROCESS SCHEMATIC SHOWS THE GENERAL FLOW LAYOUT. SPECIFIC REACTOR COMPONENTS, SIZES, AND CONFIGURATIONS MAY DIFFER. REFER	CLARIFIER	1	10	5	11.17	9.67
TO ARRANGEMENT DRAWINGS FOR DETAILS.	SOLIDS HOLDING	1	10	8	11.17	9.67
PRELIMINARY BASIN SIZING IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. FINAL DESIGN VALUES SHALL BE ESTABLISHED BY THE ENGINEER OF	LIFT STATION	1	4 (DIA.)	-	TBD	-

ALL DIMENSIONS ARE INSIDE OF TANK UNLESS NOTED OTHERWISE.

TANK SIZES

HEIGHT (FT)

SWD (FT)

VOLUME (GAL)

13,700

2,400 (APPROX.)

5,800

400 (APPROX.

OPERATIONAL)

LENGTH (FT)

DEVICE         QTY         CONCURRENTLY OPERATING         POWER (HP)         VOLTAGE (V)         STARTING CURRENT (A)           LIFT STATION PUMP         2         1         0.5         230 V-3 PH         18.2           MAIN AIR BLOWER         2         1         5         230 V-3 PH         92           UV SYSTEM         2         2         TBD         230 V-1 PH         TBD           ULTRASONIC FLOW METER         1         1         < 0.1         230 V-1 PH         TBD	MOTOR LOADS								
MAIN AIR BLOWER         2         1         5         230 V-3 PH         92           UV SYSTEM         2         2         TBD         230 V-1 PH         TBD           ULTRASONIC FLOW METER         1         1         < 0.1         230 V-1 PH         TBD	DEVICE	QTY		_	4	CURRENT	FULL LOAD CURRENT (A)		
UV SYSTEM         2         2         TBD         230 V-1 PH         TBD           ULTRASONIC FLOW METER         1         1         < 0.1	LIFT STATION PUMP	2	1	0.5	230 V-3 PH	18.2	5.3		
ULTRASONIC FLOW METER         1         1         < 0.1         230 V-1 PH         TBD	MAIN AIR BLOWER	2	1	5	230 V-3 PH	92	13		
	UV SYSTEM	2	2	TBD	230 V-1 PH	TBD	TBD		
00 J D J O J O J O J O J O J O J O J O J O	TRASONIC FLOW METER	1	1	< 0.1	230 V-1 PH	TBD	TBD		
SOLIDS HOLDING BLOWER   1   1   1.5   230 V-3 PH   34.2	LIDS HOLDING BLOWER	1	1	1.5	230 V-3 PH	34.2	4.5		

SCO	PE OF SUPPLY AND CORRESPONDING TERMS AND
abla	DIAPHRAGM VALVE
$\bowtie$	GLOBE/NEEDLE VALVE
$\bowtie$	BALL VALVE
$\bowtie$	CHARACTERIZED BALL VALVE
<b>¢</b>	BALL CHECK VALVE
101	PLUG VALVE
IźΙ	BUTTERFLY VALVE
Ш	GATE VALVE
M	3-WAY VALVE
7	CHECK VALVE
B	BLOWER
P	MECHANICAL PUMP
AL	AIR LIFT PUMP
M	MIXER
M	FLOW METER
С	CHEMICAL DOSING PUMP
F	FILTER
UV	ULTRAVIOLET DISINFECTION UNIT
	BAR SCREEN

WASTELOAD SUMMARY: INFLUENT WASTELOAD AS PROVIDED BY ENGINEER OF RECORD 280 mg/L (26 LB/D) BOD<sub>5</sub>

300 mg/L (28 LB/D) TSS 7.0-7.1 pH (ASSUMED) 68 F (20 C) WATER TEMPERATURE (ASSUMED)

MECHANICAL BAR SCREEN

EFFLUENT TARGETS 30 mg/L BOD<sub>5</sub> 30-D AVERAGE 30 mg/L TSS 30-D AVERAGE 200 N/100 mL FCB 30-D GEO. MEAN

TABLET FEEDER

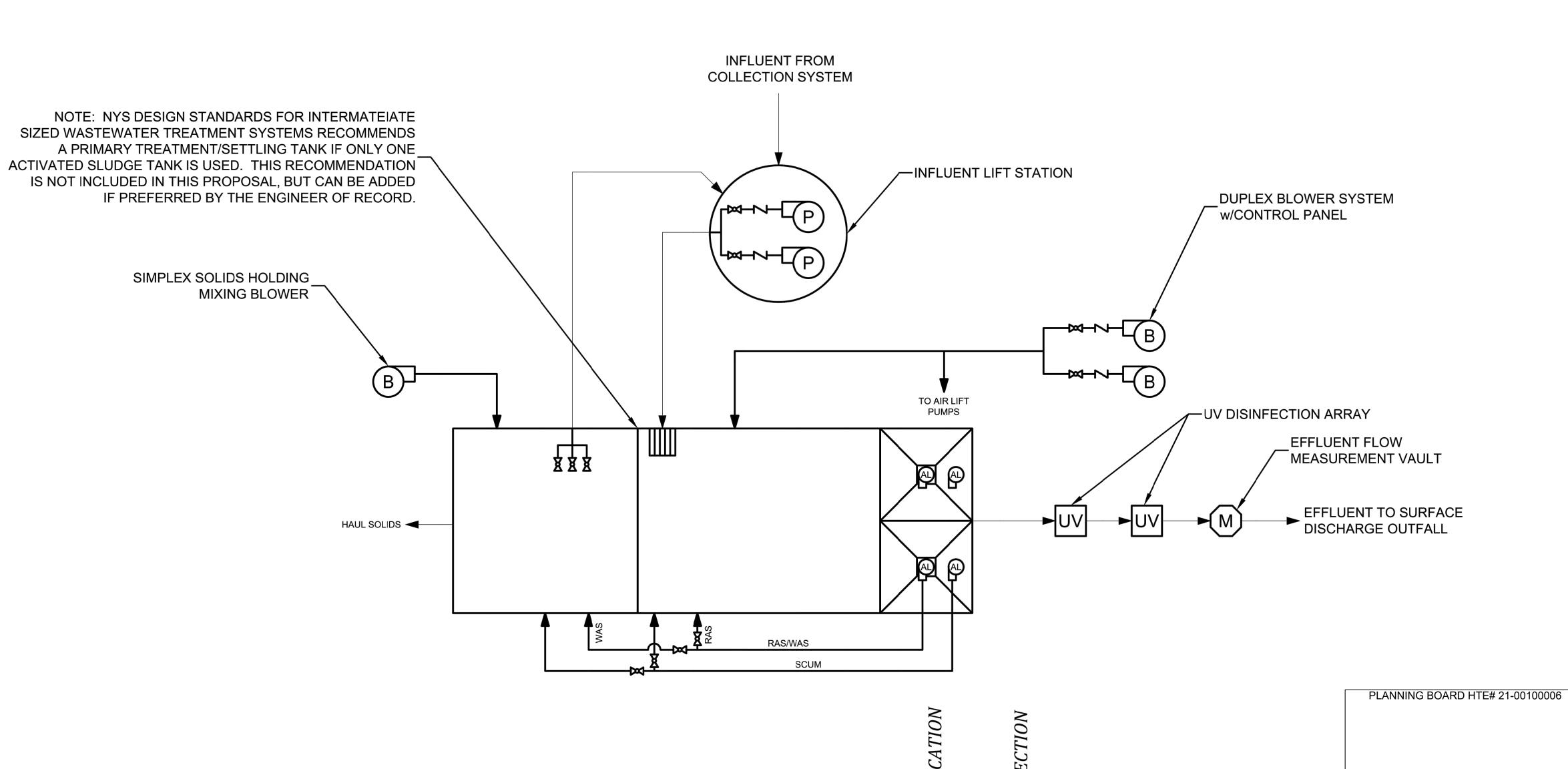
ORGANIC LOADING

14.3 LB BOD/D/KCF DELTA MODEL BASIS A-13.0 **AERATION SYSTEM DESIGN** 

AOR: 59 LB O<sub>2</sub>/D SOTR: 114 LB O<sub>2</sub>/D

PROCESS AIR DEMAND: 76 SCFM RAS/WAS AIRLIFT PUMP AIR DEMAND: 20 SCFM SCUM AIRLIFT PUMP AIR DEMAND: 16 SCFM TOTAL MAIN AIR BLOWER DEMAND: 112 SCFM SITE ELEVATION: 50 FT AMSL (ASSUMED) MAXIMUM AIR TEMPERATURE: 115 F (ASSUMED) PROCESS AIR INLET FLOW: 133 ICFM BLOWER AIRFLOW: 1 DUTY/1 STANDBY, 133 ICFM @ 4.7 PSIG SELECTED BLOWER: GARDNER DENVER MODEL 3M @ 2,760 RPM SELECTED MOTOR: 5 HP

SOLIDS HOLDING MIXING AIR DEMAND: 30 SCFM / 1,000 CF x 0.77 KCF = 23 SCFM :: 28 ICFM @ 4.7 PSIG SELECTED BLOWER: GARDNER DENVER MODEL 2M @ 2,760 RPM SELECTED MOTOR: 1.5 HP



SANITARY PACKAGE TREATMENT PLANT - PROCESS DIAGRAM

**AERATION** 

**SOLIDS** 

}		EQUIPMENT LIST							
`{	DESCRIPTION	QTY.	MAKE	MODEL					
<u>₹</u>	LIFT STATION PUMP	2	CHAMPION	CPSE532, 0.5HP					
}	MAIN AIR BLOWER		GARDNER DENVER	SUTORBILT 3M W/ TOSHIBA 5HP TEFC GENERAL DUTY MOTOR					
(	UV SYSTEM	2	AQUA AZUL	AZ-400					
{	ULTRASONIC FLOW METER	1	PULSAR	ULTRA 4 W/ DB MACH 3 ULTRASONIC SENSOR					
{	SOLIDS MIXING BLOWER	1	GARDNER DENVER	SUTORBILT 2M W/ TOSHIBA 1.5HP TEFC GENERAL DUTY MOTOR					

FLOW SUMMARY						
Flow Parameter	GPD	GPH	GPM			
/ERAGE DAILY FLOW (ADF)	11,200	470	7.8			
PEAK DAILY FLOW (PDF)	-	-	-			
PEAK HOURLY FLOW (PHF)	1	-	-			
0.5 x ADF	5,600	230	3.9			
1.5 x ADF	16,800	700	12			



60 RAILROAD PLACE SUITE 402

SARATOGA SPRINGS, NEW YORK 12866

P:518-580-9380 F:518-580-9383

SaratogaROM@mjinc.com

PROJECT MILESTONE

FINAL DESIGN PLANS

NO.	DATE	DESCRIPTION
1	05/20/22	TOWN COMMENTS

COMMISSION

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DRAWN JES NSO DESIGNED AJF CHECKED AS SHOWN SCALE 05/10/2022 18641.00 PROJECT



ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSE PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSE PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION O

