



LEGEND	
	OVERHEAD ELECTRIC
	UNDERGROUND ELECTRIC
	ELECTRIC BOX
	ELECTRIC MANHOLE
	ANCHOR POLE
	LIGHT POLE
	UTILITY POLE
	GROUND LIGHT
	OVERHEAD TELEPHONE
	UNDERGROUND TELEPHONE
	TELEPHONE BOX
	TELEPHONE MANHOLE
	BOLLARDS
	SIGN
	MAIL BOX
	WATER LINE
	WATER VALVE
	FIRE HYDRANT
	WATER METER
	WATER VALVE BOX
	WATER VALVE MANHOLE
	POST INDICATOR VALVE
	GAS LINE
	GAS METER
	GAS VALVE
	GAS VALVE BOX
	UTILITY MANHOLE
	SEWER MANHOLE
	STORM MANHOLE
	DITCH OR CREEK
	GUARDRAIL
	FENCE LINE
	R/W FENCE LINE

REVISIONS		ITEM
DATE	#	

CARDINAL
ENGINEERING
LAND SURVEYING
ONE MOOCK ROAD
WILDER, KENTUCKY 41071
PHONE: (859) 581-9600
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CIVIL SITE IMPROVEMENTS
Fort Thomas Independent Schools
Johnson Elementary School
1180 North Fort Thomas Avenue Fort Thomas, Kentucky 41075

PROJECT: CLIENT:

DRAWN BY:
CWH

CHECKED BY:
KGH

PROJECT MANAGER:
KGH

SEAL

PROJECT NO. 22-023

SCALE 1" = 20'

DATE 03-21-22

EXISTING CONDITIONS

SHEET **V-100**

1. ALL WORK TO BE DONE IN ACCORDANCE WITH THE CITY OF FORT THOMAS ZONING REGULATIONS.
2. VERIFY EXISTENCE AND LOCATION OF ALL UTILITIES BEFORE STARTING CONSTRUCTION. INFORM OWNER OF ANY DISCREPANCIES.
3. CONTRACTOR TO VISIT SITE & BECOME FAMILIAR WITH EXISTING CONDITIONS PRIOR TO SUBMITTING BIDS.
4. APPROPRIATE UTILITY COMPANIES SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO BREAKING GROUND FOR THE PURPOSE OF VERIFYING BY FIELD INSPECTION THE EXACT LOCATION OF UNDERGROUND UTILITIES.
5. ALL GROUND SURFACE AREAS THAT HAVE BEEN EXPOSED OR LEFT BARE AS A RESULT OF CONSTRUCTION AND ARE TO FINAL GRADE, ARE TO REMAIN SO, SHALL BE SEEDED AND MULCHED AS SOON AS PRACTICAL IN ACCORDANCE WITH SANITATION DISTRICT NO. 1'S BEST MANAGEMENT PRACTICES.
6. GEOTECHNICAL ENGINEERING SERVICES ARE NOT REQUIRED AS A PART OF THIS PLAN AND A FOUNDATION CONSULTANT IS TO BE OBTAINED BY THE OWNER/DEVELOPER TO REVIEW THE PLANS PRIOR TO FINALIZING DESIGN AND THE COMMENCEMENT OF CONSTRUCTION. THE GEOTECHNICAL ENGINEER IS TO PROVIDE WHATEVER EXPLORATIONS AND SERVICES DEEMED NECESSARY:
 - A. TO MONITOR THE EARTHWORK AT THE VARIOUS STAGES OF DEVELOPMENT;
 - B. TO PROVIDE CONSTRUCTION REVIEW SERVICES;
 - C. TO PERFORM ON SITE INSPECTION AND TESTING TO ASSURE THAT ALL WORK UNDER HIS JURISDICTION IS PERFORMED IN ACCORDANCE WITH GOOD ENGINEERING PRACTICES, AND CONFORMS TO THE REGULATIONS OF GOVERNMENTAL AGENCIES.
7. ALL UNDERGROUND UTILITIES MUST BE INSTALLED PRIOR TO INSTALLATION OF PAVEMENT AND CURB AND GUTTER.
8. FLOWABLE FILL (CONTROLLED LOW STRENGTH MORTAR) SHALL BE PER KYTC SPECIFICATION 601.03.03.
9. CONTRACTOR SHALL PERFORM ALL WORK PER APPLICABLE REQUIREMENTS OF OSHA, LOCAL CODES & ORDINANCES. COMPLY WITH ALL REQUIREMENTS FOR PERMITS, LICENSES, FEES & TAXES AND PAY ALL ASSOCIATED COSTS.
10. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH OWNER. PROVIDE BARRICADES, LIGHTING, SIGNS & MARKERS AS REQUIRED TO PROTECT VEHICULAR & PEDESTRIAN TRAFFIC. MAINTAIN FACILITY SECURITY AS DIRECTED BY OWNER.
11. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.

1. UTILITY TAPS: CONTRACTOR TO MAKE ALL ARRANGEMENTS, OBTAIN ALL PERMITS AND PAY ALL FEES IN CONJUNCTION WITH THIS WORK. FURNISH ESTIMATED SIZE/DEMAND AND LOCATION TO UTILITY OWNER. ALL WORK TO BE PERFORMED IN STRICT ACCORDANCE WITH UTILITY COMPANY REQUIREMENTS. PROVIDE ALL MATERIALS AND INSTALLATIONS NOT FURNISHED BY UTILITY CO.
2. UTILITY CROSSING (VERTICAL) CONFLICTS SHALL BE RESOLVED ACCORDING TO THE FOLLOWING RULES AND HIERARCHY: SANITARY HAS FIRST PRIORITY, STORM HAS SECOND PRIORITY, DUE TO BOTH BEING GRAVITY SYSTEMS. NO OTHER UTILITY SHALL BE INSTALLED TO CONFLICT WITH STORM AND SANITARY. ALL OTHER UTILITIES NEED TO COORDINATE CLEARANCES AND LOCATIONS WITH EACH OTHER, CITY INSPECTOR, AND PUBLIC UTILITY WITH THE PRIORITY GIVEN TO EACH PLACING UTILITY. ALL CROSSINGS SHALL BE MAINTAINED AND BE BASED ON ORDER OF INSTALLATION, WITH ALL WORK ADHERING TO MINIMUM COVER AND CLEARANCES. MAINTAIN 18-INCH MINIMUM CLEARANCE TYPICAL BETWEEN ALL UTILITIES AT CROSSINGS.

1. PROPOSED TELEPHONE AND CABLE CONDUITS SHALL BE PVC SCHEDULE 40. ALL OF THESE CONDUITS SHALL HAVE PULL STRING AND BURIED UTILITY LOCATOR TAPE FURNISHED AND INSTALLED. DIRECT BURIED ELECTRICAL CONDUITS (NOT CONCRETE ENCASED) SHALL BE SCHEDULE 40 (NEMA TC-2), 90 DEGREE C RATED.
2. ALL CHANGES OF DIRECTION IN CONDUIT TO BE GENTLE SWEEPS (NOT SHARP BENDS).
3. ALL MATERIALS METHODS AND WORKMANSHIP TO COMPLY WITH N.E.C. CODES AND REGULATIONS.

1. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA): IT SHALL BE THE FULL AND COMPLETE RESPONSIBILITY OF THE CONTRACTOR TO MEET AND COMPLY WITH SAFETY REQUIREMENTS AND REGULATIONS AS ESTABLISHED BY ANY OTHER REGULATORY BODY. THE CONTRACTOR SHALL NOT PERFORM ANY SAFETY COMPLIANCE INSPECTIONS, AS THE CONTRACTOR HAS ACCEPTED FULL AND COMPLETE RESPONSIBILITY FOR PERFORMING SUCH INSPECTIONS FOR COMPLIANCE TO THE REGULATIONS. THE CONTRACTOR SHALL INDEMNIFY AND PROTECT AND HOLD HARMLESS THE OWNER AND ENGINEER FROM ANY LOSS, DAMAGES, COSTS, REPAIRS, AND ATTORNEY'S FEES, ARISING OUT OF ANY SAFETY VIOLATION SUITS BROUGHT BY INJURED PERSONS AND/OR FINES LEVIED BY OSHA OR ANY OTHER REGULATORY BODY, AS A RESULT OF THE CONTRACTOR'S WORK.

1. THE CONTRACTOR SHALL ADHERE TO ALL GEOTECHNICAL ENGINEER'S RECOMMENDATIONS AS INDICATED IN THE REPORT PREPARED BY THELEN ASSOCIATES DATED 09-27-2013.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EMPLOY TRENCHING, SHORING, BACKFILLING, AND GENERAL CONSTRUCTION METHODS AS NECESSARY TO PREVENT DAMAGE TO PROPERTY, PAVEMENT, STRUCTURES, AND INFRASTRUCTURE ADJACENT TO THE SITE. UNBACKFILLED TRENCH LENGTHS SHALL BE KEPT TO A MINIMUM AND/OR SHORING SHOULD BE EMPLOYED AS NEEDED TO PREVENT SOIL MOVEMENTS ADJACENT TO UNBACKFILLED TRENCHES. ALL BEDDING AND GRANULAR BACKFILL MATERIAL SHALL BE COMPACTED PER THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

1. THE LOCATION OF UNDERGROUND PUBLIC OR QUASI-PUBLIC UTILITIES AND SUBSTRUCTURES SHOWN HEREON, ARE BASED UPON FIELD LOCATION OF SURFACE AND ABOVE GRADE STRUCTURES, AND IMPROVEMENT PLANS PROVIDED TO US, AND MAY NOT COMPLETELY ADDRESS THE SUBJECT PROPERTY. LOCATIONS OF UNDERGROUND UTILITIES AND SUBSTRUCTURES MAY VARY FROM LOCATIONS SHOWN HEREON, AND ADDITIONAL UTILITIES AND SUBSTRUCTURES MAY BE ENCOUNTERED. TYPE OF MATERIAL AND GRADIENT FOR SEWER PIPES AND WATER LINES IS INDICATED WHERE DISCERNIBLE, OR AS INDICATED ON UTILITY PLANS (WHEN ACQUIRED).
2. SUBMIT SCHEDULE TO OWNER INDICATING PROPOSED METHODS, SCHEDULE OF WORK AND COORDINATION WITH OWNER'S OPERATIONS.
3. DO NOT BEGIN DEMOLITION WORK IN ANY AREA UNTIL OWNER HAS REMOVED ALL EQUIPMENT AND OTHER APPURTENANCES NOT INCLUDED IN THE SCOPE OF WORK.
4. CONDUCT OPERATIONS IN CONFORMANCE WITH ALL RULES, ORDINANCES AND REGULATIONS OF AUTHORITIES HAVING JURISDICTION.
5. PROVIDE TEMPORARY BARRICADES AND OTHER FORMS OF PROTECTION REQUIRED TO PROTECT OWNER'S PERSONNEL AND GENERAL PUBLIC DURING SELECTIVE DEMOLITION WORK EMPLOY POSITIVE METHODS TO PREVENT DUST AND DIRT FROM RISING INTO AIR.
6. MAINTAIN ALL UTILITIES AND RELATED ITEMS INDICATED TO REMAIN AND PROTECT AGAINST DAMAGE DURING DEMOLITION OPERATIONS. REMOVE, CAP, ABANDON AND/OR DISCONNECT ALL UTILITIES AS INDICATED. SEQUENCE WORK AS REQUIRED. DO NOT DISRUPT ANY UTILITY SERVICE WITHOUT 48 HOUR NOTICE TO, AND PRIOR APPROVAL FROM OWNER.
7. EXERCISE CARE TO PREVENT DAMAGING EXISTING UTILITIES, STRUCTURES, AND FINISHES TO REMAIN. REPAIR ANY DAMAGED ITEMS TO THE SATISFACTION OF OWNER.
8. COMPLETELY FILL BELOW GRADE AREAS AND VOIDS RESULTING FROM DEMOLITION WORK. PROVIDE SATISFACTORY SOIL MATERIAL AND COMPACTION AS APPROVED BY OWNER'S TESTING AND INSPECTION SERVICE.
9. REMOVE DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM DEMOLITION OPERATIONS FROM THE PROJECT SITE.
10. ALL TREES TO BE SAVED SHALL BE CONSPICUOUSLY DESIGNATED WITH SUITABLE PROTECTIVE TREE BARRIERS AS PURSUANT TO THE CITY OF DAYTON'S HILLSIDE PROTECTION REGULATIONS, SECTION 9.09.

ALL SITE CONCRETE (OUTSIDE THE BUILDINGS) SHALL BE CONCRETE FOR PAYMENT: 4000 PSI AT 28 DAYS, 6% +/- 1% ENTRAINED AIR, 4" MAX. SLUMP, MAX. WATER TO CEMENT RATIO = 0.45, 6 BAG MIX.

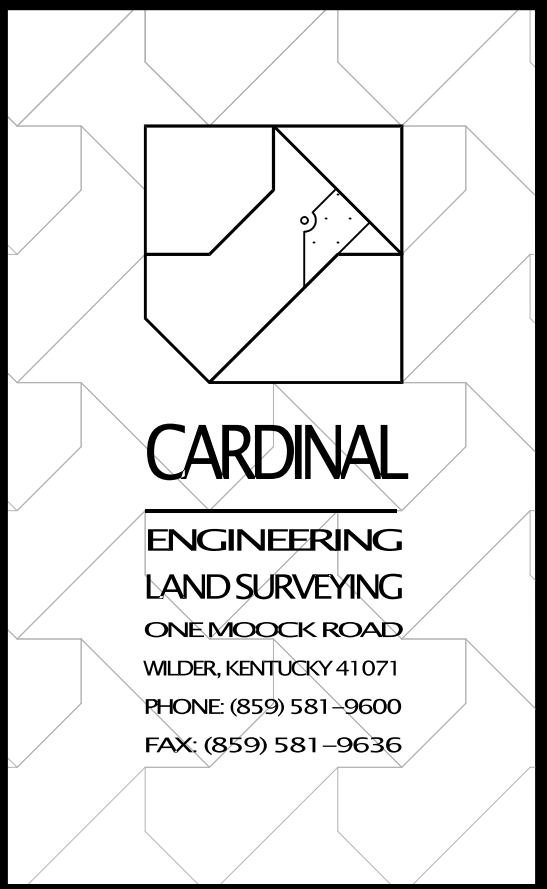
2. FIELD QUALITY CONTROL:

