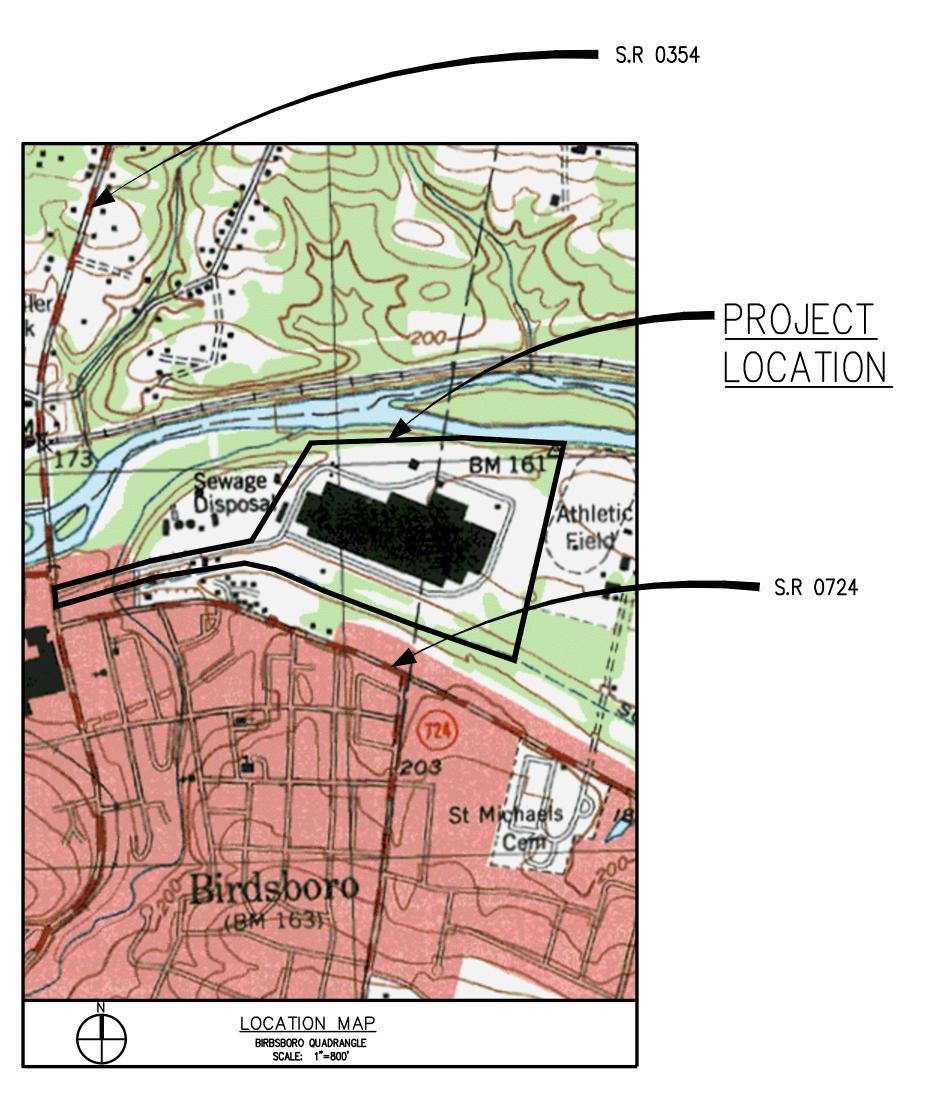
FINAL POST CONSTRUCTION STORMAWATER MANAGEMENT PLANS FOR

NATURAL GAS COMBINE CYCLE BIRDSBORO BOROUGH, BERKS COUNTY, PA

OWNER:

BIRDSBORO POWER PA LLC 72 GLENMAURA NATIONAL BOULEVARD MOOSIC, PA 18507



ARMORCAST DRIVE BIRDSBORO, PA 19508

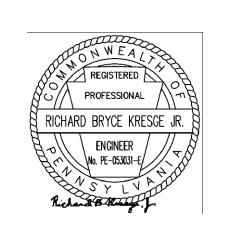


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PROJECT NO. 10708.01 DATED: October 28, 2015

Wilkes-Barre, PA 18701

phone 570 829.4200 fax 570 829.3732 web www.quad3.com



CIVIL LEGEND, SYMBOLS AND NOTES

SOILS LEGEND

BIRDSBORO SILT LOAM, 3 TO 8 PERCENT SLOPES

BOWMANSVILLE-KNAUERS SILT LOAMS

- GIBRALTAR SILT LOAM

- LAMINGTON SILT LOAM, 0 TO 3 PERCENT SLOPES

- RARITAN SILT LOAM, 3 TO 8 PERCENT SLOPES

UqB - urban land, 0 to 8 percent slopes

UXB - URBAN LAND-PENN COMPLEX, 0 TO 8 PERCENT SLOPES

RESPONSES TO PA ONE CALL

CALL BEFORE YOU DIG! PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR

CONSTRUCTION PHASE AND 10 WORKING POCS SERIAL NUMBER

DAYS IN DESIGN STAGE-STOP CALL 20150470504 1-800-242-1776

CALL BEFORE YOU DIG! PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE-STOP CALL POCS SERIAL NUMBER PA 1

1-800-242-1776

20150470505

SERIAL NUMBER 20150470504 & 20150470505 AT THE FOLLOWING LOCATION:

COUNTY: MUNICIPALITY: BIRBSBORO BOROUGH ARMORCAST ROAD

NEAREST INTERSECTION: NORTH FURNACE STREET AND ARMORCAST ROAD SECOND INTERSECTION: NORTH FURNACE STREET AND EAST MAIN STREET LOCATION INFORMATION: THE PROJECT INVOLVES CONSTRUCTION OF NATURAL GAS COMBINE CYCLE PLANT APPROXIMATELY ON 90 ACRES

HAS BEEN RESPONDED TO THROUGH PENNSYLVANIA ONE CALL SYSTEM BY THESE FACILITY OPERATORS IN THE FOLLOWING MANNER:

UTILITY RESPONSE

UGI UTILITIES INC

PA ONE CALL REQUIRED PRIOR TO EXCAVATION. GAS SERVICE LINES MIGHT BE PRESENT, CONTACT: MARY GALCZYNSKI

OPERATIONS UGI UTILITIES INC (610) 736-5609

WINDSTREAM COMMUNICATION MAPPING RECEIVED, SOME OVERHEAD POWER LINES PRESENT CONTACT:

LAKISHA JOHNSON DAMAGE PREVENTION ENGINEER (570) 748-4433

(PLEASE CALL 1-800-222-6470 TO HEAR ANY VOICE MESSAGE)

ORDINANCE

AN ORDINANCE OF THE BOROUGH OF BIRDSBORO ARTICLE XIII "M-MIXED USE/EMPLOYMENTS CENTER, BERKS COUNTY, PENNSYLVANIA,

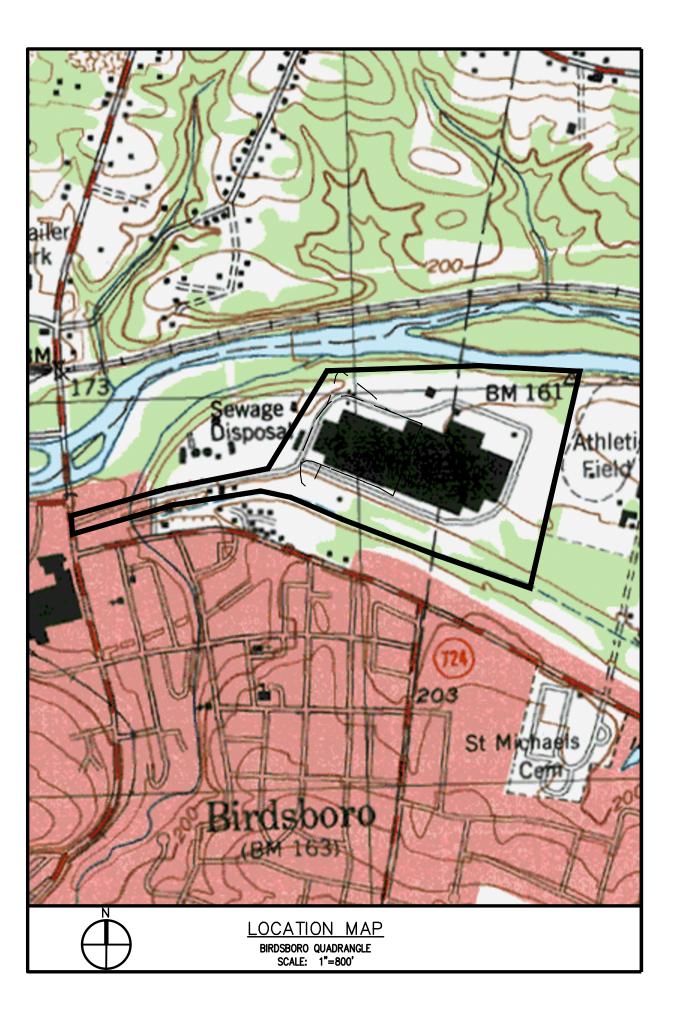
SECTION 1303 AREA AND HEIGHT REGULATIONS.