DRAWING TITLE

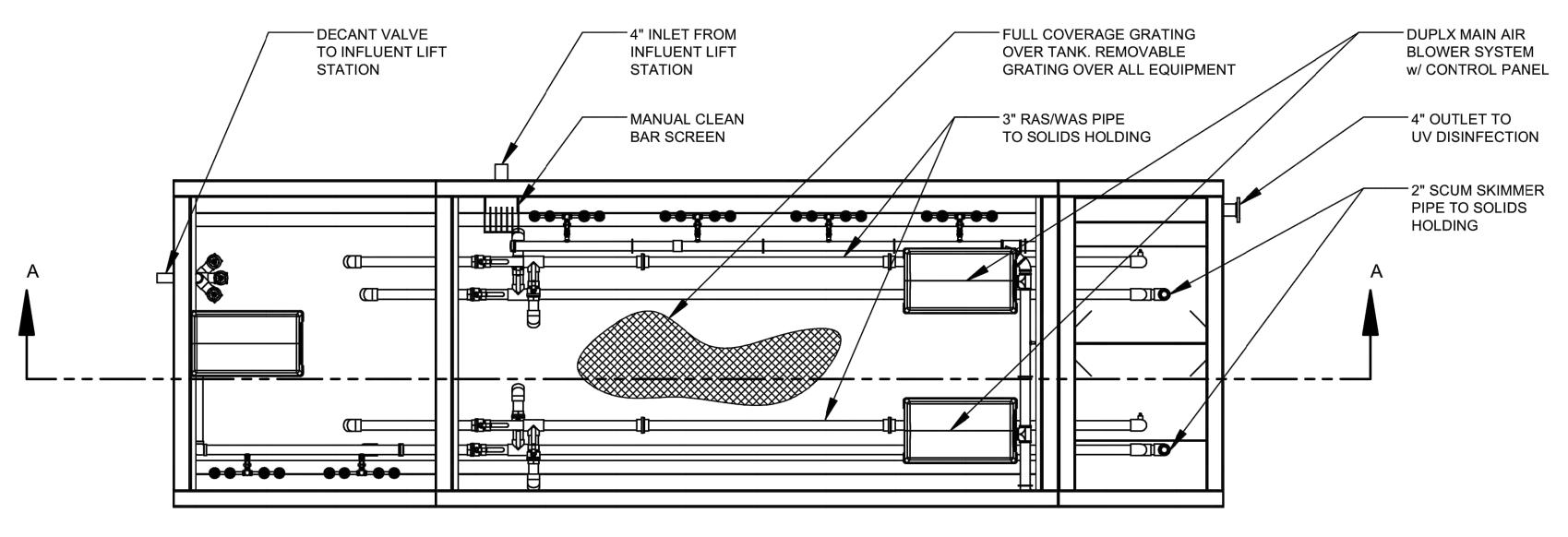
SANITARY SYSTEM **DETAILS** 

DRAWING NUMBER

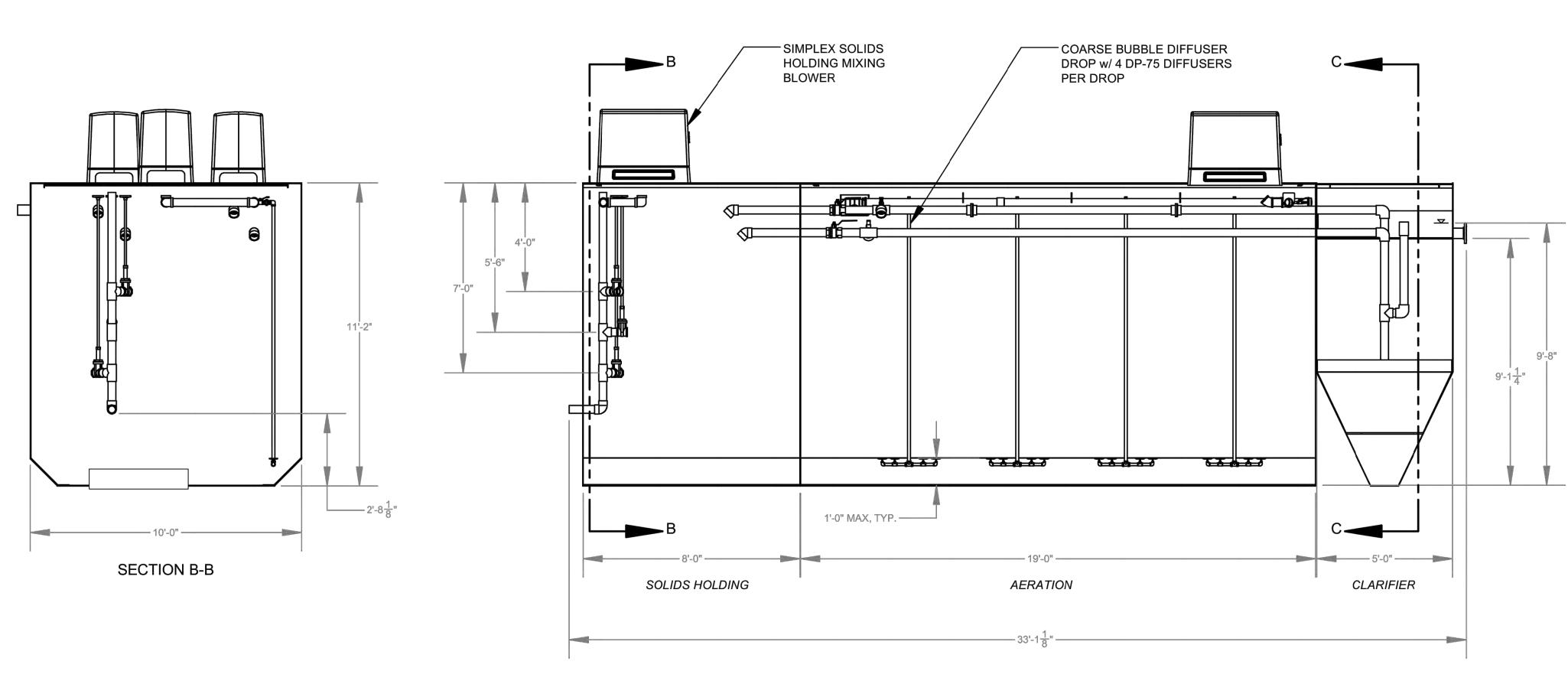
UT-16



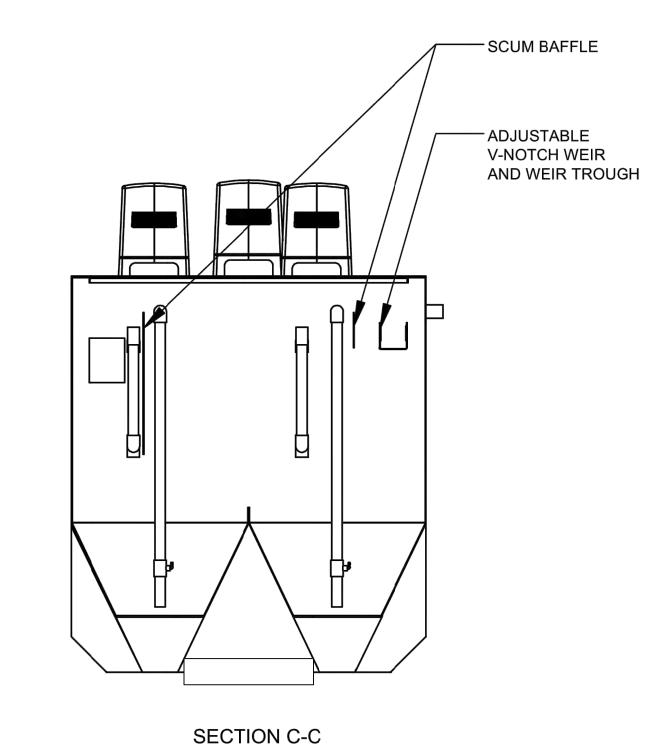
- THESE DRAWINGS DEPICT PRELIMINARY LAYOUT(S) OF A WASTEWATER TREATMENT SYSTEM CAPABLE OF TREATING THE DESIGN AVERAGE INFLUENT FLOW AND LOAD TO THE EFFLUENT WATER QUALITY DENOTED IN THE WASTELOAD SUMMARY.
- THE EQUIPMENT ARRANGEMENT/LAYOUT IS SCHEMATIC IN NATURE AND SOME OBJECTS MAY NOT BE DRAWN TO SCALE. REFER TO THE ENGINEER-OF-RECORD PROJECT DOCUMENTS FOR FINAL SITE AND/OR EQUIPMENT ARRANGEMENT.
- ALL REACTORS SHALL BE CONSTRUCTED OF A36 CARBON STEEL, MINIMUM 1/4" THICKNESS, PER ENGINEER-OF-RECORD REQUIREMENTS.
- BLOWERS, WEIRS, CONTROL PANELS, AND VARIOUS SMALL PARTS SHALL BE SHIPPED UNASSEMBLED AND SECURELY PACKAGED, TO BE INSTALLED BY CONTRACTOR. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR ADDITIONAL DETAIL.
- CONTRACTOR TO PROVIDE AND INSTALL ALL FIELD PIPING AND SECURE ALL EQUIPMENT CONNECTIONS AS SHOWN IN THE ENGINEER OF RECORD'S PROJECT DOCUMENTS.
- REACTORS AND INTERNAL DEVICES SHALL BE INSTALLED PLUMB AND LEVEL.
- SEE THE PROJECT SPECIFIC QUOTE FOR MORE INFORMATION REGARDING SCOPE OF SUPPLY AND CORRESPONDING TERMS AND CONDITIONS.



PLAN VIEW







PLANNING BOARD HTE# 21-00100006

| McFarland Johnson 60 RAILROAD PLACE SUITE 402 SARATOGA SPRINGS, NEW YORK 12866 P:518-580-9380 F:518-580-9383

SaratogaROM@mjinc.com

PROJECT MILESTONE

FINAL DESIGN PLANS

NO. DATE DESCRIPTION 2 TOWN COMMENTS

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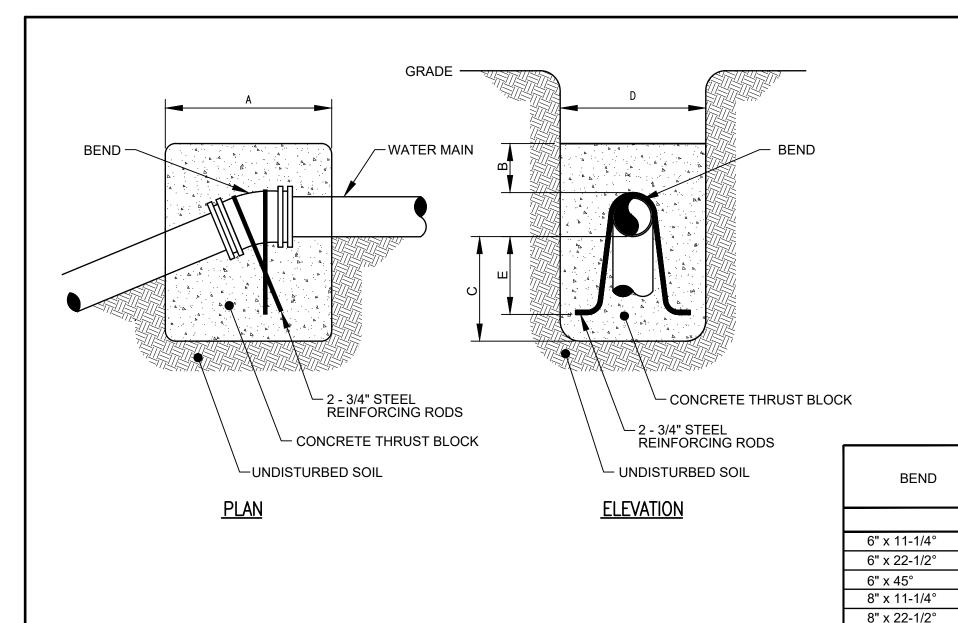
SANITARY SYSTEM **DETAILS** 

DRAWING NUMBER

UT-17

**53** OF **69** 

SANITARY PACKAGE TREATMENT PLANT - GENERAL ARRANGEMENT



# NOTES:

**MINIMUM** 

**VOLUME OF** 

CONCRETE

**DIMENSIONS** 

1.00 CY

1.50 CY

2.00 CY

1.00 CY

1.50 CY

2.50 CY

1. CONCRETE FOR THRUST BLOCKS SHALL BE CONCRETE CLASS A (OR CLASS G IF UNDERWATER) IN ACCORDANCE WITH NYSDOT SECTION 501.

MINIMUM ALLOWABLE DIMENSIONS FOR

VERTICAL THRUST BLOCKS (IN FEET)

1.3

1.8

2.0

1.3

1.8

2.0

SEE EROSION CONTROL DETAILS AND — NOTES FOR PERMANENT SEED MIX

NYSDOT ITEM 610.1402 - -

REFER TO TRENCH

BACKFILL MATERIALS

**DETAILS FOR** 

TOPSOIL - ROADSIDE, 4" DEEP

UNDISTURBED EXISTING -PAVEMENT (TYP.)

D

3.0

3.0

3.0

3.0

3.0

3.0

1.0

1.5

1.7

1.0

1.5

TRENCH UNDER

NON-PAVED SURFACE

TRENCH UNDER PAVED DRIVEWAY SURFACE

- SAW CUT EDGE AND APPLY ASPHALT

- UNDISTURBED EXISTING

PAVEMENT JOINT ADHESIVE (PER

PAVEMENT (TYP.)

4" OF HMA (2 COURSES), NYSDOT ITEM

SIDEWALKS, DRIVEWAYS, BICYCLE PATHS,

608.020102 - HOT MIX ASPHALT (HMA)

AND VEGETATION CONTROL STRIPS

NYSDOT ITEM 304.12 - SUBBASE

COURSE, TYPE 2 (8" MIN.)