- A. TESTING AGENCY: OWNER WILL ENGAGE A QUALIFIED TESTING AND INSPECTION AGENCY TO SAMPLE MATERIALS, PERFORM TESTS, AND SUBMIT TEST REPORTS DURING CONCRETE PLACEMENT. SAMPLING AND TESTING FOR QUALITY CONTROL MAY INCLUDE THOSE SPECIFIED IN THIS ARTICLE. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE TESTING AGENCY 24 HOURS PRIOR TO STARTING WORK REQUIRING MATERIAL TESTING. FAILURE TO PROVIDE PROPER NOTIFICATION AS PER ABOVE WILL REQUIRE THE CONTRACTOR TO STOP WORK UNTIL PROPER ARRANGEMENTS HAVE BEEN MADE WITH THE TESTING AGENCY.
- B. TESTING SERVICES: TESTING SHALL BE PERFORMED ACCORDING TO THE FOLLOWING REQUIREMENTS:
 - a. SAMPLING FRESH CONCRETE: REPRESENTATIVE SAMPLES OF FRESH CONCRETE SHALL BE OBTAINED ACCORDING TO ASTM C 172, EXCEPT MODIFIED FOR SLUMP TO COMPLY WITH ASTM C 94.
 - b. SLUMP: ASTM C 143; ONE TEST AT POINT OF PLACEMENT FOR EACH COMPRESSIVE-STRENGTH TEST, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH TYPE OF CONCRETE. ADDITIONAL TESTS WILL BE REQUIRED WHEN CONCRETE CONSISTENCY CHANGES.
 - c. AIR CONTENT: ASTM, C 231. PRESSURE METHOD; ONE TEST FOR EACH COMPRESSIVE-STRENGTH TEST, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH TYPE OF AIR-ENTRAINED CONCRETE.
 - d. COMPRESSIVE TEST SPECIMENS: ASTM C 31/C 31 M; ONE SET OF FIVE STANDARD CYLINDERS FOR EACH COMPRESSIVE-STRENGTH TEST, UNLESS OTHERWISE INDICATED. CYLINDERS SHALL BE MOLDED AND STORED FOR LABORATORY-CURED TEST SPECIMENS UNLESS FIELD-CURED TEST SPECIMENS ARE REQUIRED.
 - e. COMPRESSIVE-STRENGTH TEST: ASTM C 39; ONE SET FOR EVERY 50 CUBIC YARDS OF CONCRETE WITH A MINIMUM OF ONE SET FOR EACH CASTING OF CON CRETE, NO MATTER WHAT THE SIZE. TWO SPECIMENS SHALL BE TESTED AT 7 DAYS AND TWO SPECIMENS AT 28 DAYS; ONE SPECIMEN SHALL BE RETAINED IN RESERVE FOR LATER TESTING IF REQUIRED.
 - f. STRENGTH LEVEL OF CONCRETE WILL BE CONSIDERED SATISFACTORY IF AVERAGES OF SETS OF THREE CONSECUTIVE COMPRESSIVE-STRENGTH TEST RESULTS EQUAL OR EXCEED SPECIFIED COMPRESSIVE STRENGTH AND NO INDIVIDUAL COMPRESSIVE-STRENGTH TEST RESULT FALLS BELOW SPECIFIED COMPRESSIVE STRENGTH BY MORE THAN 500 PSI (3.4 MPa).
- C. TEST RESULTS SHALL BE REPORTED IN WRITING TO OWNER, CONCRETE MANUFACTURER, AND CONTRACTOR WITHIN 24 HOURS OF TESTING. REPORTS OF COMPRESSIVE-STRENGTH TESTS SHALL CONTAIN PROJECT IDENTIFICATION NAME AND NUMBER, DATE OF CONCRETE PLACEMENT, NAME OF CONCRETE TESTING AGENCY, CONCRETE TYPE AND CLASS, LOCATION OF CONCRETE BATCH IN PAVEMENT, DESIGN COMPRESSIVE STRENGTH AT 28 DAYS, CONCRETE MIX PROPORTIONS AND MATERIALS, COMPRESSIVE BREAKING STRENGTH, AND TYPE OF BREAK FOR BOTH 7 AND 28DAY TESTS.
- D. NONDESTRUCTIVE TESTING: IMPACT HAMMER, SONOSCOPE, OR OTHER NONDESTRUCTIVE DEVICE MAY BE PERMITTED BY ARCHITECT BUT WILL NOT BE USED AS THE SOLE BASIS FOR APPROVAL OR REJECTION.
- E. ADDITIONAL TESTS: TESTING AGENCY SHALL MAKE ADDITIONAL TESTS OF THE CONCRETE WHEN TEST RESULTS INDICATE SLUMP, AIR ENTRAINMENT, CONCRETE STRENGTHS, OR OTHER REQUIREMENTS HAVE NOT BEEN MET, AS DIRECTED BY ARCHITECT. TESTING AGENCY MAY CONDUCT TESTS TO DETERMINE ADEQUACY OF CONCRETE BY CORED CYLINDERS COMPLYING WITH ASTM C 42, OR BY OTHER METHODS AS DIRECTED. ADDITIONAL TESTING WILL BE AT THE CONTRACTOR'S EXPENSE.

1. INDISCRIMINATE OR ARBITRARY OPERATION OF EQUIPMENT IN ANY STREAM CORRIDORS, ANY SURFACE WATER, OR OUTSIDE THE EASEMENT LIMITS IS PROHIBITED.
2. CLEAR CUTTING, CLEARING AND GRUBBING SHALL BE PHASED TO MAINTAIN COVER UNTIL ACTUAL CONSTRUCTION HAS PROCEEDED TO THE AREA. IN PARTICULAR, CLEARING TO ALLOW PIPE STRINGING MORE THAN 500 FEET IN ADVANCE OF INSTALLATION IS NOT PERMITTED.
3. PUMPING OF SEDIMENT-LADEN WATER FROM TRENCHES OR OTHER EXCAVATION DIRECTLY INTO ANY SURFACE WATERS, ANY STREAM CORRIDORS, OR STORM SEWERS IS PROHIBITED; ALL SUCH WATER SHALL BE PROPERLY FILTERED OR SETTLED TO REMOVE SILT PRIOR TO DISCHARGING INTO ANY DRAIN OR WATERCOURSE.