THE FOLLOWING REGULATIONS SHALL BE MET UNLESS OTHERWISE REQUIRED BY THIS ORDINANCE:

MAXIMUM PERMITTED

50 FEET BUILDING HEIGHT BUILDING COVERAGE **60 PERCENT**

	MINIMUM REQUIREMENTS	PROVIDED
LOT SIZE	5 ACRES	101.5 ACR
LOT WIDTH	250 FEET	1650 FEET
FRONT YARD SETBACK	50 FEET	50 FEET
IMPROVEMENT SETBACK	25 FEET	50 FEET
REAR YARD SETBACK	25 FEET	25 FEET
SIDE YARD SETBACK	25 FEET	25 FEET



SURVEY NOTES

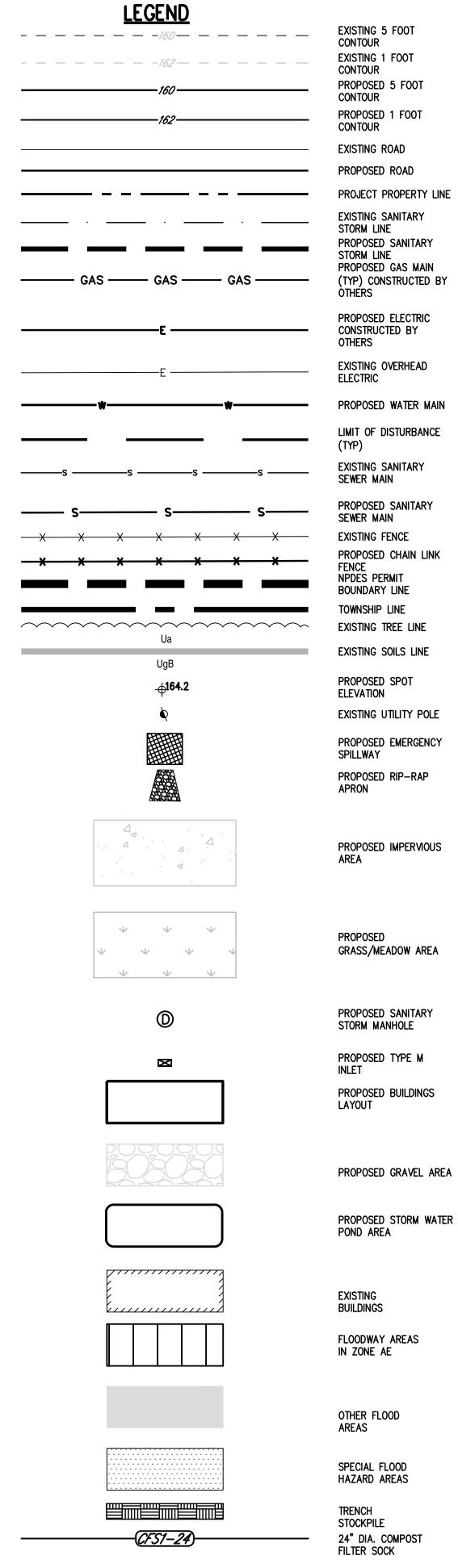
- 1. PROJECT SITE IS LOCATED IN ZONING DISTRICT TYPE M-MIXED USE/EMPLOYMENT CENTER.
- 2. EXISTING PARCEL LOTS WERE GENERATED FROM BERKS COUNTY GIS MAPPING AND WERE NOT SURVEYED BY QUAD THREE
- PROPERTY BOUNDARY WAS GENERATED FROM A DEED BOOK 2967 PAGES 773-781.
- 4. PLANIMETRIC FEATURES SHOWN HEREIN ARE BASED ON PENNSYLVANIA SPATIAL DATA ACCESS IMAGERY.
- 5. CONTOURS SHOWN HEREIN HAVE BEEN EXTRAPOLATED FROM LIDAR MAPPING PROVIDED BY PENNSYLVANIA SPATIAL DATA ACCESS. DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

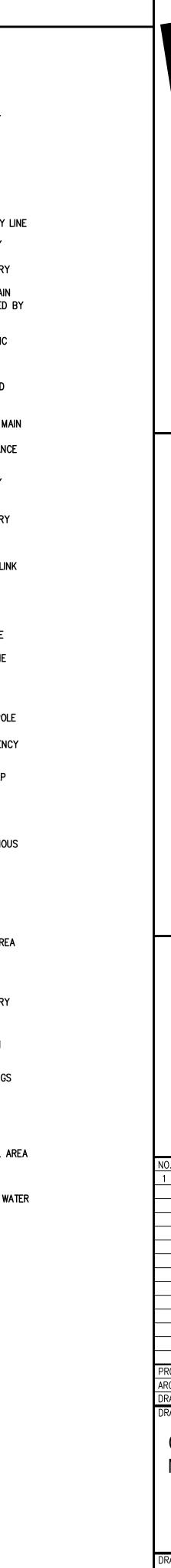
GENERAL NOTES

- 1. ALL UTILITY INSTALLATIONS SHALL BE IN ACCORDANCE WITH PENNSYLVANIA ACT 38.
- 2. CONTRACTOR SHALL CONTACT THE PENNSYLVANIA ONE-CALL NUMBER AT 1-800-242-1776 THREE WORKING DAYS PRIOR TO THE START OF WORK TO HAVE ALL UTILITIES MARKED IN THE WORK AREA.
- 3. THE CONTRACTOR SHALL NOTIFY ALL APPROPRIATE UTILITIES OF HIS WORK SCHEDULE PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL HAVE EACH UTILITY OWNER VERIFY AND MARK THE LOCATIONS OF THEIR RESPECTIVE MAIN AND SERVICE LINES IN THE FIELD BEFORE THE START OF WORK.
- 4. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO MAINTAIN EXISTING UTILITY SERVICE. IN THE EVENT THAT THE CONTRACTOR DAMAGES AN EXISTING UTILITY LINE OR LATERAL, HE SHALL NOTIFY THE UTILITY OWNER IMMEDIATELY. ALL REPAIRS SHALL BE DIRECTED BY THE UTILITY OWNER AND SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.
- 5. THE LOCATION OF EXISTING UTILITIES SHOWN ON THE PLAN ARE BASED UPON THE BEST AVAILABLE INFORMATION. NEITHER THE OWNER NOR QUAD THREE GROUP, INC. GUARANTEES THE ACCURACY OF THE LOCATIONS OF THE EXISTING SUBSURFACE UTILITY LINES AND STRUCTURES SHOWN ON THE PLAN, NOR DOES THE OWNER OR QUAD THREE GROUP, INC. GUARANTEE THAT ALL SUBSURFACE UTILITY LINES AND STRUCTURES ARE
- 6. DRAWING REFERENCES ARE FOR CONVENIENCE ONLY AND DO NOT LIMIT THE APPLICATION OF THE DRAWING OR DETAIL.
- 7. THE CONTRACTOR SHALL SAFEGUARD THE OWNER'S PROPERTY AND ADJACENT PROPERTIES DURING CONSTRUCTION AND SHALL REPLACE ANY DAMAGED PORTION OF THE OWNER'S PROPERTY AND ADJACENT PROPERTIES TO THE ORIGINAL CONDITION.
- 8. CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR, AT HIS OWN EXPENSE, ANY DAMAGE CAUSED BY HIS CONSTRUCTION.
- 9. IN THE EVENT OF DAMAGE TO ANY OPERATING FACILITIES THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND/OR OWNER AND BE PREPARED TO WORK OVERTIME, IF DEEMED NECESSARY, TO COMPLETE RESTORATION TO THE SATISFACTION OF THE OWNER WITH NO ADDITIONAL COSTS TO THE OWNER.
- 10. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL BUILDING CODE REGULATIONS. THE CONTRACTOR SHALL ALSO COMPLY WITH ALL SAFETY REQUIREMENTS OF ALL GOVERNING AUTHORITIES.
- 11. CONTRACTOR SHALL PERFORM ALL EXCAVATIONS, TRENCHING AND SHORING IN ACCORDANCE WITH O.S.H.A. SAFETY & HEALTH
- 12. THE CONTRACTOR SHALL MAINTAIN THE STRUCTURAL INTEGRITY OF ALL TRENCH EXCAVATIONS AT ALL TIMES.

REGULATIONS, PART 1926, SUBPART P.

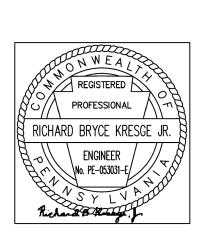
- 13. WHEN THE DEPTH OF TRENCH EXCEEDS 5 FT., A TRENCH BOX OR SHORING SHALL BE REQUIRED. IF MAXIMUM TRENCH DEPTH EXCEEDS 20 FT., A SHORING DESIGN AS PER O.S.H.A. REGULATIONS SHALL BE USED.
- 14. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, ADEQUATELY SUPPORT ALL UTILITY POLES IN THE AREA OF THE TRENCH EXCAVATION PRIOR TO EXCAVATION.
- 15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES ASSOCIATED WITH THE BARRICADING AND/OR CLOSING AND RE-OPENING OF ANY AND ALL EXCAVATIONS DURING "DOWN-TIME" AS REQUIRED BY THE ON-SITE INSPECTORS (PADEP, ENGINEER, OWNER, ETC.).
- 16. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, REMOVE AND REPLACE EXISTING GUIDE RAIL, LAWNS, SIGNS, SIDEWALKS, CURBS, BOLLARDS, PAVEMENT, PAVEMENT MARKINGS, ETC. AS NEEDED FOR THE COMPLETION OF HIS WORK.
- 17. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR EXPLORATORY WORK AND/OR TEST BORES.
- 18. THE CONTRACTOR SHALL VERIFY ALL EXISTING FIELD CONDITIONS (ELEVATIONS, LOCATIONS, ETC.) BEFORE COMMENCING WORK. THE ARCHITECT/ENGINEER SHALL BE NOTIFIED IMMEDIATELY IF A CONFLICT EXISTS.
- 19. CONTRACTOR SHALL BE RESPONSIBLE TO PROPERLY REMOVE AND DISPOSE OFF-SITE ALL PIPE, CONDUIT, CONCRETE, STEEL STRUCTURE(S), EXCESS EARTHEN MATERIAL AND ANY OTHER DEMOLISHED MATERIALS COVERED UNDER THE CONTRACT.
- 20. WATER, SANITARY, AND OTHER UTILITIES WILL BE DETERMINED IN FUTURE DURING CONSTRUCTION.
- 21. THE BOROUGH SHALL HAVE THE RIGHT, BUT NOT THE DUTY, TO REPAIR OR MAINTAIN ANY DRAINAGE FACILITIES SHOWN WITHIN THE EASEMENTS PROVIDED ON THE PROPERTY.
- 22. THE CONTRACTOR SHALL COMPLY WITH ALL BOROUGH AND PENNDOT 408 MANUAL STANDARDS DURING CONSTRUCTION.
- 23. THE CONTRACTOR SHALL COMPLY WITH OUTDOOR LIGHTING (§509) GLARE CONTROL REQUIREMENTS AND FIXTURES SHALL BE AIMED STRAIGHT DOWN AND MEET IESNA FULL-CUTOFF CRITERIA.