NYSDOT SECTION 402)

2. CONCRETE NOT TO OVERLAP ANY JOINT.

Α

3.0

4.0

6.0

3.0

4.0

6.0

1.0

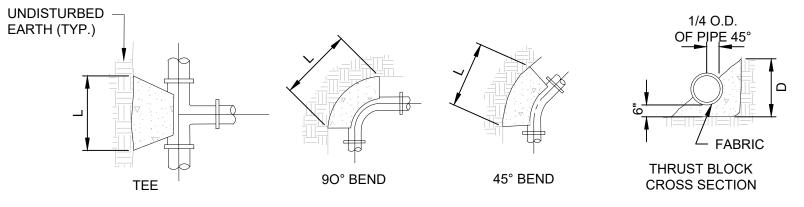
1.0

1.5

1.0

1.0

1.5



	REQUIRED BEARING AREAS & DIMENSIONS											
	FOR CONCRETE THRUST BLOCKS											
	(DIMENSIONS SHOWN IN FT)											
	TE	Ε	90° E	BEND	45° B	END	22-1/2	° BEND	11-1/4° BEND			
PIPE	AREA	DIM	AREA	DIM	AREA	DIM	AREA	DIM	AREA	DIM		
SIZE (IN)	(SQFT)	DXL	(SQFT)	DXL	(SQFT)	DXL	(SQFT)	DXL	(SQFT)	DXL		
6	3.2	1.5 X 2.5	4.5	2.0 X 2.5	2.4	1.5 X 2.0	1.2	1.0 X 1.5	0.6	0.5 X 1.5		
8	5.7	2.0 X 3.0	8	2.0 X 4.0	4.3	2.0 X 2.5	2.2	1.5 X 1.5	1.1	1.0 X 1.5		
12	12.7	3.5 X 3.5	18.0	4.0 X 4.5	9.7	2.5 X 4.0	5.0	2.0 X 2.5	2.5	1.5 X 2.0		

- 1. CONCRETE FOR THRUST BLOCKS SHALL BE CONCRETE CLASS A (OR CLASS G IF UNDERWATER) IN ACCORDANCE WITH NYSDOT SECTION 501.
- 2. CONCRETE NOT TO OVERLAP ANY JOINT. 3. VALUES FOR TEE ALSO APPLY TO END PLUGS, CAPS, AND TAPPING SLEEVES
- REQUIRED BEARING AREAS ARE DUE TO THRUSTS CAUSED BY 150 PSI WORKING PRESSURE PLUS 50% (75 PSI) SURGE ALLOWANCE RESULTING IN 225 PSI TOTAL INTERNAL PRESSURE REQUIRED BEARING AREAS ARE BASED ON ALLOWABLE SOIL BEARING CAPACITY OF 2000
- POUNDS PER SQUARE FOOT FOR SAND. DUE TO OTHER SOIL CONDITIONS ENCOUNTERED, BEARING AREAS MAY BE MODIFIED BY THE ENGINEER BY MULTIPLYING THE AREA GIVEN IN THE TABLE FOR THE APPROPRIATE PIPE SIZE AND FITTING BY THE CORRECTION FACTORS LISTED

SOIL	ALLOWABLE SOIL PRESSURE (LBS/SQFT)	CORRECTION FACTOR
SOFT CLAY	1,000	2.00
SAND	2,000	1.00
SAND & GRAVEL	3,000	0.67
SAND AND GRAVEL CEMENTED WITH CLAY	4,000	0.50
HARD SHALE	10,000	0.20

6. IN MUCK, PEAT, OR RECENTLY PLACED FILL ALL THRUST BLOCKS SHALL BE RESISTED BY PILES OF TIE RODS TO SOLID FOUNDATIONS, OR BY REMOVAL OF SUCH UNSTABLE MATERIAL AND REPLACEMENT WITH BALLAST OF SUFFICIENT STABILITY TO RESIST THE THRUSTS, ALL AS REQUIRED BY THE ENGINEER.

PLANNING BOARD HTE# 21-00100006



ALL TRENCHING TO BE IN

ACCORDANCE WITH OSHA STANDARDS AND NYS DEPT. OF

LABOR INDUSTRIAL CODE 23

CRUSHED STONE. COMPACT

CLASS II MATERIAL TO 85%

STANDARD PROCTOR DENSITY.

- CLASS II MATERIAL; COARSE

OVER TOP OF PIPE. COMPACT

EACH LIFT TO 85% STANDARD

SITE OR IMPORTED MATERIAL.

TO 95% STANDARD PROCTOR

PROCTOR DENSITY.

DENSITY.

HAUNCHING AND INITIAL BACKFILL

SAND OR SELECT GRAVEL. PLACE

IN LIFTS; TO PIPE SPRING LINE, TO

TOP OF PIPE AND TO 12" MINIMUM

TRENCH BACKFILL - APPROVED ON

PLACE IN 8" LIFTS AND COMPACT

BEDDING - CLASS I OR II MATERIAL

WASHED SAND, SEA GRAVEL OR

8" x 45°

- FINISHED SURFACE

TREATMENT AS

REQUIRED OR TO

MATCH EXISTING

SEE NOTE 4

- UNDISTURBED

MATERIAL

SEE NOTE 3

FOR PIPE SIZE

AND TYPE.

- SEE NOTE 2

REFER TO PLANS

— 1" COPPER (MIN)

CORPORATION STOP

HORIZONTAL THRUST BLOCK DETAILS

SANITARY SEWER/FORCE MAIN ─4" MIN COVER WATER MAIN NYSDOT ITEM 204.01 -CONTROLLED LOW STRENGTH MATERIAL (CLSM) → SANITARY SEWER/FORCE MAIN WATER MAIN

WHENEVER POSSIBLE WATER MAIN PIPE JOINTS SHALL BE

- EXISTING SURFACE

STAGGERED SO AS NOT TO BE LOCATED AT THE POINT OF CROSSING. 2. CONCRETE ENCASEMENT NOT REQUIRED IF VERTICAL SEPARATION IS

WATER MAIN/SEWER CROSSING DETAIL

VALVE BOX LID/CLEANOUT

VALVE BOX/CLEANOUT BOX

TRACER WIRE SPLICE KIT

EXTEND 2' OF EXTRA TRACER WIRE INSIDE

1 LB. BARE ZINC OR -

MAGNESIUM ANODE

24" OR GREATER

# <u>PLAN</u> **SECTION A-A**

# WATER MAIN TRENCH

TRENCH WIDTH AT TOP OF

OUTSIDE DIAMETER + 36"

OF PIPE TO BE PIPE

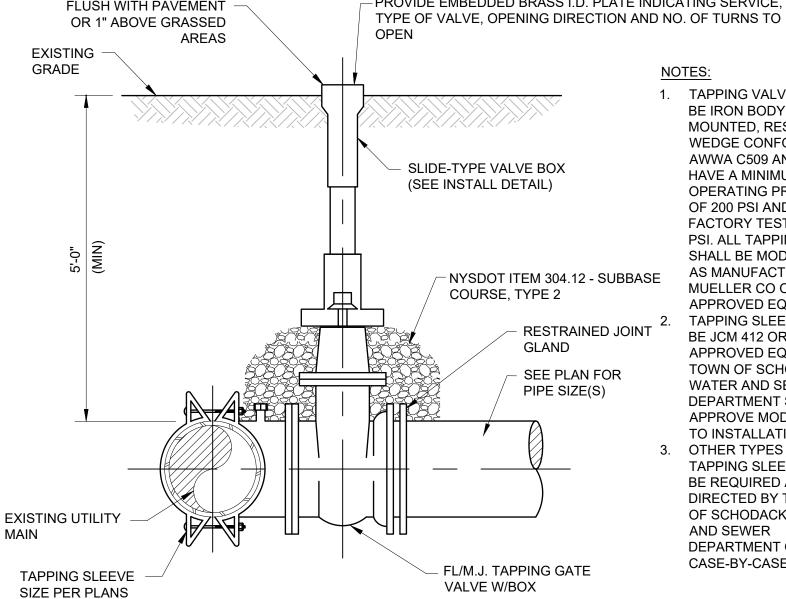
1" CURB STOP

TAPS, ETC.) AND REPLACE WITH THREADED BRASS PLUGS.

# TRENCH UNDER GRASS AND DRIVEWAY DETAIL

- PROVIDE EMBEDDED BRASS I.D. PLATE INDICATING SERVICE, FLUSH WITH PAVEMENT

TRENCH WIDTH



NOTES: 1. TAPPING VALVES SHALL BE IRON BODY, BRONZE MOUNTED, RESILIENT WEDGE CONFORMING TO AWWA C509 AND SHALL HAVE A MINIMUM **OPERATING PRESSURE** OF 200 PSI AND BE FACTORY TESTED AT 400 PSI. ALL TAPPING VALVES SHALL BE MODEL T-2360 AS MANUFACTURED BY MUELLER CO OR APPROVED EQUAL. TAPPING SLEEVES SHALL

BE JCM 412 OR APPROVED EQUAL. THE TOWN OF SCHODACK WATER AND SEWER DEPARTMENT SHALL APPROVE MODEL PRIOR TO INSTALLATION.

OTHER TYPES OF TAPPING SLEEVES MAY BE REQUIRED AS DIRECTED BY THE TOWN OF SCHODACK WATER AND SEWER DEPARTMENT ON A CASE-BY-CASE BASIS.

TRACER WIRE PLACED NO -MORE THAN 6" FROM TOP OR SIDE OF PIPE

MARKING TAP PLACED 18" -

ABOVE PIPE

- 1. ANODES SHALL BE ONE POUND (1 LB.) BARE ZINC OR MAGNESIUM (OR APPROVED EQUAL) PLACED AT THE BEGINNING AND THE END OF THE WATERLINE/SEWER AND AT EVERY VALVE BOX/MANHOLE AND/OR AT LEAST EVERY FIVE HUNDRED FEET (500') WITHIN.
- 2. TRACER WIRE SHALL BE 12AWG ANNEALED SOFT COPPER (SOLID) WITH COLOR CODED 30MIL HDPE JACKET PER SERVICE. TRACER WIRE SHALL BE PLACED NO FURTHER THAN 6" TO THE SIDE OR ABOVE THE PIPE. TRACER WIRE SHALL BE ACCESSIBLE AT EVERY VALVE BOX/MANHOLE OR TEST STATIONS AS LEAST EVERY 500'.
- MARKING TAPE SHALL BE INSTALLED 18" ABOVE PVC PIPE. MARKER TAPE SHALL BE AT LEAST 3" IN

WIDTH AND COLOR CODED PER SERVICE.