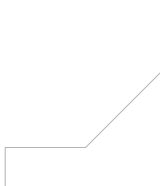
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING BORROW MATERIAL ONSITE AND/OR DISPOSING OF EXCESS EXCAVATED MATERIAL OFF SITE AS REQUIRED TO MEET INDICATED DESIGN ELEVATIONS.
2. COMPACTION REQUIREMENTS, FILL AND BACKFILL, AND GENERAL EARTHWORK/GRADING REQUIREMENTS ARE PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
3. ALL EROSION AND SEDIMENTATION CONTROL SHALL BE PERFORMED AS SHOWN ON THE PLANS, AND SHALL BE IN COMPLIANCE WITH THE CURRENT SDI BEST MANAGEMENT PRACTICES & "NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM" RULES AND REGULATIONS.
4. NOT USED
5. AN AMENDMENT OF THE SWPPP IS REQUIRED WHENEVER A CHANGE IN DESIGN, CONSTRUCTION, AND OPERATION OR MAINTENANCE HAS A SIGNIFICANT EFFECT ON THE POTENTIAL FOR THE DISCHARGE OF POLLUTANTS, OR IF THE SWPPP PROVES TO BE INEFFECTIVE IN ACHIEVING THE GENERAL OBJECTIVES OF THE SWPPP.
6. THE CONTRACTOR SHALL ALSO MAINTAIN THE FOLLOWING RECORDS ON-SITE:
 - A. GENERAL CONTRACTOR AND/OR SUBCONTRACTOR SWPPP CERTIFICATIONS.
 - B. THE DATE, TIME, AND EXACT LOCATION OF THE INSPECTION, AND THE NAME OF THE INSPECTOR.
 - C. AN ASSESSMENT OF THE CONDITION OF THE EROSION CONTROLS.
 - D. A DESCRIPTION OF ANY EROSION CONTROL IMPLEMENTATION AND MAINTENANCE PERFORMED.
 - E. A DESCRIPTION OF THE PRESENT PHASE OF CONSTRUCTION AT THE SITE.
7. A SILT BARRIER FENCE SHALL BE PLACED AROUND THE DOWNSTREAM PERIMETER OF THE SITE AS SHOWN ON THE PLANS. SEE SILT FENCE DETAIL. SEDIMENT CONTROL STRUCTURES SHALL BE FUNCTIONAL AT THE END OF EACH DAY AND SHALL BE INSPECTED WEEKLY OR WITHIN 24 HOURS AFTER A STORM EVENT, WHERE THEY ARE INTENDED TO PROVIDE SEDIMENT CONTROL. SILT FENCES MUST BE PLACED ON LEVEL CONTOUR.
8. PERIMETER SEDIMENT BARRIERS SHALL BE IMPLEMENTED AS THE FIRST STEP OF GRADING WITHIN SEVEN (7) DAYS FROM THE START OF CLEARING AND GRUBBING, AND SHALL CONTINUE TO FUNCTION UNTIL THE SLOPE DEVELOPMENT AREA IS RE STABILIZED.
9. SOIL DISTURBING ACTIVITIES WILL INCLUDE: (1) CLEARING AND GRUBBING; (2) PERIMETER AND OTHER EROSION/SEDIMENT CONTROL MEASURES; (3) GRADING AS SHOWN ON THE PLANS.
10. THE ORDER OF ACTIVITIES WILL BE: (1) CLEAR AND GRUB PROPOSED CONSTRUCTION AREA; (2) INSTALL SILT FENCING AS INDICATED ON THE SITE PLAN; (3) GRADING OPERATIONS.
11. TEMPORARY SOIL STABILIZATION OF DISTURBED AREAS AND TEMPORARY SEEDING SHALL BE COMPLETED PER THE CURRENT SDI BEST MANAGEMENT PRACTICES.
12. THE FOLLOWING ARE THE INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE REQUIRED OF THE CONTRACTOR. THE FOLLOWING WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS: (1) ALL CONTROL MEASURES WILL BE INSPECTED AT LEAST ONCE EACH WEEK AND FOLLOWING ANY STORM EVENT (2) ALL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT; (3) BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE; (4) SILT FENCE WILL BE INSPECTED FOR DEPTH OF SEDIMENT, TENTS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FENCE POSTS ARE FIRMLY IN THE GROUND; (5) TEMPORARY AND PERMANENT SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH; (6) INSPECTION REPORTS TO BE CREATED BY THE CONTRACTOR AND SENT TO SDI ON A MONTHLY BASIS.
13. SITE STABILIZATION SHALL BEGIN WITHIN 14 DAYS ON AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY (FOR 21 DAYS OR MORE) CEASED.
14. SITE AND BMPs WILL BE CHECKED AT LEAST ONCE EVERY SEVEN (7) DAYS AND WITHIN 24 HOURS AFTER A 0.5" OR GREATER RAIN EVENT.
15. PETROLEUM PRODUCTS
 - A. ALL ON-SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCES OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS, WHICH ARE CLEARLY LABELED. EQUIPMENT FUELING AND MAINTENANCE, OIL CHANGING, ETC. SHALL BE PERFORMED AWAY FROM WATERCOURSES, DITCHES OR STORM DRAINS, IN AN AREA DESIGNATED FOR THAT PURPOSE. THE DESIGNATED AREA SHALL BE EQUIPPED FOR RECYCLING OIL AND CATCHING SPILLS. SECONDARY CONTAINMENT SHALL BE PROVIDED FOR ALL FUEL OIL STORAGE TANKS. THESE AREAS MUST BE INSPECTED EVERY SEVEN DAYS AND WITHIN 24 HRS. OF A 0.5 inch OR GREATER RAIN EVENT TO ENSURE THERE ARE NO EXPOSED MATERIALS WHICH WOULD CONTAMINATE STORM WATER. SITE OPERATORS MUST BE AWARE THAT SPILL PREVENTION CONTROL AND COUNTERMEASURES (SPCC) REQUIREMENTS MAY APPLY. AN SPCC PLAN IS REQUIRED AND SHALL BE PREPARED BY THE PROVIDED BY THE CONTRACTOR IF FOR ONE SINGLE ABOVEGROUND TANK OF 660 GALLONS OR MORE, ACCUMULATIVE ABOVEGROUND STORAGE OF 1330 GALLONS OR MORE, OR 42,000 GALLONS OF UNDERGROUND STORAGE. SOILS THAT HAVE BECOME CONTAMINATED MUST BE DISPOSED OF PROPERLY.
 - B. ANY ASPHALT SUBSTANCES USED ON-SITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.
16. FERTILIZERS
 - A. FERTILIZERS USED WILL ONLY BE APPLIED IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE OF SAID FERTILIZER WILL BE COMPLETELY COVERED. THE CONTENTS OF ANY PARTIALLY USED BAGS OR CONTAINERS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC CONTAINER TO AVOID SPILLS.
17. DEBRIS
 - A. DEBRIS SHALL BE COLLECTED WITHIN PROPERTY LIMITS WEEKLY OR AS NEEDED FOR PUBLIC SAFETY. SURROUNDING STREETS AFFECTED BY THE CONSTRUCTION SHALL BE CLEANED DAILY OR AS NEEDED FOR PUBLIC SAFETY.
18. CONSTRUCTION ENTRANCE
 - A. THE CONSTRUCTION ENTRANCES SHALL BE CONSTRUCTED PER THE DETAIL AND MAINTAINED.
19. BEST MANAGEMENT PRACTICES
 - A. BEST MANAGEMENT PRACTICES (BMPs) AS PRESENTED IN THE CURRENT SDI BEST MANAGEMENT PRACTICES MANUAL SHALL BE FOLLOWED ON THE SITE AT ALL TIMES. A COPY OF THIS MANUAL SHALL BE ONSITE AT ALL TIMES.
20. TRAFFIC CONTROL
 - A. THE CONTRACTOR IS REQUIRED TO PROVIDE TRAFFIC CONTROL FOR THE EXPORTING OF MATERIAL FROM THE SITE.
21. EPA NOTICE OF INTENT
 - A. PROPOSED DISTURBANCE IS UNDER 1-ACRE, SO AN NOI IS NOT REQUIRED TO BE SUBMITTED.