PLAN CYCLI LLC BLM LOPMENT COMBINE COMBINE , W Q AND I $\mathbf{\Omega}$



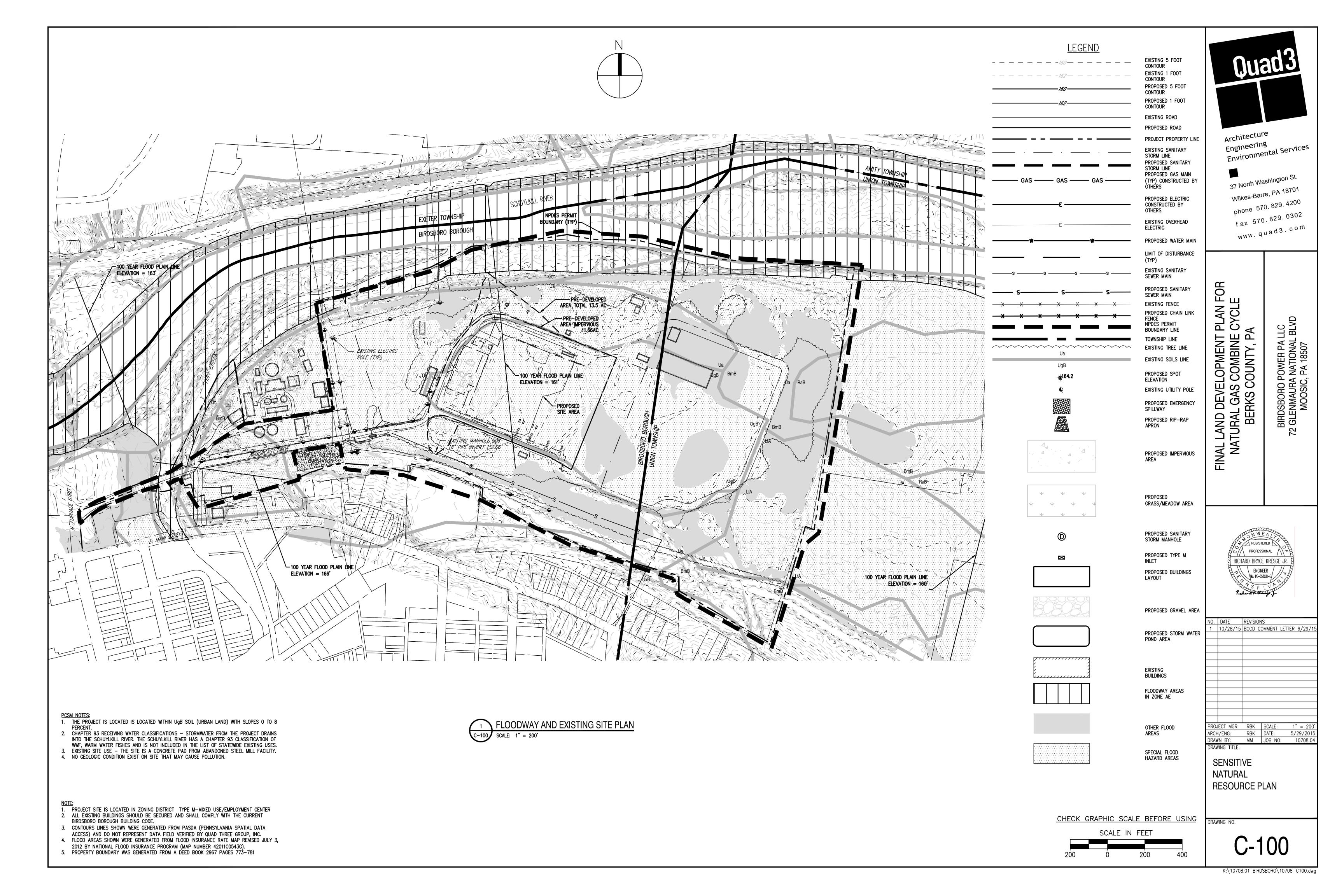
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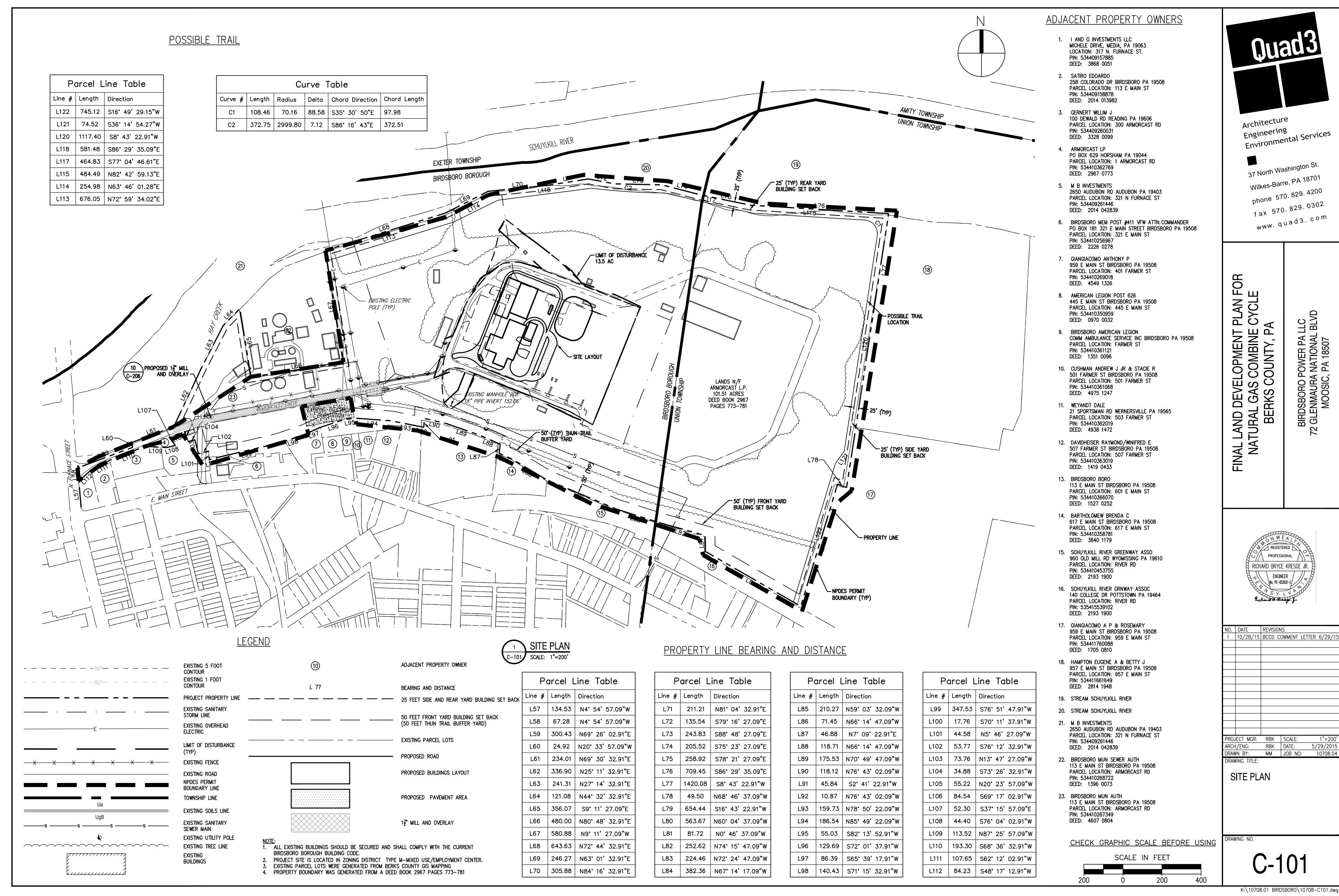
CIVIL ENGINEERING **NOTES**

DRAWING NO.