AJF CHECKED SCALE AS SHOWN 05/10/2022 18641.00 PROJECT

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McFarland Johnson

60 RAILROAD PLACE

SUITE 402

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FINAL DESIGN PLANS

TOWN COMMENTS

NO. DATE DESCRIPTION

PROJECT MILESTONE

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WATER DETAILS

DRAWING NUMBER

UT-18

DISINFECTION/BLOW-OFF/SAMPLING TAP

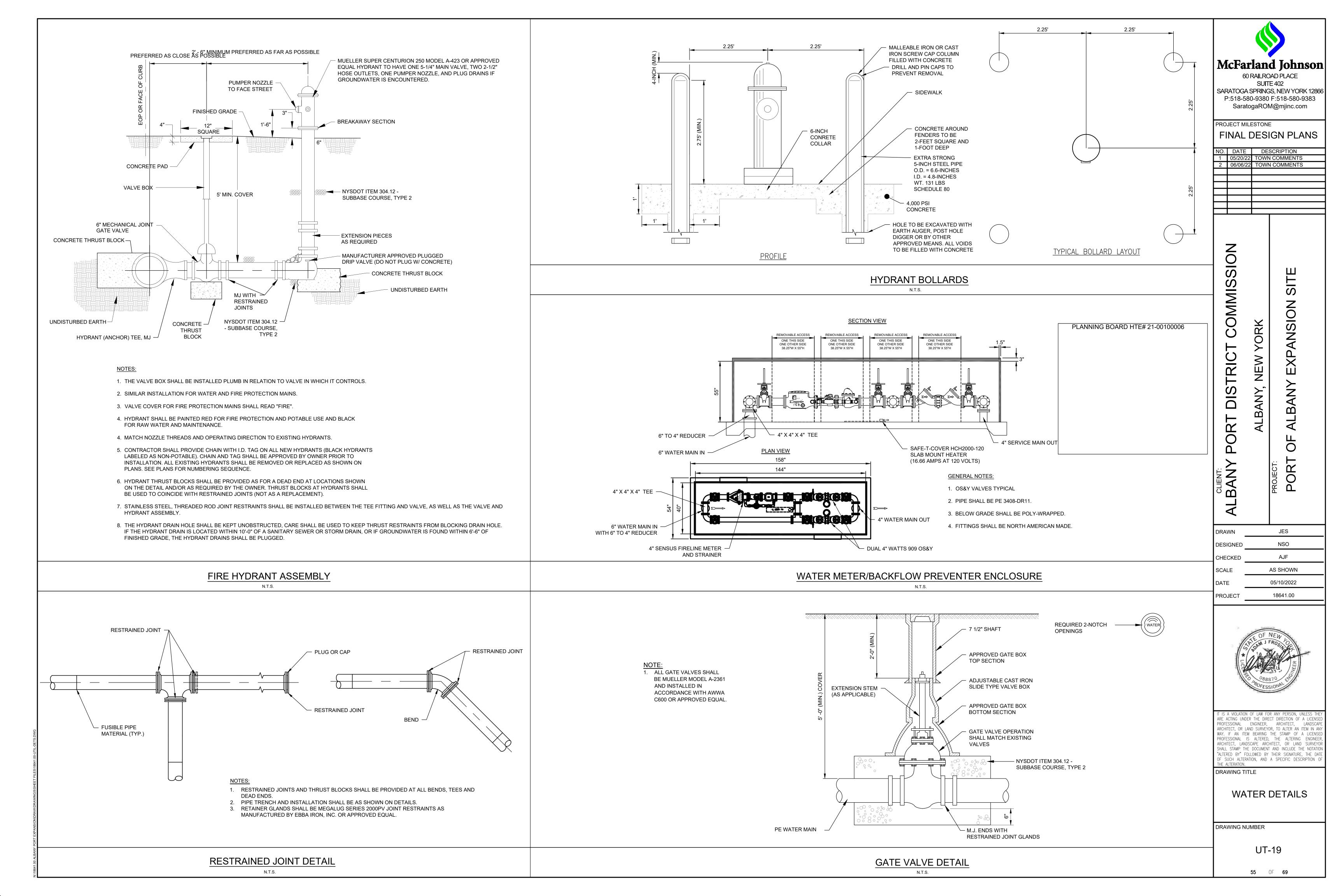
1. IMMEDIATELY PRIOR TO THE AUTHORITY PLACING WATER MAIN IN SERVICE CONTRACTOR

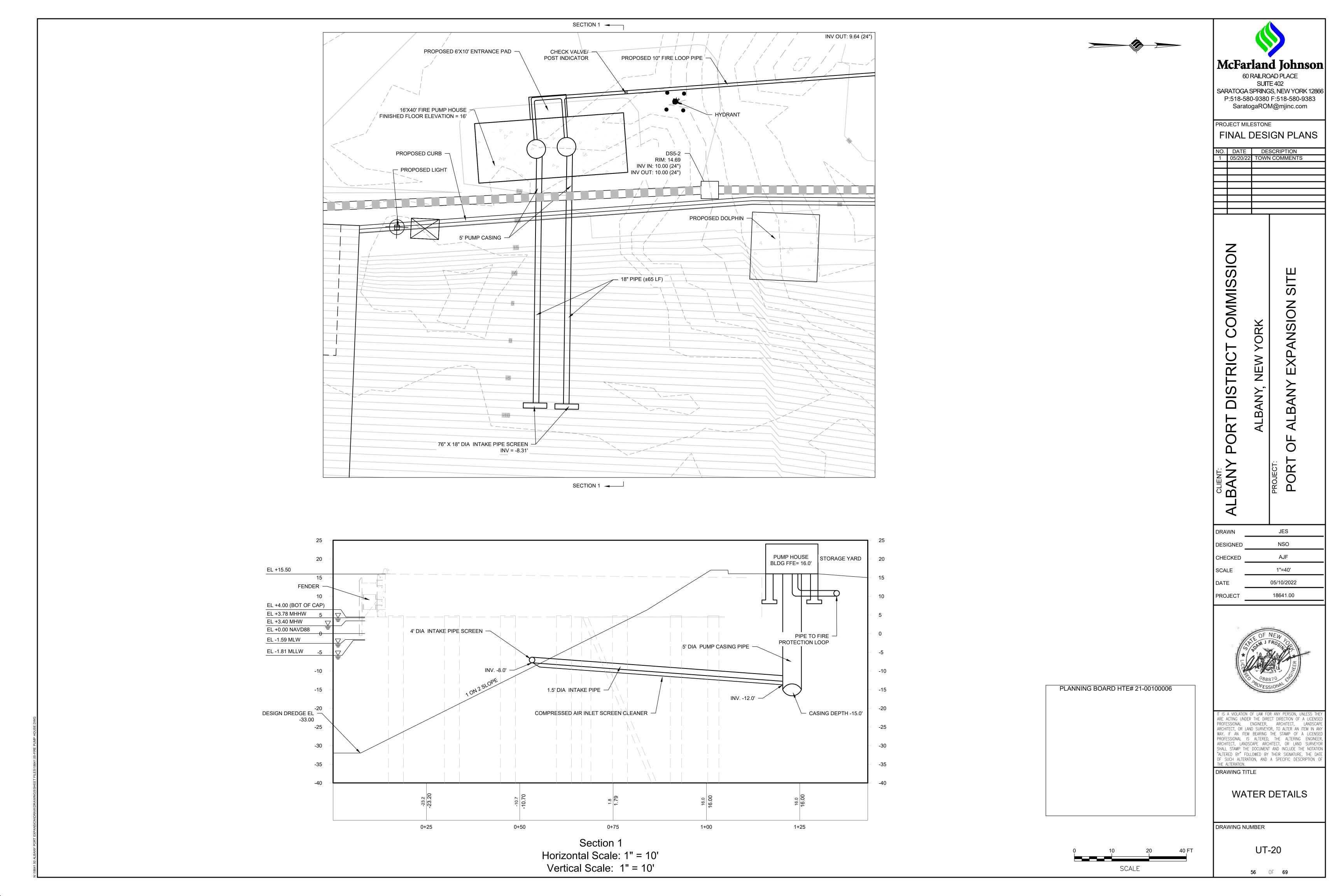
SHALL REMOVE ALL CORPORATIONS ASSOCIATED WITH TEMPORARY FACILITIES (I.E. SAMPLING