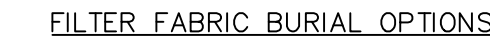
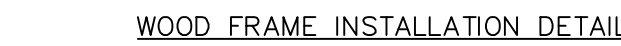
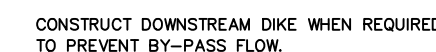
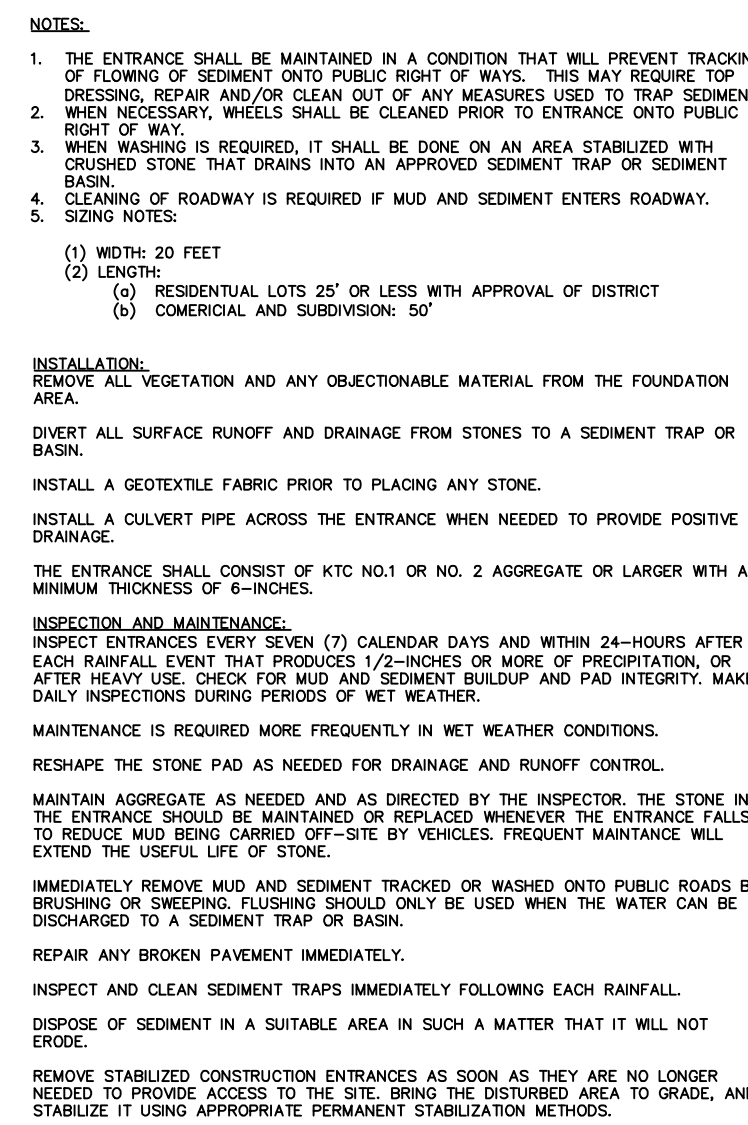
1. PIPES 4", 6", 8" AND 10" IN DIAMETER: PVC PIPE AND FITTINGS, SDR 35, EXCEPT WHERE NOTED OTHERWISE ON THE PLAN.
2. PIPE 12 INCHES IN DIAMETER OR LARGER, UNLESS NOTED OTHERWISE ON THE PLANS, MAY BE ANY OF THE FOLLOWING:
 - A. PVC CORRUGATE EXTERIOR, SMOOTH INTERIOR PIPE, EXCEPT WHERE NOTED OTHERWISE ON THE PLAN.
 - B. PVC PROFILE WALL SMOOTH FLOW SEWER PIPE, EXCEPT WHERE NOTED OTHERWISE ON THE PLAN.
 - C. FOR OUTSIDE THE BUILDING ONLY, CORRUGATED POLYETHYLENE SMOOTH LINED PIPE WITH GASKETED SILT TIGHT JOINTS MEETING ASTM F-477, HANCOCK SURE-LOK OR ADS PRO LINK OR EQUIVALENT. NO SOIL TIGHT SPLIT COUPLINGS SHALL BE USED.
 - D. HIGH DENSITY POLYETHYLENE (HDPE)
3. ALL CATCH BASIN GRATES TO BE HEAVY DUTY AND BICYCLE SAFE.
4. ALL PIPES (EXCEPT UNDERDRAINS) SHALL HAVE A SMOOTH INTERIOR
5. FURNISH AND INSTALL ALL FITTINGS NECESSARY TO COMPLETE STORM INSTALLATION ON THE PLANS.
6. INLETS, MANHOLES AND DRAINS – PROVIDE CONCRETE FLOW SHAPING IN THE BOTTOM OF BOTH CAST IN PLACE AND PRECAST STRUCTURES TO IMPROVE HYDRAULICS AND AVOID STANDING WATER.
7. PIPE SILTING – CONTRACTOR SHALL DELIVER STORM SYSTEM IN CLEAN CONDITION TO OWNER AT END OF PROJECT. ANY CLEANING OF STRUCTURES OF PIPES (NEW OR EXISTING DOWNSTREAM) SHALL BE THE CONTRACTORS RESPONSIBILITY UNDER THIS PROJECT CONTRACT.
8. ALL MANHOLES AND CATCH BASINS TO BE PRECAST, EXCEPT WHERE NOTED OTHERWISE ON THE PLAN.

[illegible]

PROJECT: CIVIL SITE IMPROVEMENTS
Fort Thomas Independent Schools
Johnson Elementary School
1180 North Fort Thomas Avenue Fort Thomas, Kentucky 41075

CLIENT:

	
DRAWN BY: CWH	SEAL 
CHECKED BY: KGH	
PROJECT MANAGER: KGH	
PROJECT NO. 22-023	
SCALE	AS NOTED
DATE	03-21-22
SPECIFICATIONS	
SHEET C-100	



SPECIFICATION	LIGHT DUTY SILT FENCE (SF-10)
MIN. TENSILE STRENGTH (LBS) ASTM D-4632	WARP = 120 FILL = 100
MAX. ELONGATION (%) ASTM D-4632	40
APPARENT OPENING SIZE MAX. SHEAVE SIZE (ASTM D-4751)	#30
MAX. FLOW RATE (GAL/MIN/SF) GDT = 87	25
ULTRAVIOLENT STABILITY (ASTM D-4632 AFTER 300 HOURS PER ASTM D-4355 MIN.)	80
BURSTING STRESS (PSI) ASTM D-3786 MIN.	WARP = 120 FILL = 100
FABRIC WIDTH (IN)	36 IN.

3 SILT FENCE DETAIL
C-200 SCALE: NTS



1. ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD.
2. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
3. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF OR RECYCLED.
4. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE BACKFILLED, REPAIRED, AND STABILIZED TO PREVENT EROSION.

RIE-RAP ABRON PLAN VIEW
N.T.S.

L_A (Ft) = REFER TO TABLE
 W (Ft) = $L_A \times D$ (Ft)
 T (in) = $2.0 \times D_{50}$ (in)

RIE-RAP ABRON SECTION VIEW
N.T.S.

NON-WOVEN GEOTEXTILE FILTER FABRIC-WOVEN BOTTOM AND SIDES OF AGGREGATE.