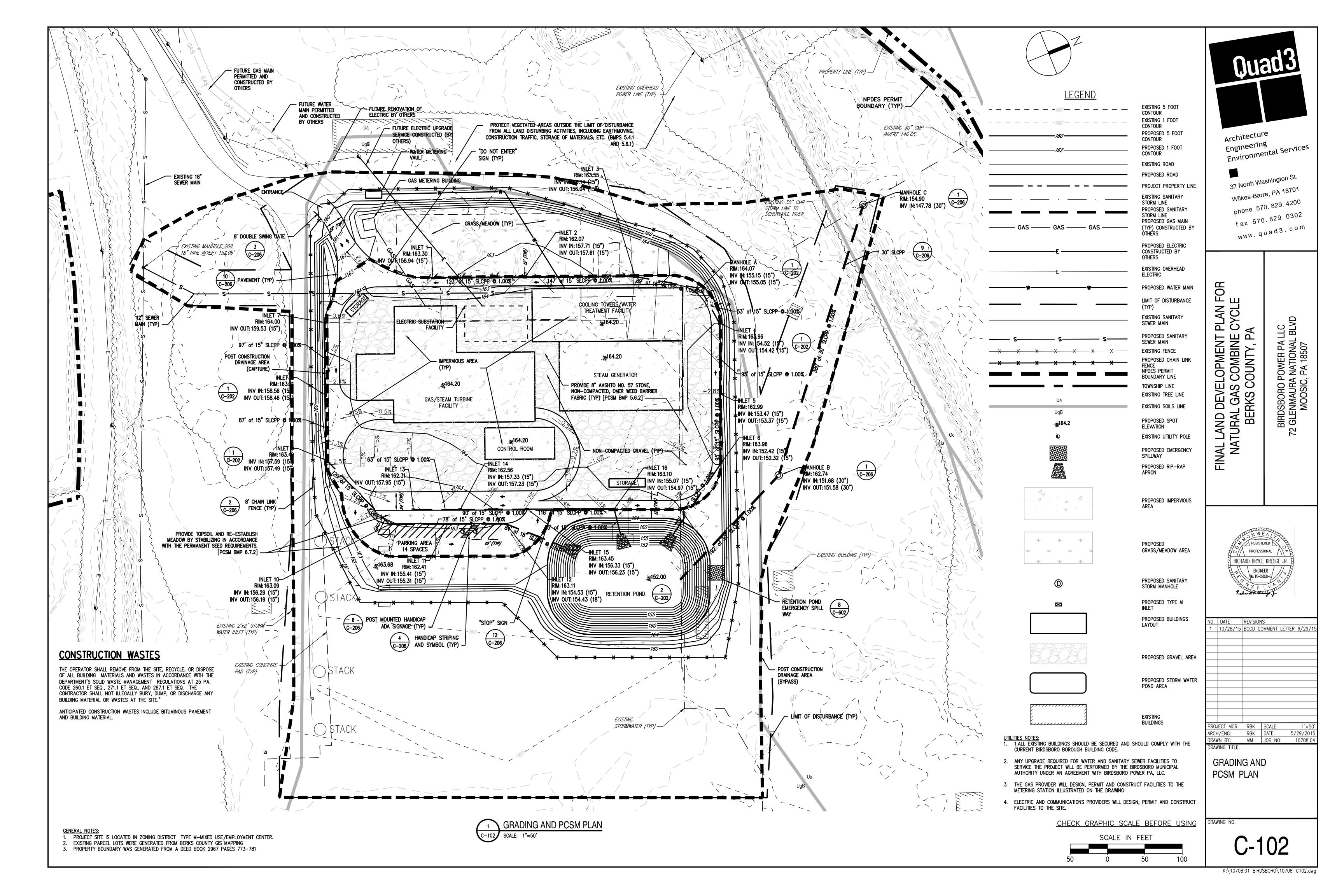
CONSTRUCTION ENTRANCE

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5/29/20 MM JOB NO: 10708.04



SOIL MAP UNIT DESCRIPTIONS

SOIL TYPES WITHIN THE LIMIT OF DISTURBANCE INCLUDE:

UgB - URBAN LAND PENN COMPLEX, O TO 8 PERCENT SLOPES

URBAN LAND CONSISTS OF AREAS WHERE 75 PERCENT OR MORE OF THE SURFACE IS COVERED BY ROADS. STREETS, PARKING LOTS, HOUSES, SHOPPING CENTERS FACTORIES, AND OTHER STRUCTURES. ON URBAN LAND THE SOILS ARE SO OBSCURED OR ALTERED THAT THEY COULD NOT BE IDENTIFIED.

TYPICALLY, THE SURFACE LAYER OF THE PENN SOIL IS DARK REDDISH BROWN, FRIABLE SILT LOAM ABOUT 9 INCHES THICK. THE SUBSOIL IS ABOUT 21 INCHES THICK. IT IS REDDISH BROWN, FIRM SILT LOAM TO DEPTH OF 14 INCHES; DUSKY RED, FIRM SILT LOAM TO A DEPTH OF 24 INCHES; AND DUSKY RED, FIRM CHANNERY SILT LOAM TO A DEPTH OF 30 INCHES. FRACTURED, DUSKY RED SILTSTONE BEDROCK IS AT A DEPTH OF ABOUT 38 INCHES.

PERMEABILITY OF THE PENN SOIL IS MODERATE OR MODERATELY RAPID. AVAILABLE WATER CAPACITY IS LOW OR MODERATE. SURFACE RUNOFF IS SLOW OR MEDIUM. IN UNLIMITED AREAS THIS SOIL IS EXTREMELY ACID TO STRONG ACID IN THE UPPER PART OF THE SOLUM. DEPTH TO BEDROCK RESTRICTS ROOT PENETRATION.

SOIL USE LIMITATIONS

UgB – URBAN LAND

VERY LIMITED FOR LAWNS AND LANDSCAPING DUE TO:

- ACIDIC DEPTH TO BEDROCK 38 INCHES
- LARGE STONES CONTENT
- LOW EXCHANGE CAPACITY

NOT RATED FOR LAWNS AND LANDSCAPING

RESOLUTIONS TO SOIL USE LIMITATIONS

DROUGHTY - IRRIGATE AS NECESSARY TO ESTABLISH VEGETATIVE STABILIZATION.

SLOPE — GRADE THE SITE AS INDICATED TO ESTABLISH MANAGEABLE SLOPES. LARGE STONES CONTENT — REMOVE AND DISPOSE LARGE STONES WHEN ENCOUNTERED WHEN THEIR PRESENCE IMPACTS.

LOW EXCHANGE CAPACITY - PROVIDE SUITABLE TOPSOIL AND SOIL AMENDMENTS. GRAVEL CONTENT - WHEN ENCOUNTERED IN AREAS TO BE VEGETATED, REMOVE AND DISPOSE EXCESS GRAVEL, OR COVER WITH THE SPECIFIED THICKNESS OF TOPSOIL. DEPTH TO SATURATED ZONE — UTILIZE DEWATERING FACILITIES TO REMOVE SUBSURFACE WATER

ENCOUNTERED DURING EXCAVATION AND TRENCHING OPERATIONS. BENEATH PAVED SURFACES AND ALONG FOUNDATIONS, PROVIDE SUBSURFACE DRAINAGE FACILITIES. DUSTY - KEEP EXPOSED AREAS MOISTENED TO MINIMIZE DUST. DEPTH TO THICK AND THIN CEMENTED PAN - USE APPROPRIATE EXCAVATION EQUIPMENT TO REMOVE CEMENTED PANS WHEN ENCOUNTERED.

FROST ACTION — PROVIDE SUBSURFACE DRAINAGE FACILITIES BENEATH PAVEMENTS AND ALONG FOUNDATIONS. DEPTH TO BEDROCK - USE APPROPRIATE EXCAVATION METHODS WHEN BEDROCK IS ENCOUNTERED

HYDRIC RATING BY MAP UNIT

MAP UNIT RATING*

Gc RaB 2,3 LfA UgB UxB

*RATING INDICATES THE PERCENTAGE OF MAP UNITS THAT MEETS THE CRITERIA FOR HYDRIC SOILS

SOIL ON SITE:

BmB - BIRDSBORO SILT LOAM, 3 TO 8 PERCENT SLOPES

- BOWMANSVILLE-KNAUERS SILT LOAMS

- GIBRALTAR SILT LOAM

- LAMINGTON SILT LOAM, 0 TO 3 PERCENT SLOPES

- RARITAN SILT LOAM, 3 TO 8 PERCENT SLOPES

UDORTHENTS

- URBAN LAND, 0 TO 8 PERCENT SLOPES

- URBAN LAND-PENN COMPLEX, 0 TO 8 PERCENT SLOPES

CHAPTER 93 RECEIVING WATER CLASSIFICATIONS

STORMWATER FROM THE PROJECT DRAINS INTO THE SCHUYLKILL RIVER. THE SCHUYLKILL RIVER HAS A CHAPTER 93 CLASSIFICATION OF WWF, WARM WATER FISHES AND IS NOT INCLUDED IN THE LIST OF STATEWIDE EXISTING USES.

THERMAL IMPACTS

THERMAL IMPACTS TO SURFACE WATERS WILL BE MITIGATED THROUGH DETENTION POND AND THROUGH CAPTURE AND RE-USE OF RUNOFF WATER. THERMAL IMPACTS WILL BE FURTHER MITIGATED THROUGH DISCHARGE OF RE-USED WATER PRIOR TO DISCHARGE TO THE SCHUYLKILL RIVER.

PCSM PLAN GENERAL

1. STORM WATER DESIGN COMPLY WITH SG 1, THEREFORE THIS PROJECT PRESERVES THE INTEGRITY OF STREAM CHANNELS AND MAINTAIN AND PROTECT THE PHYSICAL, BIOLOGICAL AND CHEMICAL QUALITIES OF THE RECEIVING STREAM.

MAINTENANCE PROGRAM

- THE OPERATOR SHALL MAINTAIN ALL TEMPORARY BMPS, INCLUDING SEDIMENT BARRIERS, COLLECTORS, AND FILTERING DEVICES UNTIL EACH RESPECTIVE SITE IS STABILIZED. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGARDING, RESEEDING, REMULCHING, AND RENETTING SHALL BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENT CONTROL BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
- SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED BY THE OPERATOR IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE
- SWALES AND IMMEDIATELY STABILIZED. BMPS SHALL BE CLEANED OF SEDIMENT BY THE OPERATOR WHEN IT ACCUMULATES TO ONE-HALF THE STRUCTURE HEIGHT, UNLESS OTHERWISE NOTED.
- ANY BMPS DISTURBED DURING DAILY CONSTRUCTION OPERATIONS SHALL BE REPLACED OR RECONSTRUCTED BY THE OPERATOR AT THE END OF EACH WORKDAY. AT THE END OF EACH WORKDAY. ALL SEDIMENT DEPOSITED ON ANY IMPERVIOUS SURFACE SHALL BE REMOVED BY THE OPERATOR AND PLACED IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES. WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED. WASHING OF PAVEMENT OR OTHER IMPERVIOUS SURFACES WITH WATER IS NOT PERMITTED.
- THE OPERATOR SHALL MONITOR AND MAINTAIN SEEDED AND MULCHED AREAS ON A DAILY BASIS UNTIL PROPER STABILIZATION AS INTENDED IS ACHIEVED. ALL BMPS SHALL REMAIN IN PLACE UNTIL THEIR CONTRIBUTING AREAS ARE PERMANENTLY STABILIZED.
- THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT POLLUTION CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE LUZERNE CONSERVATION DISTRICT, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.