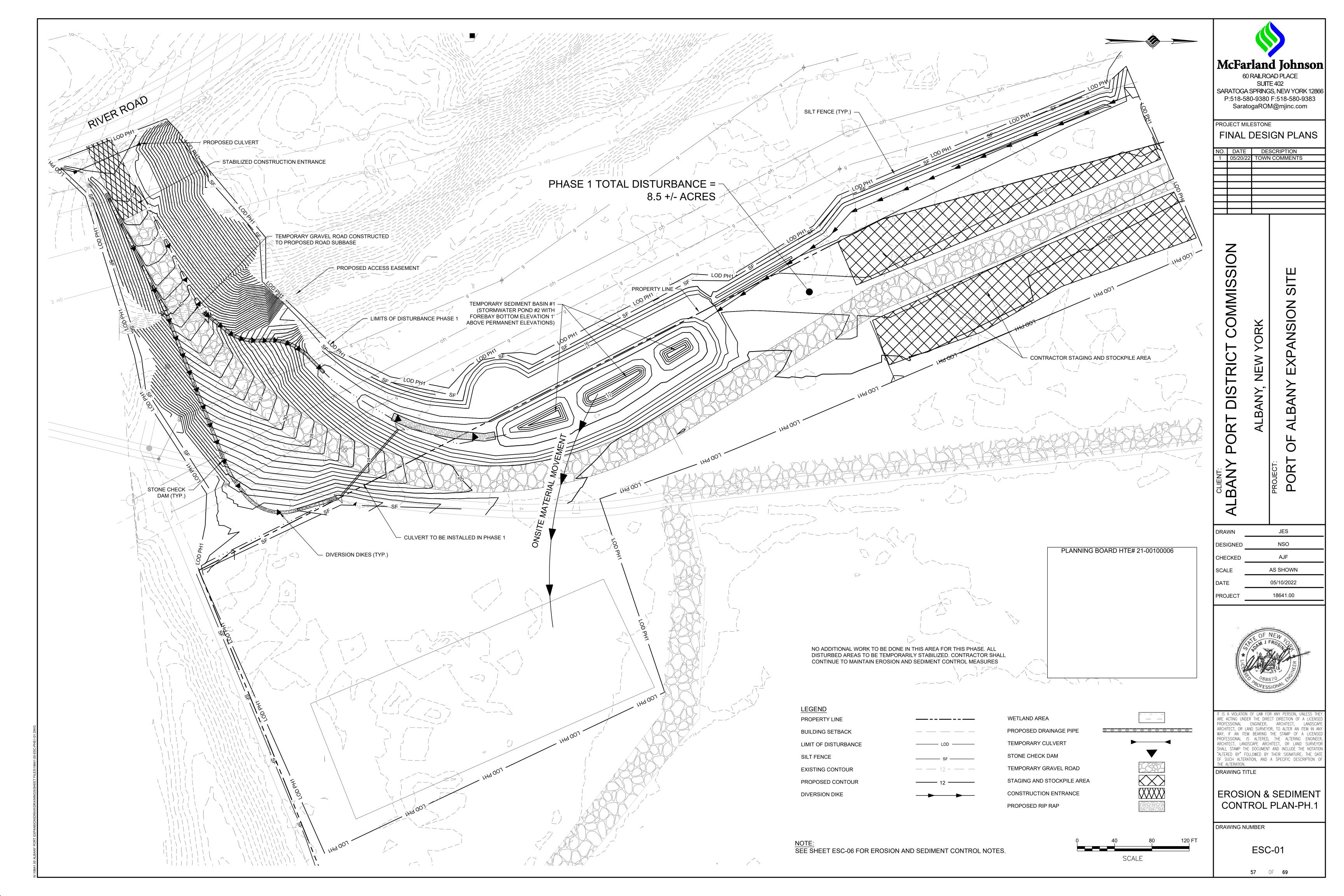
WET TAP DETAIL

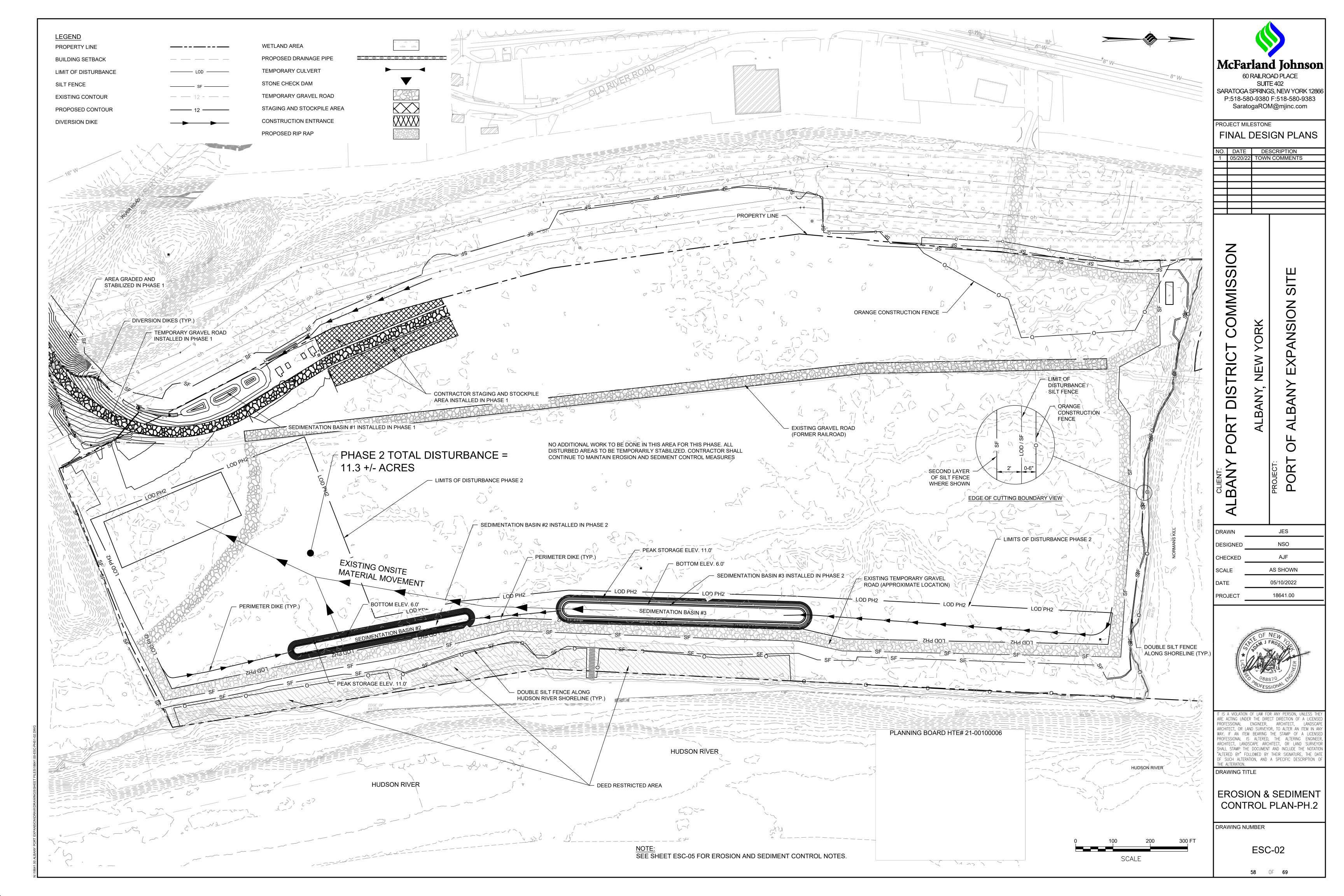
WATERMAIN/SANITARY SEWER FORCE MAIN TRACER WIRE/MARKER TAPE DETAIL

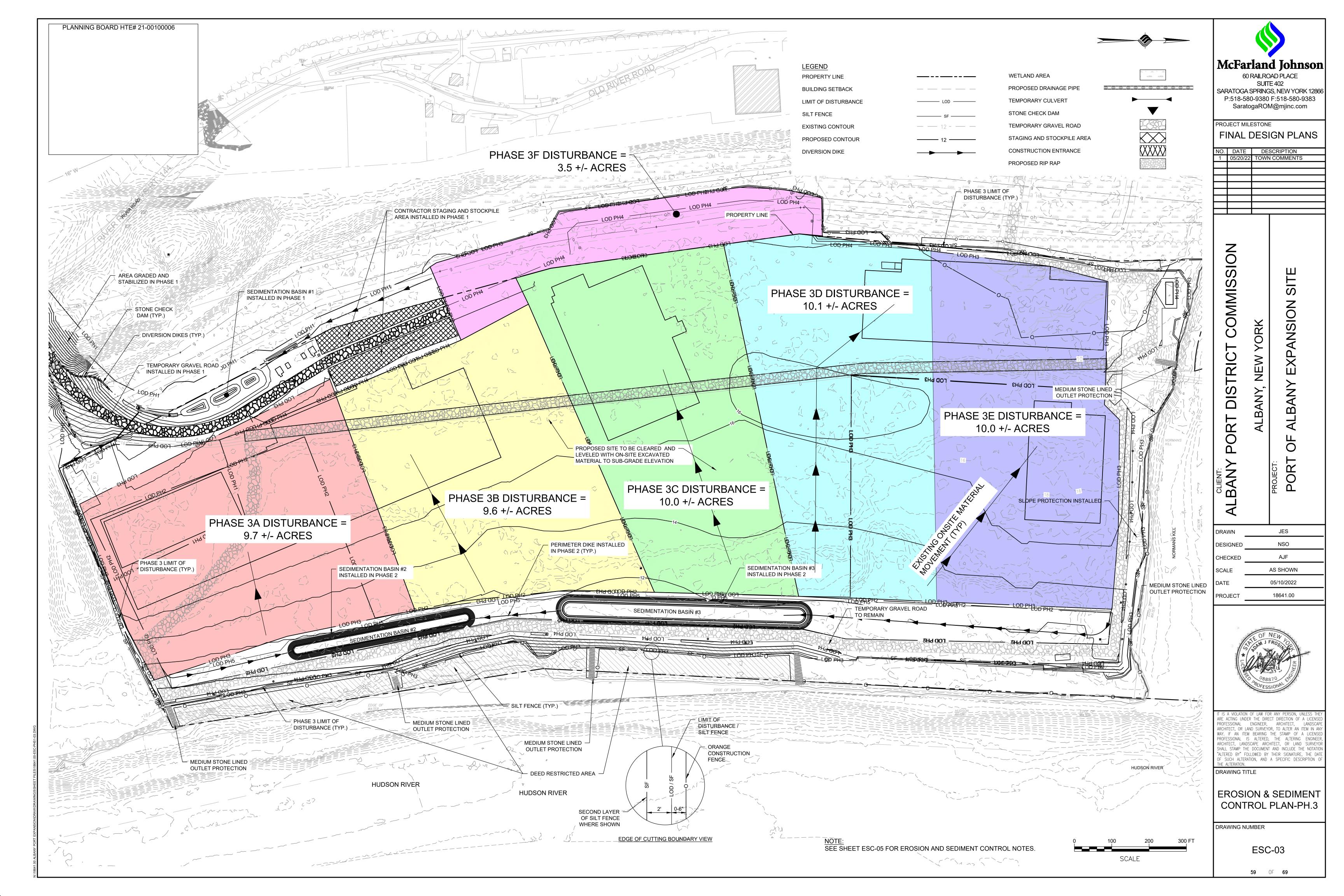
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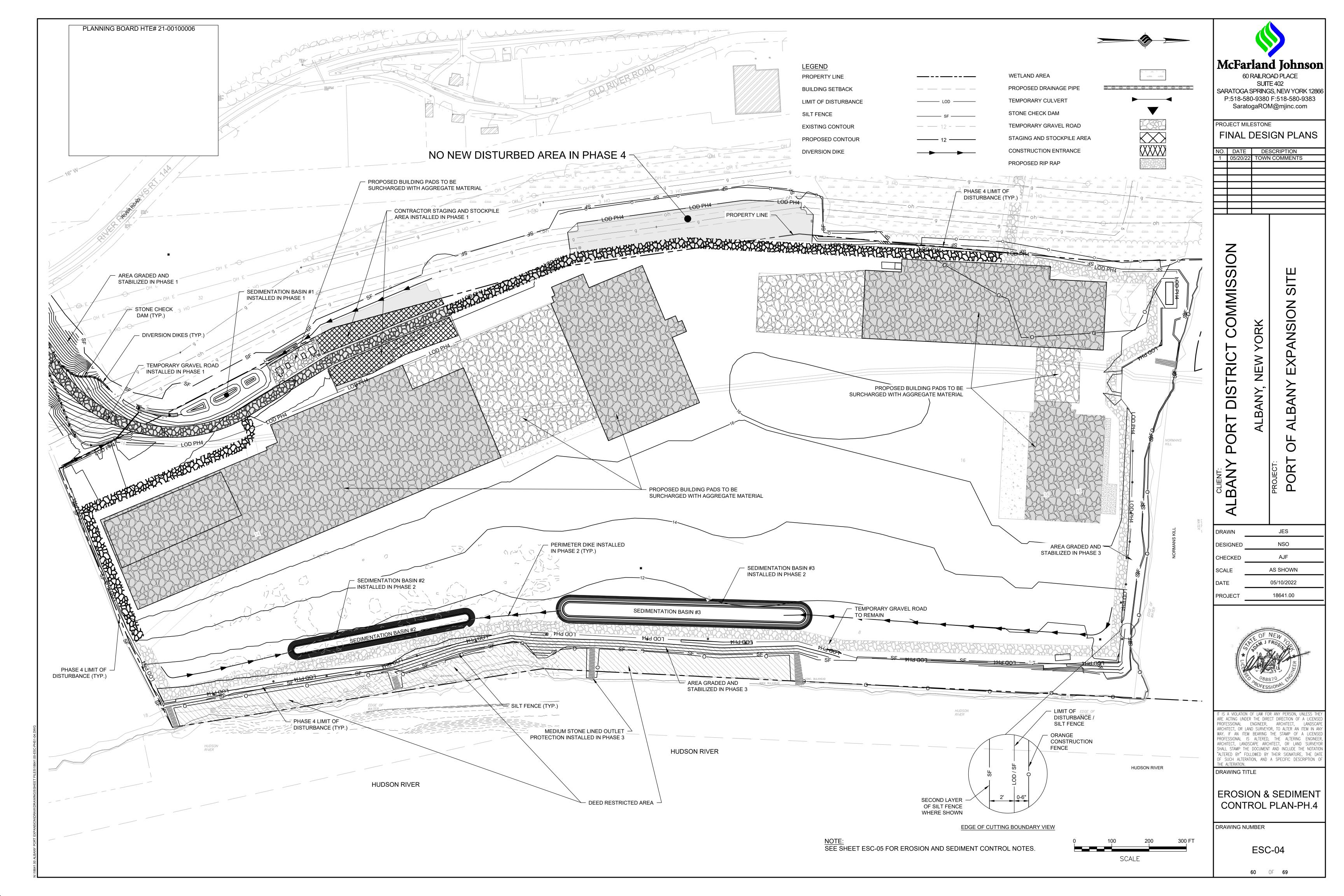


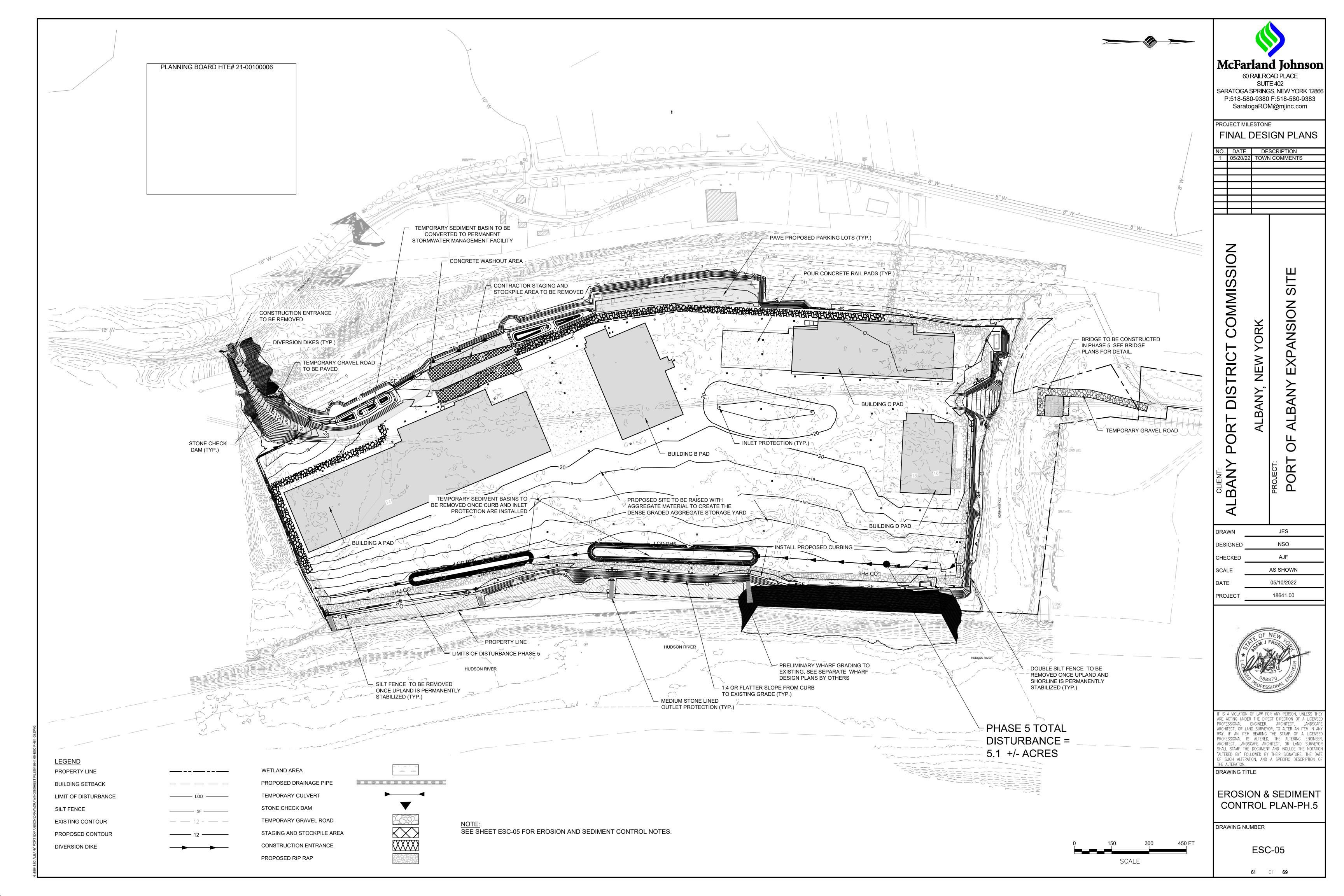












#### **EROSION AND SEDIMENT CONTROL PLAN NOTES:**

- 1. THE EROSION AND SEDIMENT CONTROL PLAN IS INTENDED TO REPRESENT A CONCEPTUAL APPROACH TO EROSION AND SEDIMENT CONTROL. IT IS FURTHER INTENDED THAT THE OWNER AND CONTRACTOR SHALL IMPLEMENT PRACTICES, AS REQUIRED, TO CONTROL EROSION AND SEDIMENT IN ACCORDANCE WITH THE NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL AND
- 2. INSTALL SILT FENCE, AND ALL OTHER EROSION CONTROL MEASURES AS INDICATED ON THE PLAN PRIOR TO THE START OF ANY EXCAVATION WORK. EROSION CONTROL MEASURES WILL BE IMPLEMENTED IN ACCORDANCE WITH THE NEW YORK STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION AND THE GOVERNING MUNICIPALITY REQUIREMENTS.
- 3. REMOVE AND STOCKPILE TOPSOIL IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLAN. REPLACE TOPSOIL TO A MINIMUM 4" DEPTH. ALL DISTURBED AREAS ARE TO BE HYDROSEEDED IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS.
- 4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REMOVAL OF TEMPORARY SEDIMENTATION CONTROLS, INCLUDING INLET PROTECTION AND SILT FENCE. EROSION CONTROL MEASURES SHALL NOT BE REMOVED BEFORE AREAS HAVE BEEN PROPERLY STABILIZED.
- 5. CONTRACTOR SHALL MAINTAIN A STOCK PILE OF EROSION AND SEDIMENT CONTROL MEASURES ON SITE AS INDICATED ON THE PLAN.
- 6. NO PETROLEUM PRODUCTS ARE TO BE STORED ON SITE WITHOUT PRIOR APPROVAL OF THE LOCAL STORMWATER INSPECTOR. ANY PETROLEUM ON SITE WILL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL GOVERNMENT REGULATIONS.
- 7. WRAP YARD INLET GRATES IN FILTER FABRIC PROGRESSIVELY AS STORM SEWER AND YARD INLETS ARE INSTALLED.
- 8. ALL EROSION CONTROL MEASURES ARE TO BE REPLACED WHENEVER THEY BECOME CLOGGED OR INOPERABLE AND SHALL BE REPLACED AT A MINIMUM OF EVERY 3
- 9. JUTE MESH WILL BE USED ON SLOPES STEEPER THAN 3:1 AND WHEREVER NECESSARY TO CONTROL EROSION AND SILTATION OF EXISTING DRAINAGE SYSTEMS AS ORDERED BY THE ENGINEER.
- 10. ALL DISTURBED AREAS SHALL BE FINISH GRADED TO PROMOTE VEGETATION ON ALL EXPOSED AREAS AS SOON AS PRACTICABLE. STABILIZATION PRACTICES (TEMPORARY/PERMANENT SEEDING, MULCHING, GEOTEXTILES, ETC.) MUST BE IMPLEMENTED WITHIN SEVEN (7) DAYS WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND NOT EXPECTED TO RESUME WITHIN FOURTEEN (14) DAYS.
- 11. ALL RIP-RAP OUTLET PROTECTION TO BE CONSTRUCTED PER NYSDEC STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
- 12. CONTRACTOR SHALL TAKE THE NECESSARY MEASURES, INCLUDING WATER SPRINKLING, TO PROVIDE DUST CONTROL DURING CONSTRUCTION.
- 13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL TEMPORARY AND PERMANENT EROSION CONTROL FEATURES THROUGHOUT THE DURATION OF CONSTRUCTION.
- A. ALL SEDIMENT TRAPPING DEVICES AND INLET PROTECTION DEVICES SHALL BE CLEANED OF ACCUMULATED SILT WHEN STORAGE CAPACITY HAS BEEN REDUCED BY 50% OF THEIR DESIGN CAPACITY.
- B. ALL SEDIMENT SHALL BE REMOVED FROM BEHIND SILT FENCE AND STRAW BALES WHEN IT ACCUMULATES TO A MAXIMUM HEIGHT OF 6".
- C. AFTER VEGETATION HAS BEEN SUBSTANTIALLY ESTABLISHED, EXCAVATE SWALES OF
- ACCUMULATED SILT. RE-ESTABLISHED VEGETATION ON DISTURBED AREAS.