PUMICE FILL AT COMINGLING (DO NOT RIE-RAP APP)

Rie-Rap Abron

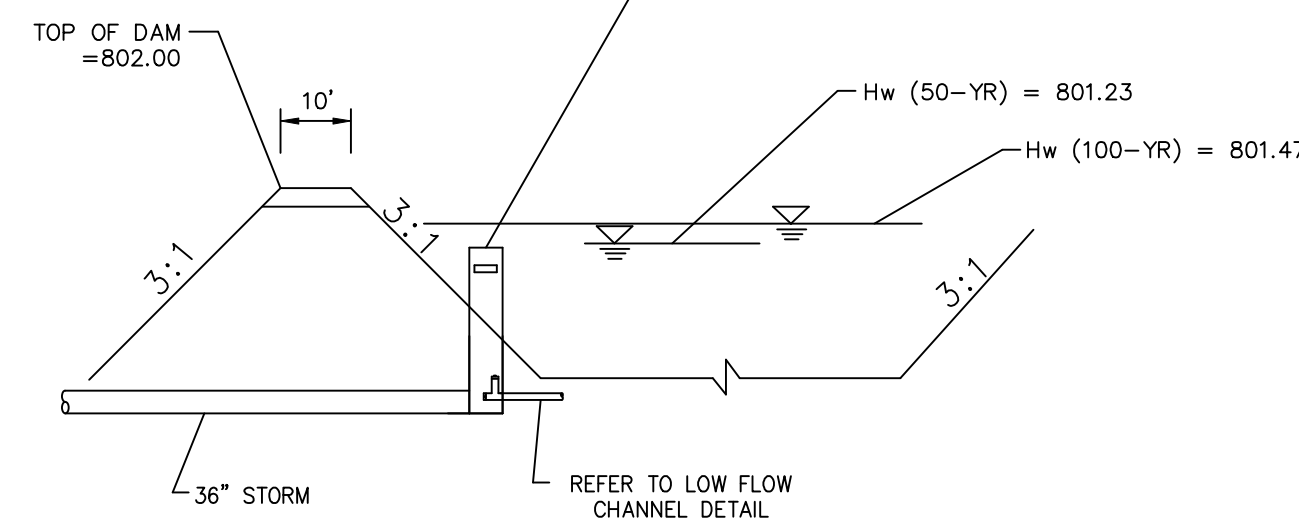
BASE WIDTH = 3 ± 0 (Ft)
 MAXIMUM SLOPE = $4:1$ (H:V)

- ## NOTES

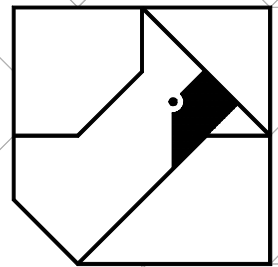
1. FLOW RATES LISTED IN THE TABLE SHALL BE BASED ON THE 10-YEAR 24-HOUR DESIGN STORM PEAK FLOW RATE.
2. LENGTH EROSION PROTECTION IN THE FORM OF A RIP-RAP APRON SHALL REMAIN STRAIGHT THROUGHOUT ITS ENTIRE LENGTH.
3. ENSURE THAT RIP-RAP CONSISTS OF A WELL-GRADED MIXTURE OF STONES, LARGER STONES BEING PLACED PREDOMINANTLY ON SUFFICIENT SMALLER SIZES TO FILL THE GAPS BETWEEN THE STONES. RIP-RAP SHALL BE ANGULAR IN SHAPE, NOT ROUND.
4. THE DIAMETER OF THE LARGEST STONE SIZE SHALL BE NO GREATER THAN 1/3 THE DIAMETER OF THE NEXT LARGER SIZE.
5. THE MINIMUM THICKNESS OF RIP-RAP SHALL BE 2.0 TIMES THE D_{50} SIZE.
6. A NON-WOVEN GEOTEXTILE FIBER FABRIC SHALL BE INSTALLED BETWEEN THE BOTTOM AND SIDES OF THE RIP-RAP TO PREVENT EROSION.

D, Pipe Diameter (in)	Lowest Values				Intermediate Values to Interpolate From								Highest Value				
	L		D _{ap}		L		D _{ap}		L		D _{ap}		L		D _{ap}		
	L	D _{ap}	L	D _{ap}	L	D _{ap}	L	D _{ap}	L	D _{ap}	L	D _{ap}	L	D _{ap}	L	D _{ap}	
8	10	7	10	7	10	7	10	7	10	7	10	7	10	7	10	7	10
12	4	7	6	10	6	9	13	6	12	16	7	14	17	8.5			
15	6.5	8	10	12	6	15	16	7	20	18	10	25	20				
18	10	10	12	15	10	18	16	10	20	22	12	28	22				
21	15	11	6	25	18	7	35	20	14	45	26	13	60	29			
24	21	13	6	35	25	10	45	25	16	55	30	16	80	33	19		
27	27	14	6	50	24	9.5	70	29	14	90	34	18	110	37	22		
30	36	16	6	60	30	11	80	35	16	100	38	20	140	42	24		
36	56	20	7	100	32	13	140	40	18	180	45	23	220	50	28		
42	100	22	8.5	132	32	12	160	38	17	200	45	26	280	52	29		
48	136	25	10	160	34	14	190	40	20	240	48	28	340	56	32		

7 EX. DRY DETENTION BASIN – MODIFIED
C-200 SCALE: NTS



REVISIONS	
DATE #	ITEM

[illegible]

CARDINAL

**ENGINEERING
LAND SURVEYING**
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WILDER, KENTUCKY 41071
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CIVIL SITE IMPROVEMENTS
Fort Thomas Independent Schools
Johnson Elementary School
North Fort Thomas Avenue Fort Thomas, Kentucky 41075

1180 North Fort Thomas Avenue
Fort Thomas, Kentucky 41075

PROJECT:

CLIENT:

DRAWN BY: SEA

SEA

CHECKED BY:

KCH

PROJECT

KGH

PROJECT NO. 22-023

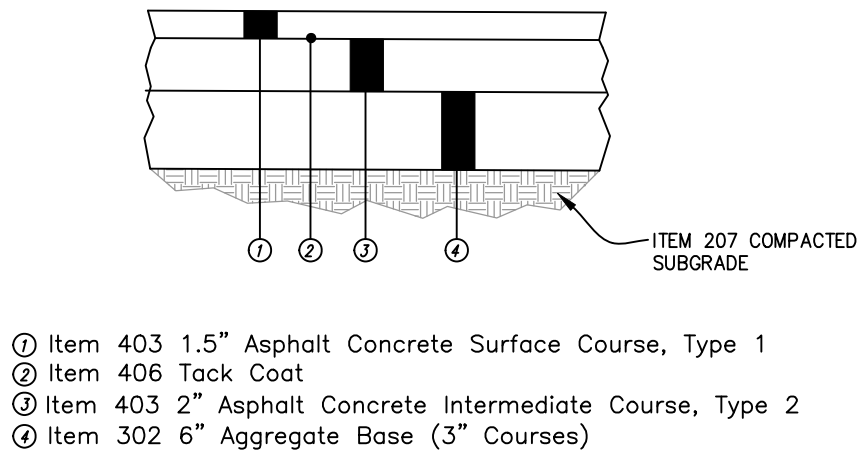
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DATE	03-21-22
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DETAILS