POST-CONSTRUCTION STORMWATER MANAGEMENT NOTES

- THE CAPTURE AND RE-USE SYSTEM INCLUDED IN THIS PCSM PLAN WILL PRESERVE THE INTEGRITY OF STREAM CHANNELS AND MAINTAIN AND PROTECT THE PHYSICAL,
- BIOLOGICAL, AND CHEMICAL QUALITIES OF THE RECEIVING STREAM BY ELIMINATING DISCHARGE FROM NEW IMPERVIOUS AREAS TO THE RECEIVING WATER. IMPERVIOUS AREAS AND SOIL COMPACTION WILL BE MINIMIZED TO THE MAXIMUM PRACTICAL EXTENT THROUGH THE USE OF NON-COMPACTED STONE STABILIZATION RATHER THAT ASPHALT PAMNG.
- THE SITE CONTAINS LIMITED EXISTING VEGETATION AND DRAINAGE FEATURES. THESE LIMITED FEATURES WILL BE PROTECTED BY CONFINING ALL EARTH DISTURBANCE,
- LAND CLEARING, AND GRADING TO THE LIMIT OF DISTURBANCE ON THE PLAN DRAWINGS. STORMWATER FROM THE PROJECT DRAINS INTO THE SCHUYLKILL RIVER. THE SCHUYLKILL RIVER HAS A CHAPTER 93 CLASSIFICATION OF WWF, WARM WATER FISHES AND IS NOT INCLUDED IN THE LIST OF STATEWIDE EXISTING USES.
- THE SITE CONTAINS NO EXISTING OR PROPOSED RIPARIAN BUFFERS. THERMAL IMPACTS WILL BE AVOIDED SINCE ALL OVERFLOW STORMWATER FROM THE SITE WILL DISCHARGE THROUGH A PERMITTED OUTFALL THAT LEADS TO AN EXISTING OPEN CHANNEL. THE OPEN CHANNEL IS MINIMALLY SLOPED WITH NUMEROUS POOLS, WHICH RESULTS IN A VERY LOW FLOW VELOCITY. THIS VELOCITY, COUPLED WITH THE LONG RUN OF THE CHANNEL TO THE SCHUYLKILL RIVER, PROVIDES AN OPPORTUNITY FOR THE DISCHARGE WATER TO COOL PRIOR TO ENTERING THE RIVER.

PROJECT CONSTRUCTION WASTES

- ANTICIPATED CONSTRUCTION WASTES WILL INCLUDE UNUSED BUILDING MATERIALS, EXCESS CUT AND/OR FILL MATERIAL, AND REMOVED TEMPORARY BMPS THAT CANNOT BE REUSED OR RECYCLED.
- ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1, AND 287.1 ET. SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED. BURIED. DUMPED, OR DISCHARGED AT THE SITE.

SEQUENCE OF INDIVIDUAL BMP CONSTRUCTION

NOTE: CRITICAL STAGES OF PCSM BMP INSTALLATION ARE IDENTIFIED IN <u>UNDERLINED</u> PRINT IN THE SEQUENCE OF INDIVIDUAL BMP INSTALLATION. CRITICAL STAGES ARE THOSE STAGES DURING WHICH A LICENSED PROFESSIONAL OR HIS DESIGNEE MUST BE PRESENT TO OBSERVE AND INSPECT CONSTRUCTION.

BMP CONSTRUCTION SEQUENCE: CAPTURE AND RE-USE RETENTION POND

- EXCAVATE BED AND PREPARE SUBGRADE AS INDICATED ON THE PLANS.
- PLACE BEDDING STONE AT DEPTH INDICATED ON PLANS. COMPACT TO ACHIEVE A FLAT AND LEVEL SURFACE. INSTALL PRECAST CONCRETE SECTIONS AT LEVEL GRADE AT TO THE ELEVATION INDICATED ON THE PLAN.
- INSTALL 30" SLCPP WITH A WATERTIGHT CONNECTION TO RESERVOIR. CAP END UNTIL STORMWATER CONTROL MANHOLES B AND C ARE PLACED.
- NOTIFY DESIGN ENGINEER OR HIS DESIGNEE PRIOR TO BACKFILLING AND ALLOW HIM TO INSPECT THE INSTALLATION, CAREFULLY PLACE AND COMPACT BACKFILL TO INVERT ELEVATIONS OF INFLOW PIPES.
- INSTALL REST OF THE PIPES WITH WATERTIGHT CONNECTIONS TO THE RESERVOIR (DETENTION POND).
- INSTALL RIP RAP APRONS 1,2 AND 3.
- UPON DESIGN ENGINEER'S SATISFACTORY INSPECTION, BACKFILL AROUND RESERVOIR TO FINAL SUBGRADE ELEVATION. 10. NOTIFY DESIGN ENGINEER OR HIS DESIGNEE PRIOR TO BACKFILLING AND ALLOW HIM TO INSPECT THE INSTALLATION.
- 11. CAREFULLY PLACE AND COMPACT BACKFILL TO FINAL SUBGRADE ELEVATION.
- BMP CONSTRUCTION SEQUENCE: NONCOMPACTED GRAVEL STABILIZATION

- ROUGH GRADE TO FINAL SUBGRADE ELEVATION, AVOIDING EXCESSIVE COMPACTION. OPERATE EXCAVATING EQUIPMENT FROM THE PERIMETER OF THE AREA TO BE STABILIZED WITH NON-COMPACTED GRAVEL.
- ROTOTILL SUBGRADE SOILTO A DEPTH OF 8 INCHES
- PLACE WEED BARRIER FABRIC.
- WHERE POSSIBLE, APPLY STONE FROM THE PERIMETER OF THE AREA TO BE STONED TO AVOID COMPACTION BY EQUIPMENT TRAFFIC. WHERE THIS NOT POSSIBLE, ROTOTILL SMALL AREAS THAT CAN BE STABILIZED WITHOUT COMPACTION. THEN ROTOTILL AREA COMPACTED BY EQUIPMENT AND STABILIZE, CONTINUING TO THE LIMITS OF THE GRAVEL STABILIZED AREA.
- UPON COMPLETION OF GRAVEL PLACEMENT, AVOID ALL BUT FOOT TRAFFIC ON GRAVEL STABILIZED AREAS.

POST-CONSTRUCTION OPERATION AND MAINTENANCE PLAN

BIRDSBORO POWER PA, LLC.. SHALL OWN THE PCSM BMPS INDICATED HEREON. RESPONSIBILITY FOR OPERATION AND MAINTENANCE OF STORMWATER MANAGEMENT FACILITIES, INCLUDING PERIODIC REMOVAL AND DISPOSAL OF PARTICULATE MATTER AND DEBRIS, SHALL REMAIN WITH BIRDSBORO POWER PA, LLC. AND SHALL BE TRANSFERRED TO THE GRANTEE IF THE PROPERTY IS SOLD IN THE FUTURE. BIRDSBORO POWER PA, LLC., SHALL MAINTAIN PCSM BMPS ACCORDING TO THE FOLLOWING

INSPECTIONS SHALL BE CERTIFIED BY A QUALIFIED PROFESSIONAL. A CERTIFICATE OF INSPECTION SHALL BE PROVIDED TO BIRDSBORO BOROUGH AT THE REQUIRED

BMP SPECIFIC OPERATION AND MAINTENANCE PROCEDURES

BIRDSBORO POWER PA, LLC. WILL PERFORM THE FOLLOWING OPERATION AND MAINTENANCE TASKS AT REGULARLY SCHEDULED INTERVALS OF 6 MONTHS AND FOLLOW EACH MAJOR STORM EVENT (>1 INCH RAINFALL DEPTH).

CAPTURE AND RE-USE RESERVOIR MAINTENANCE ISSUES:

INSPECT RESERVOIR AND INLETS AND MANHOLES UPSTREAM OF RESERVOIR FOR DEBRIS, OILS, AND SEDIMENT. REMOVE GRATE OR COVER AND VACUUM OR MANUALLY REMOVE DEBRIS, OILS, AND SEDIMENT WHEN OBSERVED REPLACE GRATE OR COVER. RECORD DEPTH AND DATE AND SCHEDULE NEXT INSPECTION.

STORMWATER CONTROL MANHOLE SUMP MAINTENANCE ISSUES: INSPECT STORMWATER CONTROL MANHOLE SUMP FOR THE PRESENCE OF ACCUMULATED DEBRIS, OIL, AND SEDIMENT. REMOVE DEBRIS, OIL, AND SEDIMENT UPON REACHING A DEPTH OF 6 INCHES.

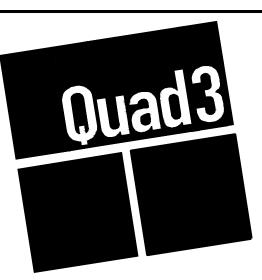
STORM SEWERS INSPECT STORMWATER INLETS, MANHOLES, AND PIPING FOR DEBRIS, OILS, AND SEDIMENT. REMOVE DEBRIS, OIL, AND SEDIMENT WHEN OBSERVED.