  D. SEDIMENT COLLECTED BY EROSION CONTROL MEASURES SHALL BE DISPOSED OF BY
- D. SEDIMENT COLLECTED BY EROSION CONTROL MEASURES SHALL BE DISPOSED OF BY SPREADING ON-SITE OR HAULED AWAY IF DETERMINED TO BE UNSUITABLE FOR FILL.
- 12. ALL DISTURBED AREAS SHALL BE STABILIZED, SEEDED AND MULCHED WITHIN 7 DAYS OF CEASED CONSTRUCTION ACTIVITY.
- 13. TOTAL PROJECT DISTURBANCE AREA PER THE NYSDEC SPDES STANDARDS IS 79 ACRES.
- 14. ALL AREAS TO REMAIN AS PERVIOUS VEGETATED AREAS SHALL BE RESTORED IN ACCORDANCE WITH THE NYS STORMWATER MANAGEMENT DESIGN MANUAL TABLE 5.3 SOIL RESTORATION REQUIREMENTS.

# PERMANENT SEEDING NON-SLOPED AREAS:

- 1. IF SOILS ARE COMPACTED, SCARIFY UPPER TWO INCHES BY BACKBLADING WITH DOZER, RAKING, OR DISKING.
- 2. PLACE TOPSOIL TO A MINIMUM DEPTH OF 4 INCHES.
- 3. SEED PER SCHEDULE SPECIFIED ON LANDSCAPE PLANS.
- 4. FERTILIZE WITH 600 POUNDS PER ACRE OF 10-10-10. LIME TO ACHIEVE A PH OF NOT LESS THAN 5.5 OR GREATER THAN 7.6. IF HYDROSEEDER IS NOT USED, SEED AND FERTILIZER SHOULD BE LIGHTLY RAKED INTO SOIL.
- 5. MULCH WITH CLEAN (WEED FREE) STRAW IF SPECIFIED ON PLANS.

# PERMANENT SEEDING SLOPED AREAS:

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- 4. IMMEDIATELY SEED PER SEED SCHEDULE SPECIFIED ON LANDSCAPE PLAN.
- 5. PROVIDE JUTE MESH IF SPECIFIED ON PLANS OR MULCH WITH CLEAN (WEED FREE) STRAW.

## **EROSION AND SEDIMENT CONTROL SEQUENCE:**

THE TOWN OF BETHLEHEM SHOULD BE NOTIFIED PRIOR TO CONSTRUCTION ACTIVITIES STARTING AND CEASING DISTURBANCE OF OVER 5 ACRES AT ONE TIME.

#### HASE I:

- INSTALL CONSTRUCTION ENTRANCE ROADS
- ESTABLISH THE PROJECT CONSTRUCTION STAGING/OFFICE AREA
- USE ANY ACCESS ROAD CUT MATERIAL AS FILL FOR THE CONSTRUCTION STAGING AREA
   TEMPORARILY STABILIZE ALL DISTURBED AREAS
- TEMPORARILY STABILIZE ALL DISTURBED AREAS
   INSTALL SILT FENCE DOWNSTREAM OF ALL DISTURBED AREAS
- CONSTRUCT SEDIMENTATION BASIN #1 FOREBAYS TO 1' HIGHER THEN PROPOSED GRADING FOR THE PERMANENT STORM WATER MANAGEMENT POND #2 FOREBAYS.
   MATERIAL FROM THE POND EXCAVATION TO BE PLACED AND COMPACTED AS PART OF THE
- BUILDING A EMBANKMENT.

  BASED ON THE POTENTIAL FOR PROPOSED ROCK CUT WHEN EXCAVATING THE ROADWAY SECTION PHASE II MAY PROGRESS PRIOR TO THE COMPLETION OF PHASE I. THE PHASE I

AREA SHALL BE STABILIZED TO THE MINIMIZE DISTURBANCE AREA PRIOR TO PROGRESSION

# PHASE II:

• INSTALL PERIMETER CONTROLS

TO PHASE II

- INSTALL ADDITIONAL CONSTRUCTION ACCESS ROAD
- CONSTRUCT SEDIMENTATION BASINS AND DIVERSION DIKES TO BASINS
- THE PROPOSED TEMPORARY STORM WATER TREATMENT FACILITIES SHALL BE INSTALLED BEFORE PROGRESSING INTO PHASE III

#### PHASE III:

- BALANCE CUT AND FILLS IN THE SITE.
  COMPACT/IMPROVE EXISTING GROUND CONDITIONS ACCORDING TO GEOTECHNICAL REPORT
- IMPORT MATERIAL TO RAISE THE SITE TO PROPOSED SUB-GRADE ELEVATIONS
- LIMITS OF DISTURBANCE DISTURBANCE TO BE MINIMIZED IN EACH SUB-PHASE BY
  STABILIZING AREAS WITHIN 2 DAYS AFTER FINAL GRADE IS ACHIEVED
   THE SUB-PHASE AREAS WILL BE DISTURBED AND STABILIZE IN A ROLLING OPERATION A
- THE SUB-PHASE AREAS WILL BE DISTURBED AND STABILIZE IN A ROLLING OPERATION AS THE EARTHWORK PROGRESSES FROM THE SOUTH END OF THE SITE TO THE NORTH END. TO AVOID STOCKPILING AVAILABLE CUT MATERIAL FROM ONE SUB-PHASE AREA MAY BE DEPOSITED AND STABILIZED WITHIN ANOTHER SUB-PHASE AREA; HOWEVER THE OVERALL TOTAL DISTURBED AREA SHALL NOT EXCEED 11 ACRES.
- PHASE IV AGGREGATE PLACEMENT WORK WILL OCCUR SIMULTANEOUSLY AND PROVIDE STABILIZATION ONCE SUB-GRADE ELEVATIONS HAVE BEEN ACHIEVED.

- HAUL IN PROPOSED AGGREGATE MATERIAL TO SURCHARGE THE BUILDING FOOTPRINTS AND
  CONCRETE AREAS.
- MAINTAIN EXISTING PHASE III EROSIONAL AND SEDIMENT CONTROL MEASURES
- MONITOR SETTLEMENT OF THE SUB-GRADE MATERIAL IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.

#### DHASE Y

- INSTALL STORM SEWER SYSTEM WITH INLET PROTECTION FOR DRAINAGE STRUCTURES AND STONE LINING OUTLET PROTECTION
- INSTALL SITE LITHLITE
- INSTALL SITE UTILITIESSPREAD AGGREGATE MATERIAL TO STORAGE AREAS
- INSTALL INFILTRATION CHAMBERS
- POUR ALL PROPOSED CONCRETE RAIL PADS AND SIDEWALKS
   NOTALL PROPOSED CONCRETE CURRING.
- INSTALL PROPOSED CONCRETE CURBING
   DAVE PARKING LOT AREAS
- PAVE PARKING LOT AREAS
   REMOVE CONSTRUCTION STATE
- REMOVE CONSTRUCTION STAGING AREA
   CONVERT TEMPORARY SEDIMENT BASIN TO PERMANENT STORM WATER MANAGEMENT FACILITIES BY EXCAVATING THE PERMANENT POOL AND FOREBAYS DOWN TO FINAL GRADE
- AND CONVERTING THE OUTLET STRUCTURE.

   REMOVE TEMPORARY SEDIMENT BASINS, WHICH ARE NOT TO BE CONVERTED TO
- PERMANENT PRACTICES

   FINAL STABILIZATION FOR EMBANKMENT SLOPES ALONG THE NORMANS KILL AND HUDSON

# TEMPORARY SEEDING

- 1. IF SOILS ARE COMPACTED, SCARIFY UPPER TWO INCHES BY BACKBLADING WITH DOZER, RAKING, OR DISKING. FERTILIZE WITH 300 POUNDS PER ACRE OF 10-10-10.
- 2. NOTE: NO FERTILIZER SHOULD BE USED AFTER OCTOBER 1ST IF THERE IS DANGER OF LEACHING INTO WATER RESOURCE.
- 3. IMMEDIATELY SEED PER SEED SCHEDULE SPECIFIED ON LANDSCAPE PLAN.
- 4. APPLY STRAW MULCH AS NECESSARY TO HOLD IN MOISTURE, PROTECT SOIL FROM EROSION, HOLD SEED IN PLACE, AND KEEP SOIL TEMPERATURES MORE CONSTANT; 2 TONS PER ACRE.

# SOIL RESTORATION NOTES:

# SOIL RESTORATION PROCEDURE:

DURING PERIODS OF RELATIVELY LOW TO MODERATE SUBSOIL MOISTURE, THE DISTURBED SUBSOILS ARE RETURNED TO ROUGH GRADE AND THE FOLLOWING SOIL RESTORATION STEPS APPLIED:

- 1. APPLY 3 INCHES OF COMPOST OVER SUBSOIL
- 2. TILL COMPOST INTO SUBSOIL TO A DEPTH OF AT LEAST 12 INCHES USING A CAT-MOUNTED RIPPER, TRACTOR-MOUNTED DISC, OR TILLER, MIXING, AND CIRCULATING AIR AND COMPOST INTO SUBSOILS
- 3. ROCK-PICK UNTIL UPLIFTED STONE/ROCK MATERIALS OF FOUR INCHES AND LARGER SIZE ARE CLEANED OFF THE SITE
- 4. APPLY TOPSOIL TO A DEPTH OF 6 INCHES
- 5. VEGETATE AS REQUIRED BY APPROVED PLAN.
- AT THE END OF THE PROJECT AN INSPECTOR SHOULD BE ABLE TO PUSH A 3/8" METAL BAR 12 INCHES INTO THE SOIL JUST WITH BODY WEIGHT. TILLING (STEP 2 ABOVE) SHOULD NOT BE PERFORMED WITHIN THE DRIP LINE OF ANY EXISTING TREES OR OVER UTILITY INSTALLATIONS THAT ARE WITHIN 24 INCHES OF THE SURFACE.

# COMPOST SPECIFICATIONS:

COMPOST SHALL BE AGED, FROM PLANT DERIVED MATERIALS, FREE OF VIABLE WEED SEEDS, HAVE NO VISIBLE FREE WATER OR DUST PRODUCED WHEN HANDLING, PASS THROUGH A HALF INCH SCREEN AND HAVE A PH SUITABLE TO GROW DESIRED PLANTS.

### WINTER STABILIZATION:

- PREPARE A SNOW MANAGEMENT PLAN WITH ADEQUATE STORAGE FOR SNOW AND CONTROL OF MELT WATER, REQUIRING CLEARED SNOW TO BE STORED IN A MANNER NOT AFFECTING ONGOING CONSTRUCTION ACTIVITIES.
- 2. TO ENSURE ADEQUATE STABILIZATION OF DISTURBED SOIL IN ADVANCE OF A MELT EVENT, AREAS OF DISTURBED SOIL SHOULD BE STABILIZED AT THE END OF EACH WORK DAY UNLESS:
  - A. WORK WILL RESUME WITHIN 24 HOURS IN THE SAME AREA AND NO PRECIPITATION IS FORECAST OR;
  - B. THE WORK IS IN DISTURBED AREAS THAT COLLECT AND RETAIN RUNOFF, SUCH AS OPEN UTILITY TRENCHES, FOUNDATION EXCAVATIONS, OR WATER MANAGEMENT AREAS.
- 3. IF THE SITE WILL NOT HAVE EARTH DISTURBING ACTIVITIES ONGOING DURING THE "WINTER SEASON", ALL BARE EXPOSED SOIL MUST BE STABILIZED BY ESTABLISHED VEGETATION, STRAW OR OTHER ACCEPTABLE MULCH, MATTING, ROCK OR OTHER APPROVED MATERIAL SUCH AS ROLLED EROSION CONTROL PRODUCTS. SEEDING OF AREAS WITH MULCH COVER IS PREFERRED BUT

SEEDING ALONE IS NOT ACCEPTABLE FOR PROPER STABILIZATION.