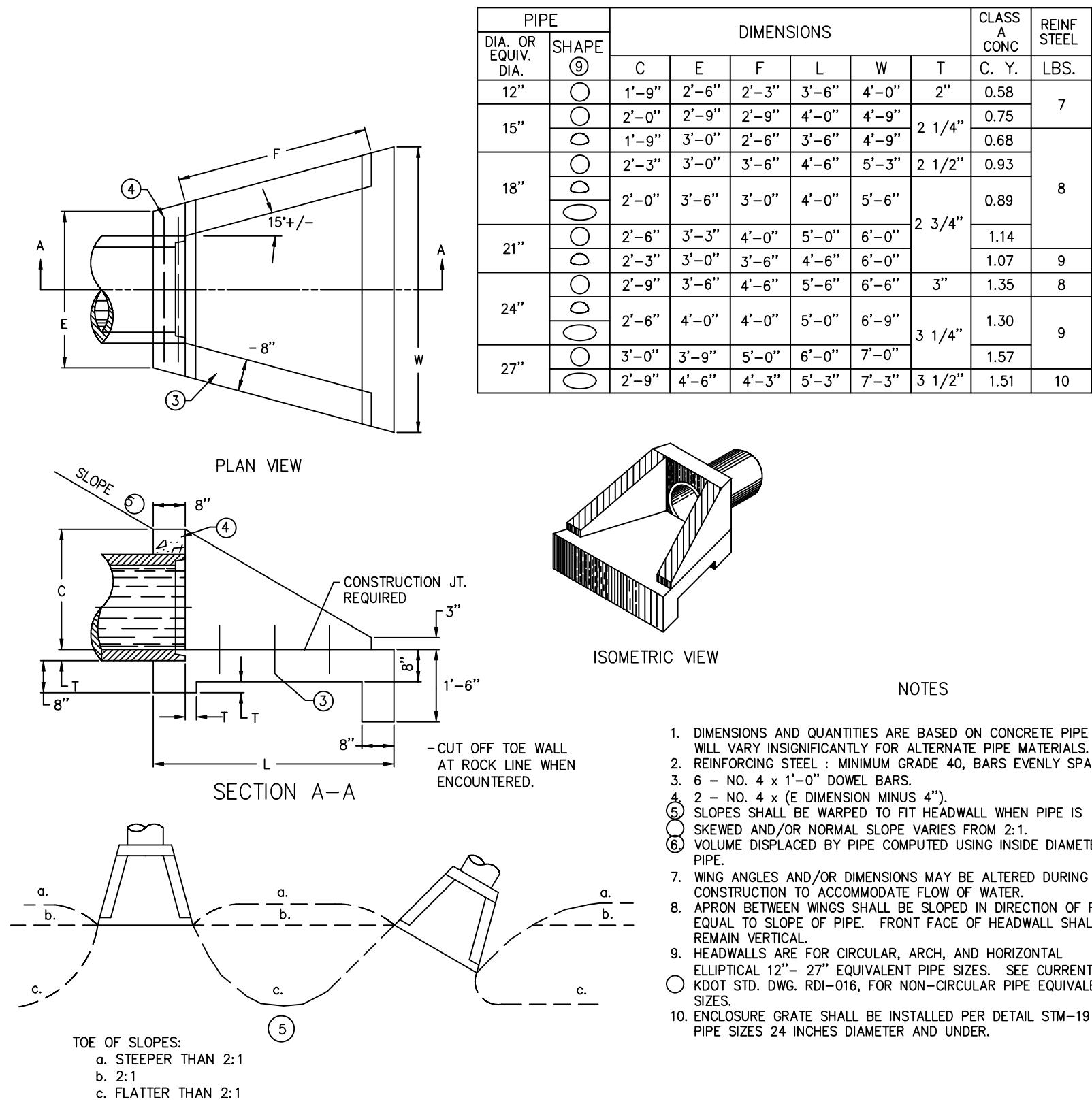
SHEET

C-200

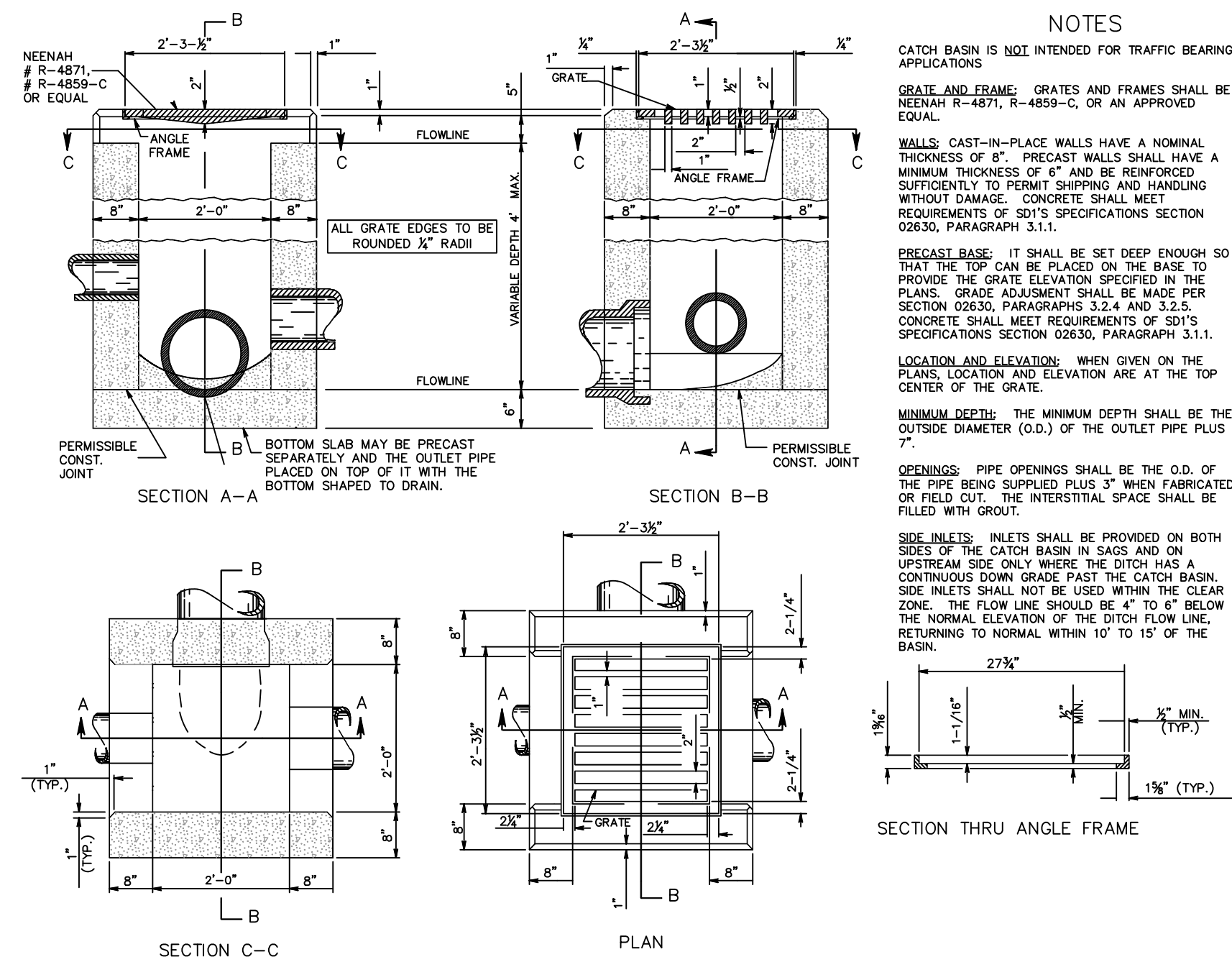


- ① Item 403 1.5" Asphalt Concrete Surface Course, Type 1
② Item 406 Tack Coat
③ Item 403 2" Asphalt Concrete Intermediate Course, Type 2
④ Item 302 6" Aggregate Base (3" Courses)