NON-COMPACTED GRAVEL

AVOID ALL BUT FOOT TRAFFIC ON NON-COMPACTED GRAVE AREAS. INSPECT FOR SIGNS OF COMPACTION AND LOSS OF STONE LAYER THICKNESS. WHERE STONE LAYER THICKNESS OF LESS THAN 6 INCHES ARE OBSERVED, SUPPLEMENT STONE WITH LOOSE AASHTO NO. 57 STONE TO THE REQUIRED THICKNESS OF 8 INCHES. WHERE SIGNS OF COMPACTION ARE OBSERVED, INCLUDING CLOGGING BY SEDIMENT AND/OR DEBRIS, REMOVE STONE AND REPLACE WITH CLEAN AASHTO NO. 57 STONE.

MEADOW (SEEDED) AREAS

IN THE FIRST YEAR, CONTROL WEEDS BY MOWING THEM BACK TO 4-6 INCHES TALL WHEN THEY REACH 12 INCHES IN HEIGHT. IN THE SECOND YEAR, CONTINUE MONITORING AND MOWING WEEDS AND TREAT RHIZOMATOUS WEEDS WITH HERBICIDE, EXERCISING CAUTION TO AVOID CONTACT OF SPRAY DRIFT WITH DESIRABLE PLANTS. IN THE BEGINNING OF THE THIRD SEASON, MOW VERY CLOSELY TO THE GROUNG AND REMOVED THE MOWED MATERIAL. THEREAFTER, MONITOR FOR BARE SPOTS, SUPPLEMENTING THEM WITH THE PERMANENT SEEDMIX WHEN OBSERVED.



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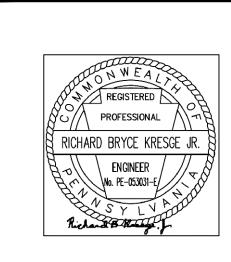
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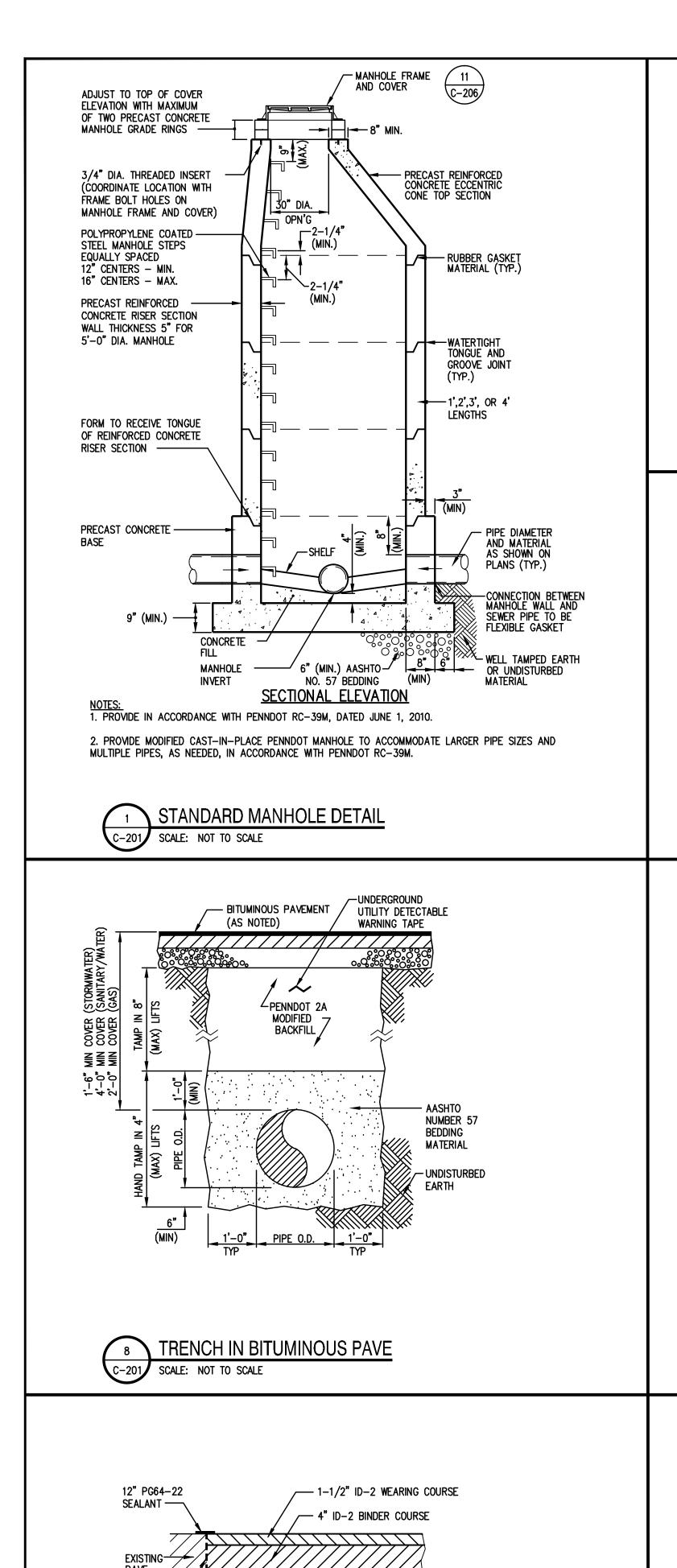
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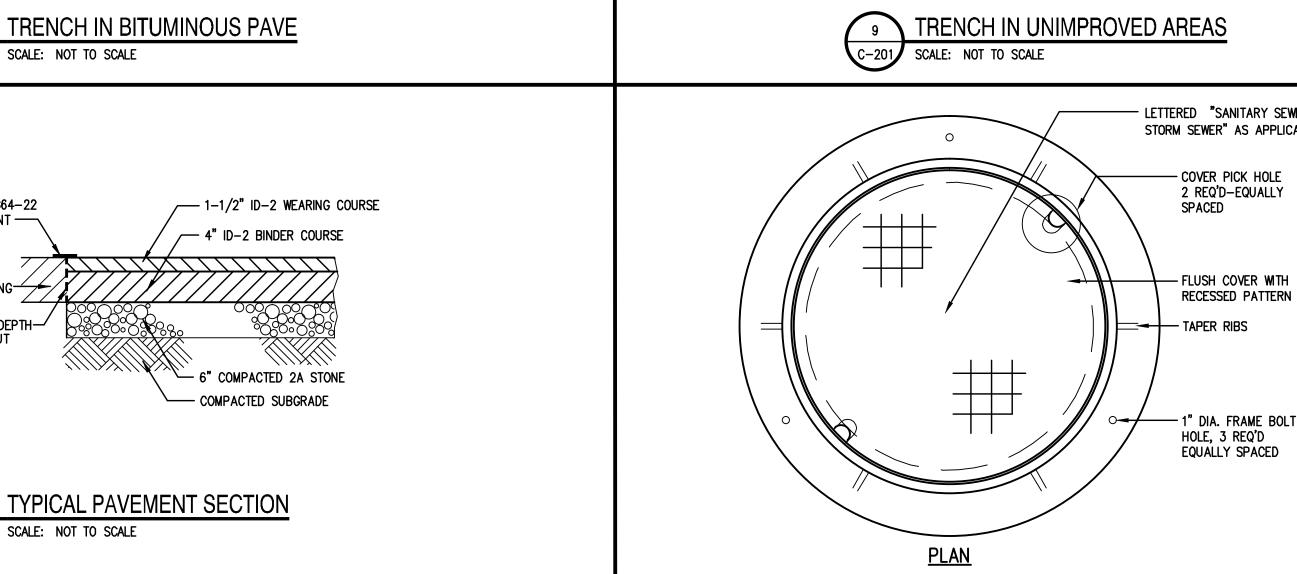


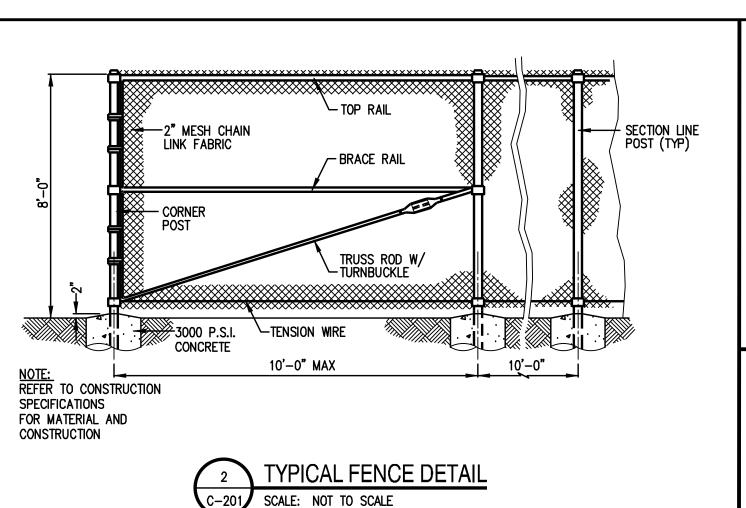
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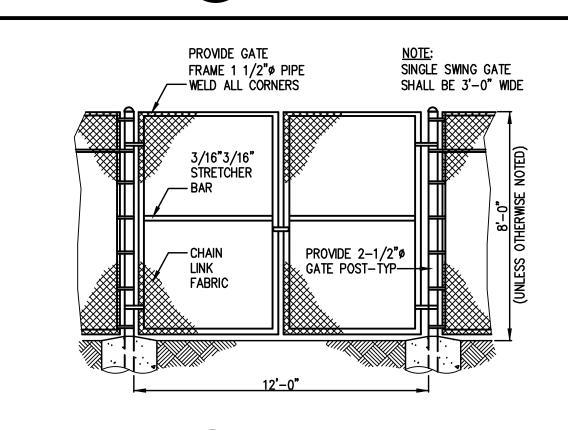
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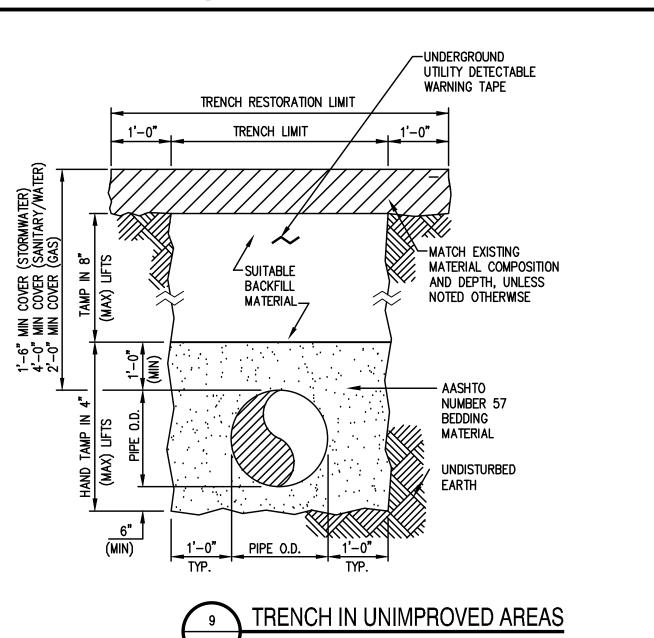
PCSM NOTES