SOIL DISTURBANCE PHASING						
PHASE	DISTURBANCE AREA					
1	8.5 ACRES					
2	11.3 ACRES					
3	11 ACRES MAX.					
3A	9.7 ACRES					
3B	9.6 ACRES					
3C	10.0 ACRES					
3D	10.1 ACRES					
3E	10.0 ACRES					
3F	3.5 ACRES					
4	NO NEW AREAS (MAY OCCUR SIMULTANEOUSLY WITH PHASE 3)					
5	5.1 ACRES					

NOTE: A 5-ACRE WAIVER REQUEST MUST BE APPROVED BY THE TOWN OF BETHLEHEM (MS4) PRIOR TO DISTURBING MORE THAN 5 ACRES.

PLANNING BOARD HTE# 21-00100006

McFarland Johnson

60 RAILROAD PLACE SUITE 402 SARATOGA SPRINGS, NEW YORK 12866 P:518-580-9380 F:518-580-9383 SaratogaROM@mjinc.com

ROJECT MILESTONE

| FINAL DESIGN PLANS

NO.	DATE	DESCRIPTION						
1	05/20/22	TOWN COMMENTS						
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# BANY PORT DISTRICT COMMISSIC PROJECT: PROJECT: PROJECT: DORT OF ALBANY EXPANSION SITE

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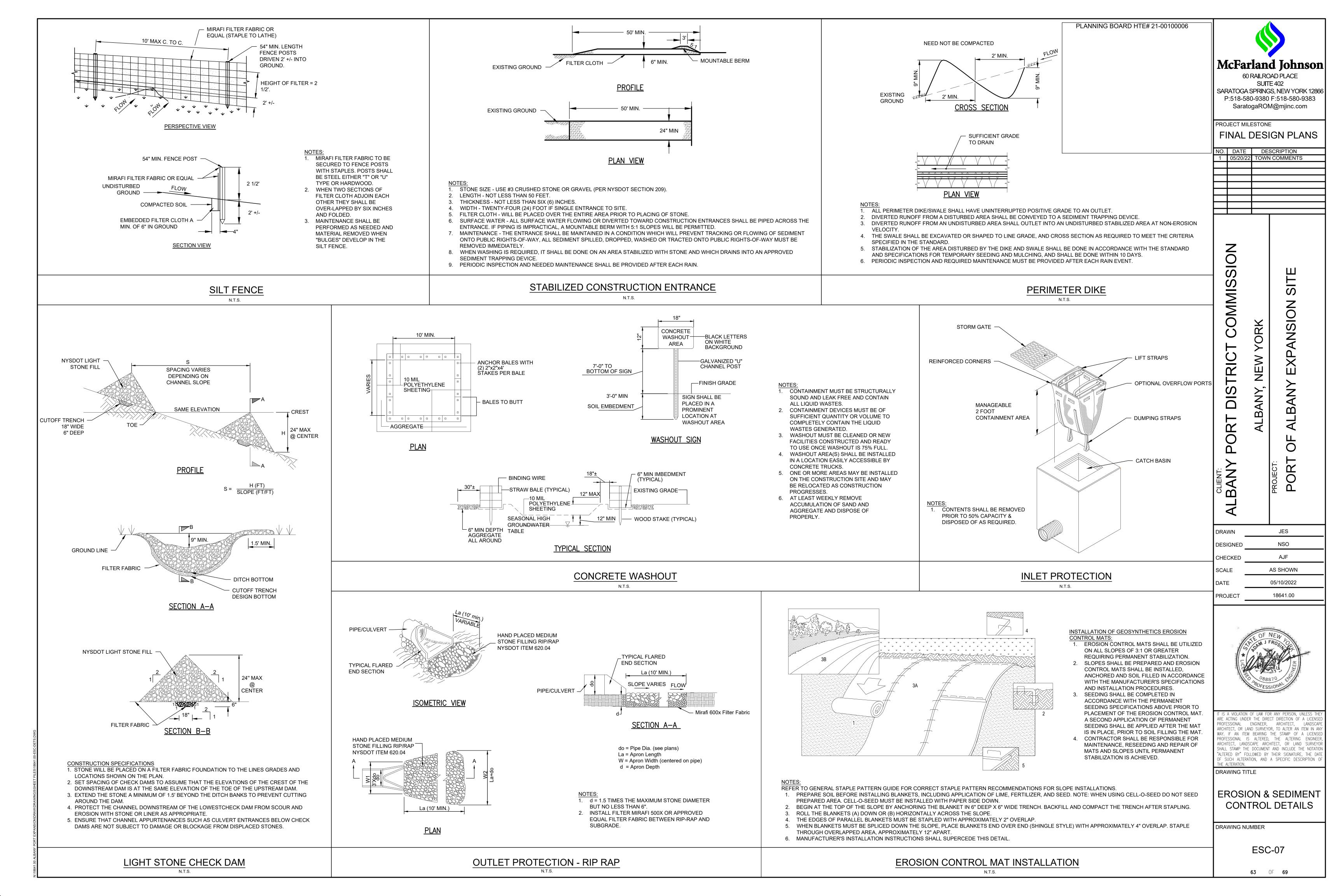
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSEL PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSEL PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOF SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

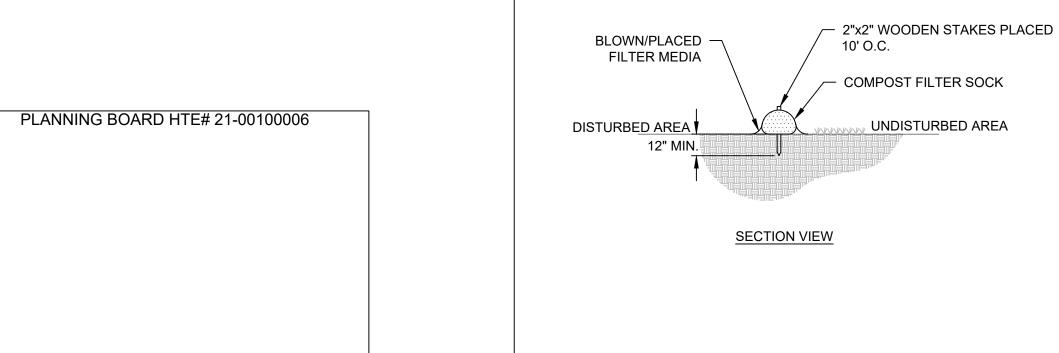
EROSION & SEDIMENT CONTROL NOTES

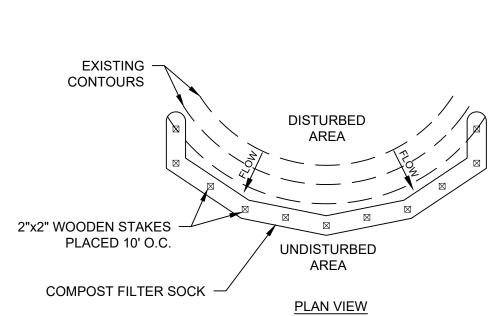
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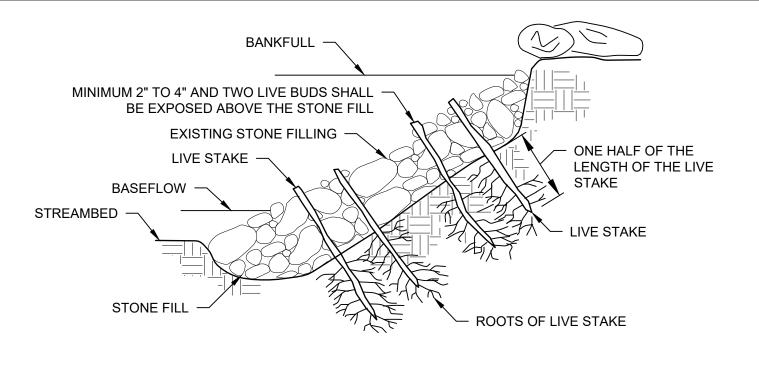




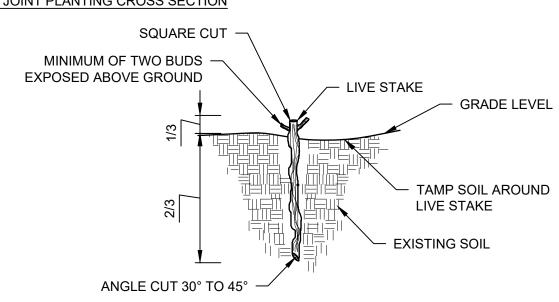


- 1. SOCK FABRIC SHALL MEET STANDARDS OF TABLE 5.1 OF NYS STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL. COMPOST SHALL MEET THE STANDARDS LISTED ON TABLE 5.2 OF NYS STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
- 2. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45° TO THE MAIN SOCK ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY SOCK SHALL NOT EXCEED THAT SHOWN ON FIGURE X.X OF NYS STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL. STAKES MAY BE INSTALLED IMMEDIATELY DOWNSLOPE OF THE SOCK IF SO SPECIFIED BY THE MANUFACTURER.
- 3. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS. 4. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVEGROUND
- HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN. 5. SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS
- OF INSPECTION. 6. BIODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- 7. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCKS. STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

END VIEW



# LIVE STAKE JOINT PLANTING CROSS SECTION



LIVE STAKE CROSS SECTION

1. CARE SHALL BE TAKEN NOT TO DAMAGE THE LIVE STAKES DURING INSTALLATION. THOSE DAMAGED SHALL BE LEFT IN PLACE AND SUPPLEMENTED WITH AN INTACT LIVE STAKE.

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FINAL DESIGN PLANS

TOWN COMMENTS

NO. DATE DESCRIPTION

PROJECT MILESTONE

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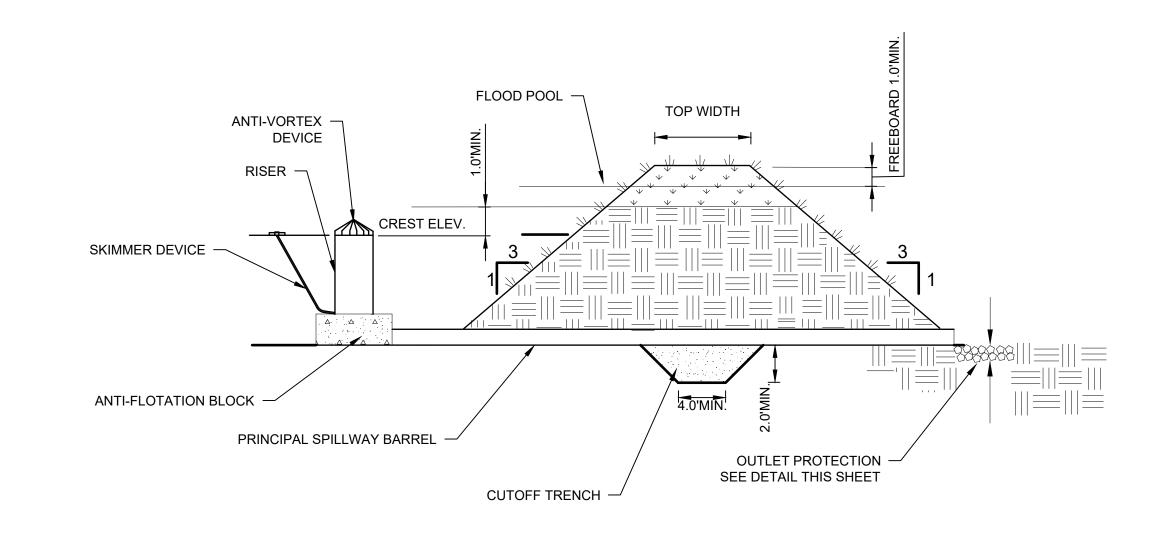
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- 2. THE LENGTHS OF LIVE STAKES DEPENDS UPON THE APPLICATION. THE LENGTH SHALL EXTEND THROUGH THE SURFACE OF THE STONE FILL AT LEAST HALF THE LENGTH SHALL BE INSERTED IN TO THE SOIL, BELOW THE STONE FILL.
- 3. A PILOT HOLE IS REQUIRED TO ENSURE THAT THE LIVE STAKE IS NOT DAMAGED WHEN DRIVEN THROUGH THE STONE FILLING. ACCESS SHALL BE MADE THROUGH THE USE OF A DIBBLE BAR, OR SIMILAR TOOL TO WORK AN OPENING THROUGH THE ROCK LAYER.
- 4. MINIMUM 2" TO 4" AND TWO LIVE BUDS OF THE LIVE STAKE SHALL BE EXPOSED ABOVE THE STONE FILLING.
- 5. LIVE STAKES SHALL RANGE FROM 1" TO 4" IN DIAMETER AND BE FROM 5' TO 6' IN LENGTH.
- 6. LIVE STAKES SHALL BE CUT TO A POINT ON THE BASAL END FOR INSERTION IN THE GROUND.
- 7. USE A DEAD BLOW HAMMER TO DRIVE STAKES INTO THE GROUND. (HAMMER HEAD FILLED WITH SHOT OR SAND). A DIBBLE, IRON BAR, OR SIMILAR TOOL SHALL BE USED TO MAKE A PILOT HOLE TO PREVENT DAMAGING THE MATERIAL DURING INSTALLATION.
- 8. WHEN POSSIBLE, TAMP SOIL AROUND LIVE STAKES.