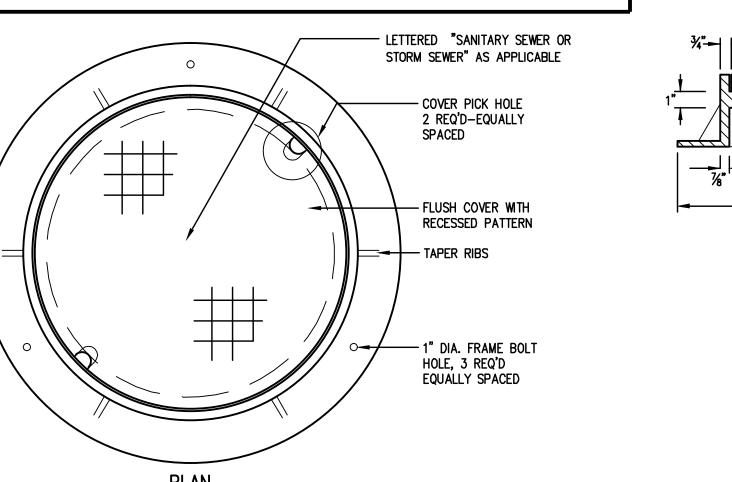


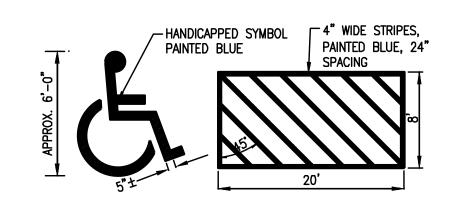




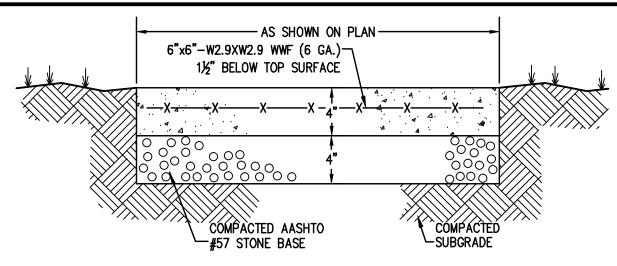


DOUBLE SWING GATE DETAIL

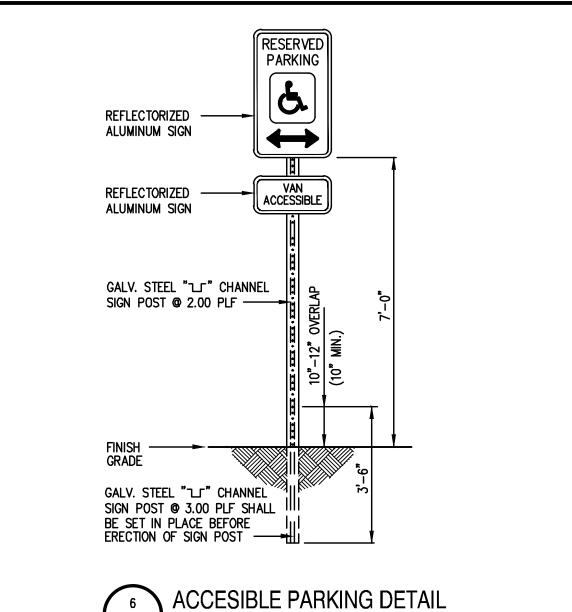




HANDICAP STRIPING AND SYMBOL SCALE: NOT TO SCALE



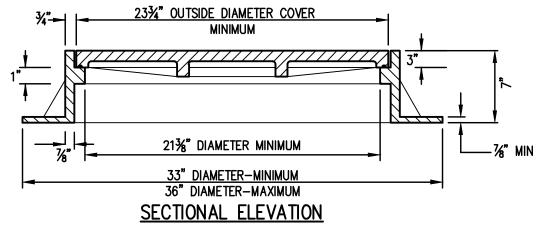
CONCRETE WALK SECTION SCALE: NOT TO SCALE



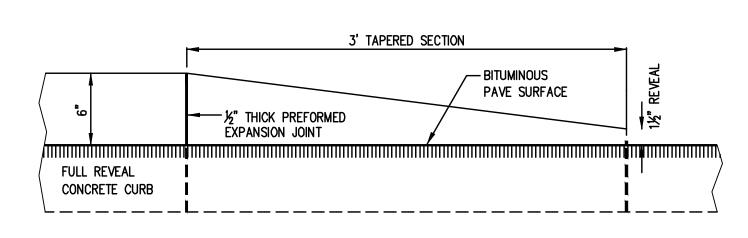
NOTES:
1. PROVIDE 2" HIGH STANDARD FLAT GOTHIC LETTERING.

2. ALL MANHOLE FRAMES AND COVERS SHALL BE FOR HEAVY DUTY TRAFFIC, AASHTO HIGHWAY LOADING CLASS HS-25.

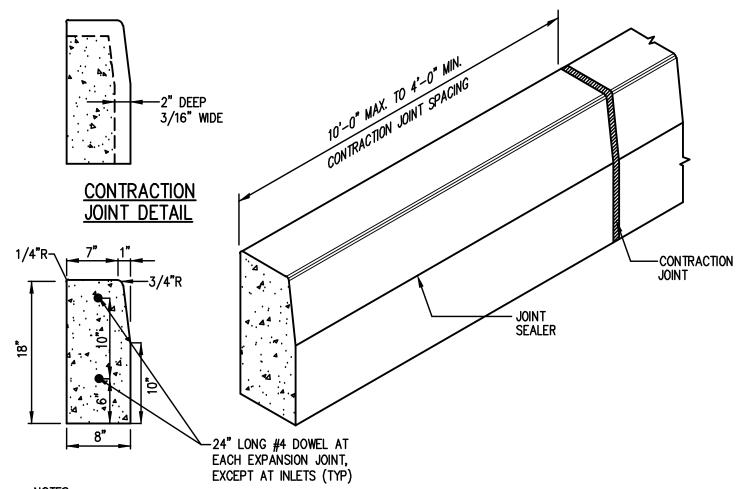
3. PROVIDE TWO (2) 1/8" OLIFTING



STANDARD MANHOLE FRAM AND COVER SCALE: NOT TO SCALE



CONCRETE CURB TAPER DETAIL

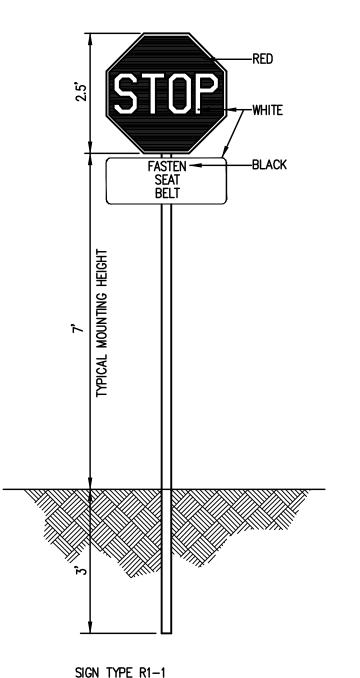


NOTES:

1. PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 630 FOR PLAIN CEMENT CONCRETE CURB AND DEPRESSED CURB.

- 2. PLACE TWO (2) #4 DOWELS, 24" LONG AT EACH EXPANSION JOINT. DO NOT DOWEL INTO INLET TOPS.
- 3. PLACE 1/2" THICK PREMOLDED EXPANSION JOINT FILLER MATERIAL AT 60 FOOT INTERVALS, STRUCTURES AND AT THE END OF THE WORK DAY. CUT MATERIAL TO CONFORM TO AREA ADJACENT TO CURB OR TO CONFORM TO CROSS SECTIONAL AREA OF CURB.
- 4. ANY CURB DAMAGED DURING CONSTRUCTION SHALL BE REPLACED TO THE NEAREST CONTRACTION

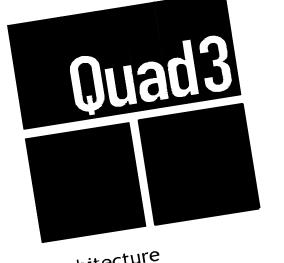




SIGN TYPE R1-1 30"x30" NOTE:

1. FABRICATE ALL SIGN PANELS OF 16 ga. ALUM.
2. POST MOUNT: USE NON—CORROSIVE 3/8* MACHINE BOLTS W/ WASHERS, 2 PER SIGN. 3. WALL MOUNT: USE NON-CORROSIVE 3/8" LAG BOLTS W/ LEAD EXPANSION SHIELDS, 4 PER SIGN.