# COMPOST FILTER SOCK

# LIVE STAKE

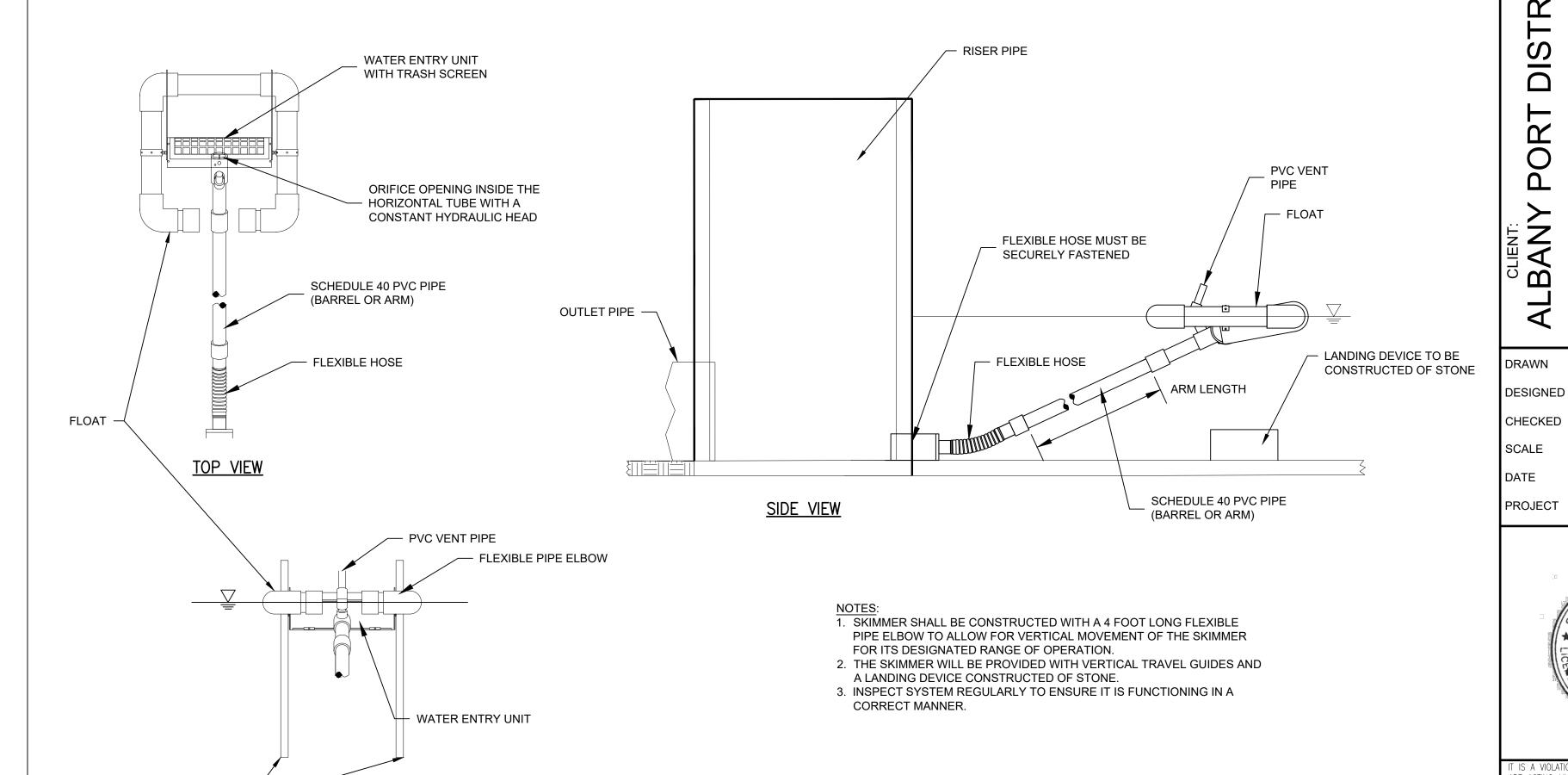


SEDIMENT BASIN CHART											
BASIN NUMBER	BOTTOM ELEV. (FT)	TOP OF DAM ELEV. (FT)	TOP OF RISER ELEV. (FT)	INV. OUT (FT)	SEDIMENT STORAGE ZONE VOLUME REQ'D (FT³)	SEDIMENT STORAGE ZONE VOLUME PROVIDED (FT³)	SEDIMENT STORAGE ZONE ELEV. (FT)	DEWATERING ZONE VOLUME REQ'D (FT³)	DEWATERING ZONE VOLUME PROVIDED (FT³)	DEWATERING ZONE ELEV. (FT)	CLEANOUT ELEVATION (FT.)
1	10	14	-	-	5300	5300	-	19080	19080	-	-
2	6	14	11	6.5	15200	16370	7.5	54720	55416	11	6.75
3	6	14	11	6.5	33000	36859	7.5	118800	119226	11	6.75

- 1. TEMPORARY SEDIMENT BASIN 1 CALCULATIONS HAVE BEEN SHOWN FOR CAPACITY VERIFICATION
- 2. BASIN 1 WILL BE GRADED OUT PER WQV POND DETAIL ON SHEET GR-14. ALL OUTLET STRUCTURES ARE TO BE COVERED WITH FILTER FABRIC DURING CONSTRUCTION. EXCAVATION OF BASIN 1 TO
- FINAL GRADE ELEVATIONS SHALL OCCUR ONCE FINAL STABILIZATION HAS BEEN REACHED. 3. EMBANKMENT MUST BE COMPACTED TO DESIGN SPECIFICATIONS. 4. EROSION PROTECTION MUST BE INSTALLED ALONG THE EMBANKMENT AND AT THE DISCHARGE END

N.T.S.

OF THE PIPE.



	SKIMMER DEWATERING DEVICE											
BASIN NUMBER	WATER SURFACE ELEVATION (FT)	ARM LENGTH (FT)	ARM DIA. (in)	ORIFICE SIZE (in)	TOP OF LANDING DEVICE ELEVATION (FT)	FLEXIBLE HOSE LENGTH (in)	FLEXIBLE HOSE ATTACHMENT ELEVATION (FT)					
2	11	16	5	5	7.5	12	6					
3	11	16	7	7	7.5	12	6					

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DRAWING TITLE

ESC-08

**EROSION & SEDIMENT** 

**CONTROL DETAILS** 

ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSE PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAP

ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY

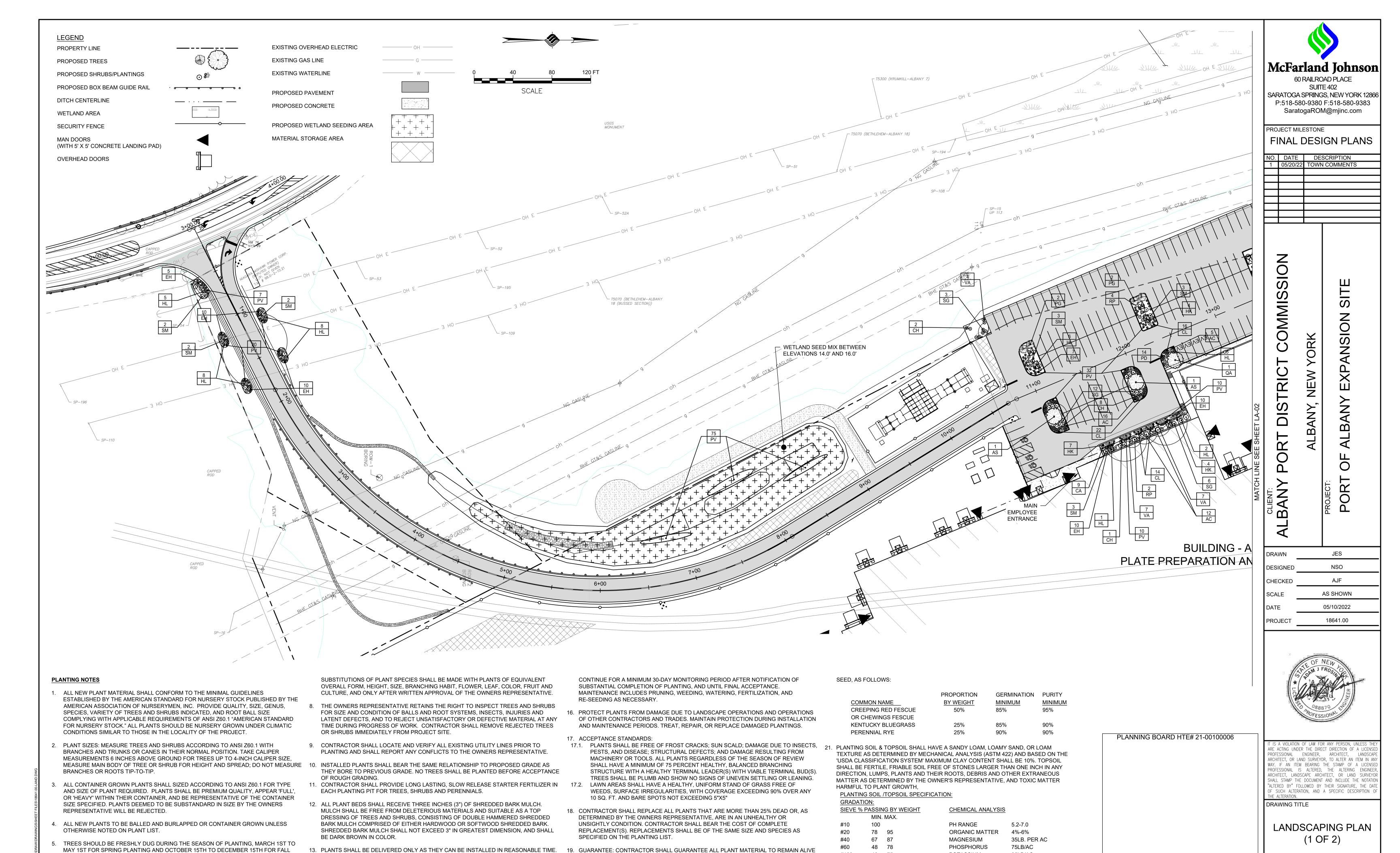
WAY. IF AN ITEM BEARING THE STAMP OF A LICENSI PROFESSIONAL IS ALTERED, THE ALTERING ENGINEEF ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYO SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATIO "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION

**64** OF **69** 

TEMPORARY SEDIMENT BASIN

SKIMMER DEWATERING DEVICE DETAILS

VERTICAL TRAVEL GUIDE RAILS



AND BE IN A HEALTHY, VIGOROUS CONDITION FOR A PERIOD OF ONE YEAR AFTER FINAL

ACCEPTANCE OF PLANTING WORK, AGAINST DEFECTS INCLUDING DEATH AND

AOSA'S "RULES FOR TESTING SEEDS" FOR PURITY AND GERMINATION TOLERANCES.

PROVIDE SEED MIXTURE COMPOSED OF SPECIES, PROPORTIONS AND MINIMUM

PERCENTAGES OF PURITY, GERMINATION, AND MAXIMUM PERCENTAGE OF WEED

20. GRASS SEED SHALL BE FRESH, CLEAN, DRY, NEW-CROP SEED COMPLYING WITH

UNSATISFACTORY WORK.

PLANTING. PLANTS KNOWN AS FALL DIG HAZARDS SHALL BE DUG IN THE SPRING ONLY.

IN GENERAL, PLANT SPECIES SUBSTITUTIONS WILL NOT BE ACCEPTED. IF SPECIFIED

6. THE CONTRACTOR SHALL SUPPLY ALL NEW PLANT MATERIAL IN QUANTITIES

MATERIAL IS NOT OBTAINABLE, CONTRACTOR SHALL SUBMIT PROOF OF

NON-AVAILABILITY ALONG WITH PROPOSED SUBSTITUTION. ANY PROPOSED

SUFFICIENT TO COMPLETE THE PLANTING SHOWN ON THE DRAWINGS.

ALL PLANTS ARE SUBJECTED TO INSPECTION AT DELIVERY BY THE OWNER'S

14. IF DISCREPANCIES EXIST BETWEEN THE NUMBER OF PLANTS DRAWN ON THE PLANTING

PLAN AND THE NUMBER OF PLANTS IN THE PLANT LIST, THE PLANTING PLAN SHALL

15. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER EACH PLANT IS PLANTED AND SHALL

REPRESENTATIVE.

GOVERN.

#100

#200

#270

.002

40 75

28 63

22 55

2 7

POTASSIUM

SOLUBLE SALTS

85LB/AC

NOT TO EXCEED 500

DRAWING NUMBER

LA-01