Architecture Engineering Environmental Services

37 North Washington St. Wilkes-Barre, PA 18701 fax 570.829.0302

phone 570.829.4200 www.quad3.com

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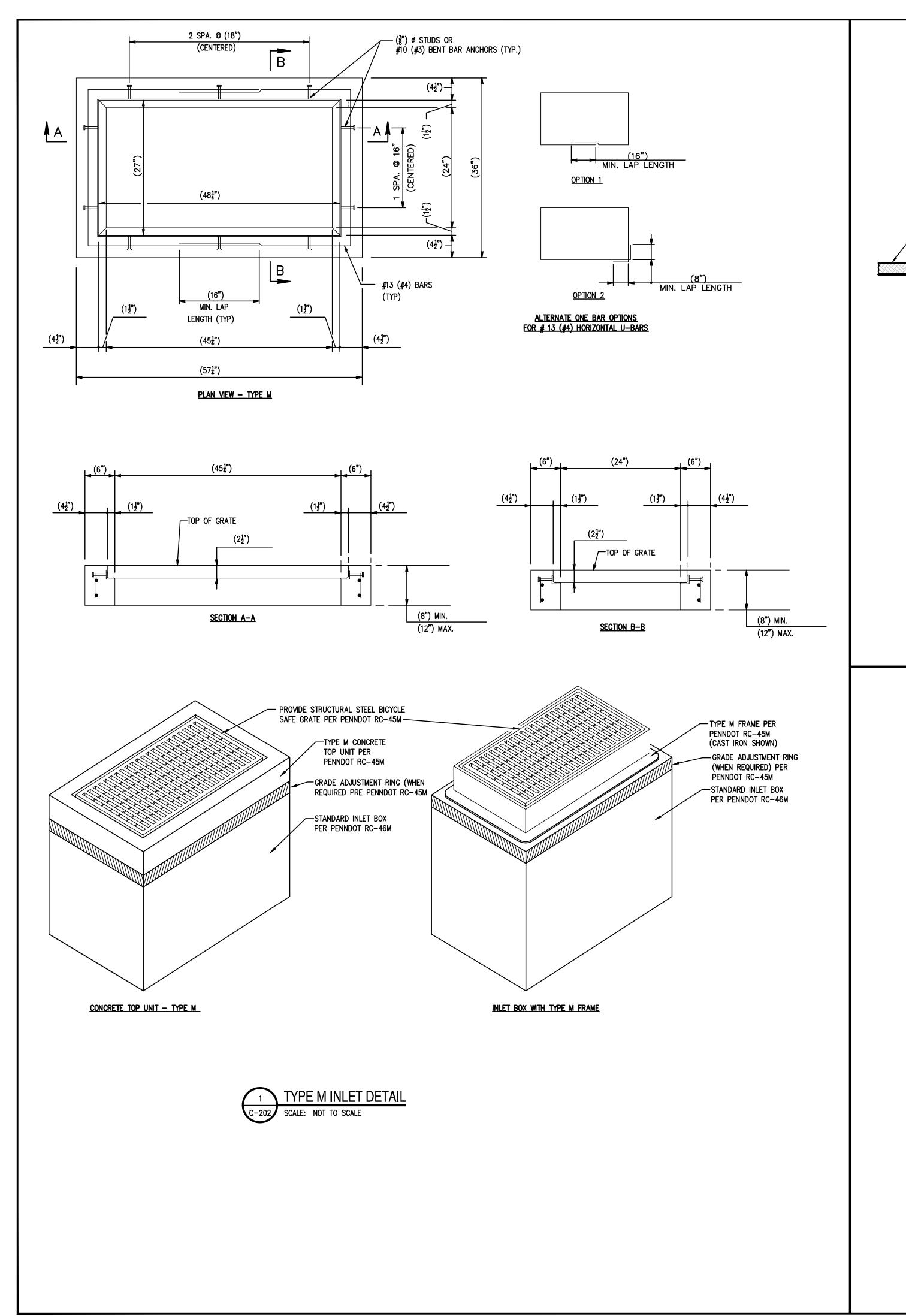
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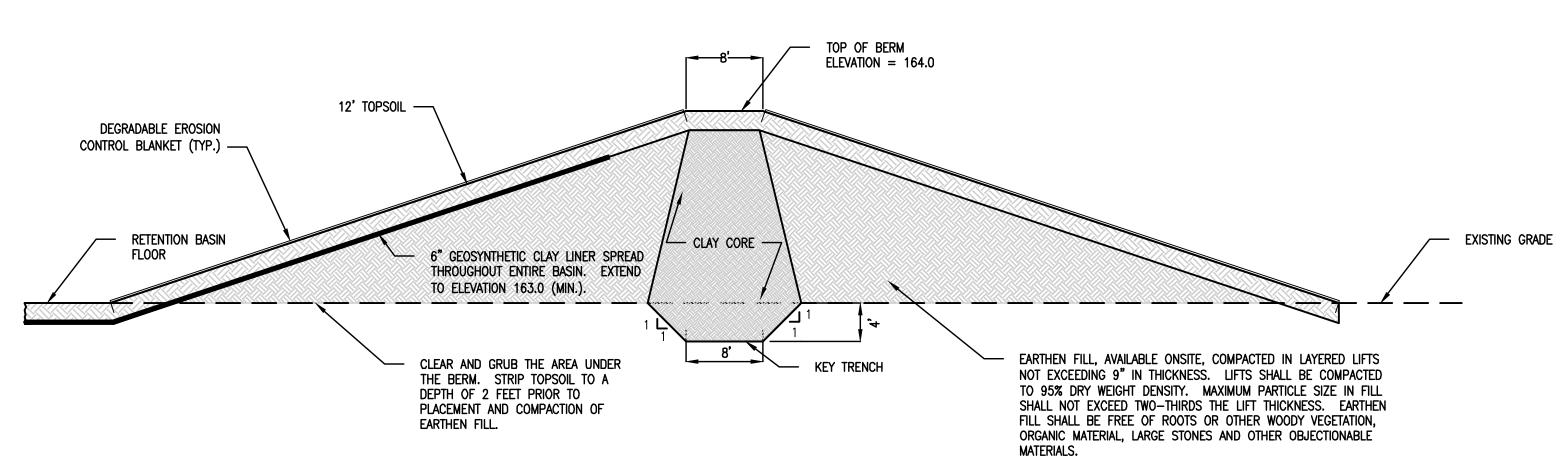
ND DEVELOPMENT PLAN FAL GAS COMBINE CYCLE BERKS COUNTY, PA OWER PA L NATIONAL PA 18507 BIRDSBORO PC 2 GLENMAURA N MOOSIC, F $\mathbf{\Omega}$

> PROFESSIONAL RICHARD BRYCE KRESGE JR. ENGINEER
> No. PE-053031-E

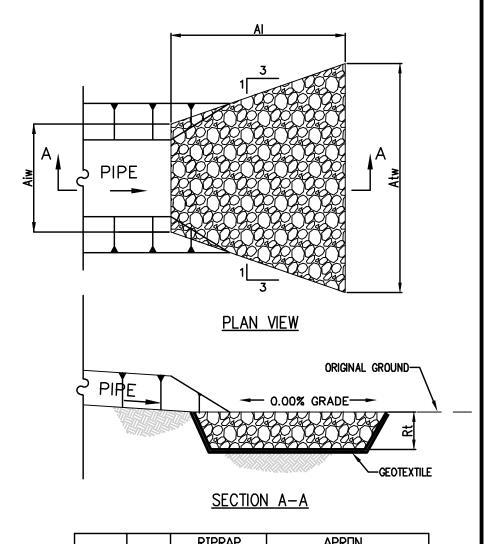
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STORMWATER RETENTION BASIN DETAIL

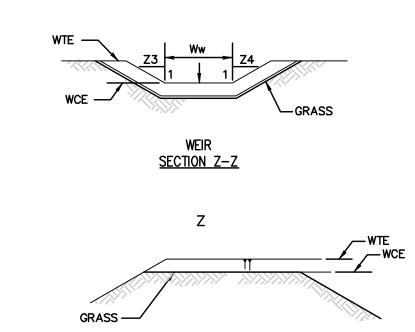


		RIP	RAP	APRON			
OUTLET NO.	PIPE DIA Pd (IN)	SIZE R	THICK. Rt (IN)	LENGTH Al (FT)	INITIAL WIDTH Aiw (FT)	TERMINAL WIDTH Atw (FT)	
1	18	3	9	12	5.5	10.5	
2	15	3	9	9	4.5	8	
3	15	3	9	9	4.5	8	

NOTES:

1. ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN.
TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH
RECEIVING CHANNELS.

ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.



EMBANKMENT SECTION ALONG EMERGENCY SPILLWAY

			WEIR			LINING
POND NO.	Z3 (FT)	Z4 (FT)	TOP ELEV WTE (FT)	CREST ELEV WCE (FT)	WIDTH Ww (FT)	
1	3	3	164.0	163.0	20	R-3

RETENTION POND EMERGENCY SPILLWAY DETAIL



Architecture Engineering Environmental Services

37 North Washington St. Wilkes-Barre, PA 18701 phone 570.829.4200

fax 570.829.0302 www.quad3.com

FINAL LAND DEVELOPMENT PLAN FOR NATURAL GAS COMBINE CYCLE BERKS COUNTY, PA BIRDSBORO POWER PA LLC 72 GLENMAURA NATIONAL BLVD MOOSIC, PA 18507

> RICHARD BRYCE KRESGE JR No. PE-053031-E/ Richard & Marine

NO. DATE REVISIONS | |10/28/15|BCCD COMMENT LETTER 6/29/ PROJECT MGR: RBK SCALE: NONE
ARCH/ENG: RBK DATE: 5/29/2015
DRAWN BY: MM JOB NO: 10708.04

PCSM DETAILS

DRAWING NO.