1 ASPHALT SECTION
C-201 SCALE: NTS



3 SLOPED & FLARED HEADWALLS (12"-27")
C-201 SCALE: NTS



4 STANDARD INLET CB 2-2B (12"-21" OUTLET PIPE)
C-201 SCALE: NTS

REVISIONS		
DATE	#	ITEM

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PROJECT:

CLIENT:

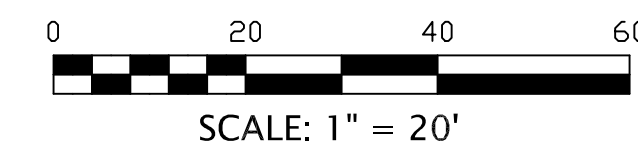
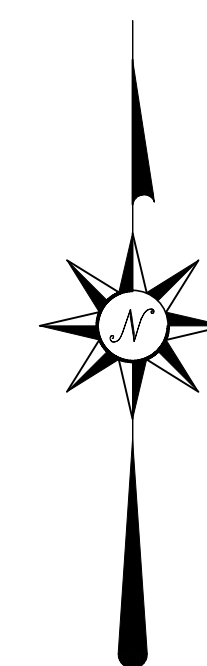
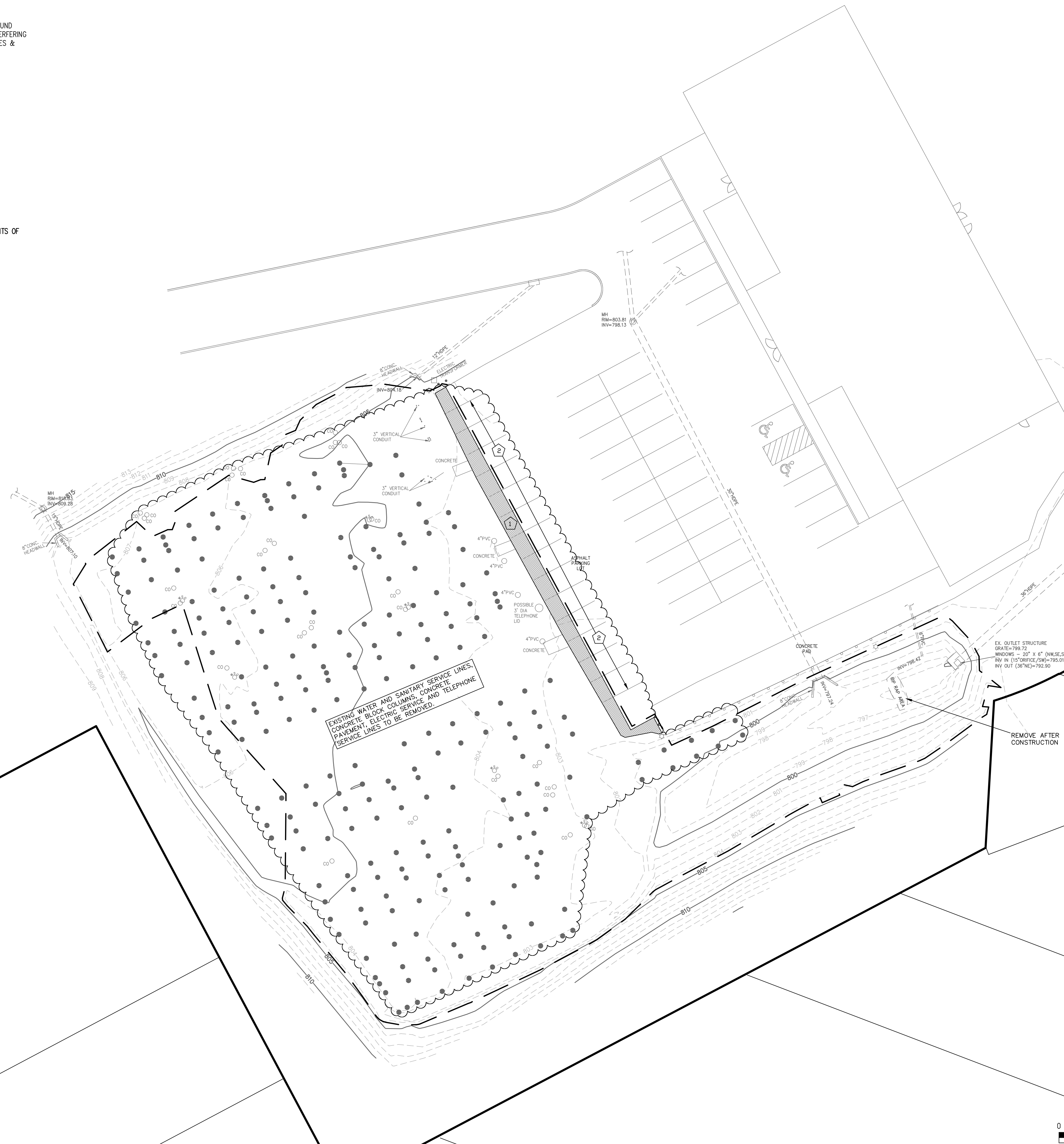
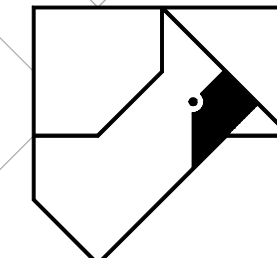
DRAWN BY:	SEAL
CWH	
CHECKED BY:	
KGH	
PROJECT MANAGER:	
KGH	

PROJECT NO.	22-023
SCALE	AS NOTED
DATE	03-21-22

DETAILS
SHEET
C-201

CONTRACTOR SHALL REMOVE ALL EXISTING IMPROVEMENTS FROM SITE. EXISTING UNDERGROUND UTILITIES NOT BEING RE-USED MAY BE PLUGGED & ABANDONED IN PLACE WHERE NOT INTERFERING WITH PROPOSED CONSTRUCTION. CONTRACTOR TO MAKE ALL ARRANGEMENTS, PAY ALL FEES & OBTAIN ALL PERMITS IN CONNECTION WITH DEMOLITION WORK.

1. EXISTING ASPHALT PAVEMENT TO BE REMOVED. CONTRACTOR TO DETERMINE EXTENTS OF PAVEMENT REMOVAL TO MATCH EXISTING PAVEMENT GRADE.
2. EXISTING PAINTED LINE TO BE REMOVED.

[illegible]

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CLIENT:

DRAWN BY

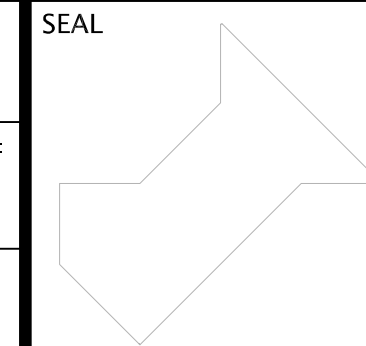
CWH

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KGH

PROJECT

SEAL



PROJECT NO. 22-023

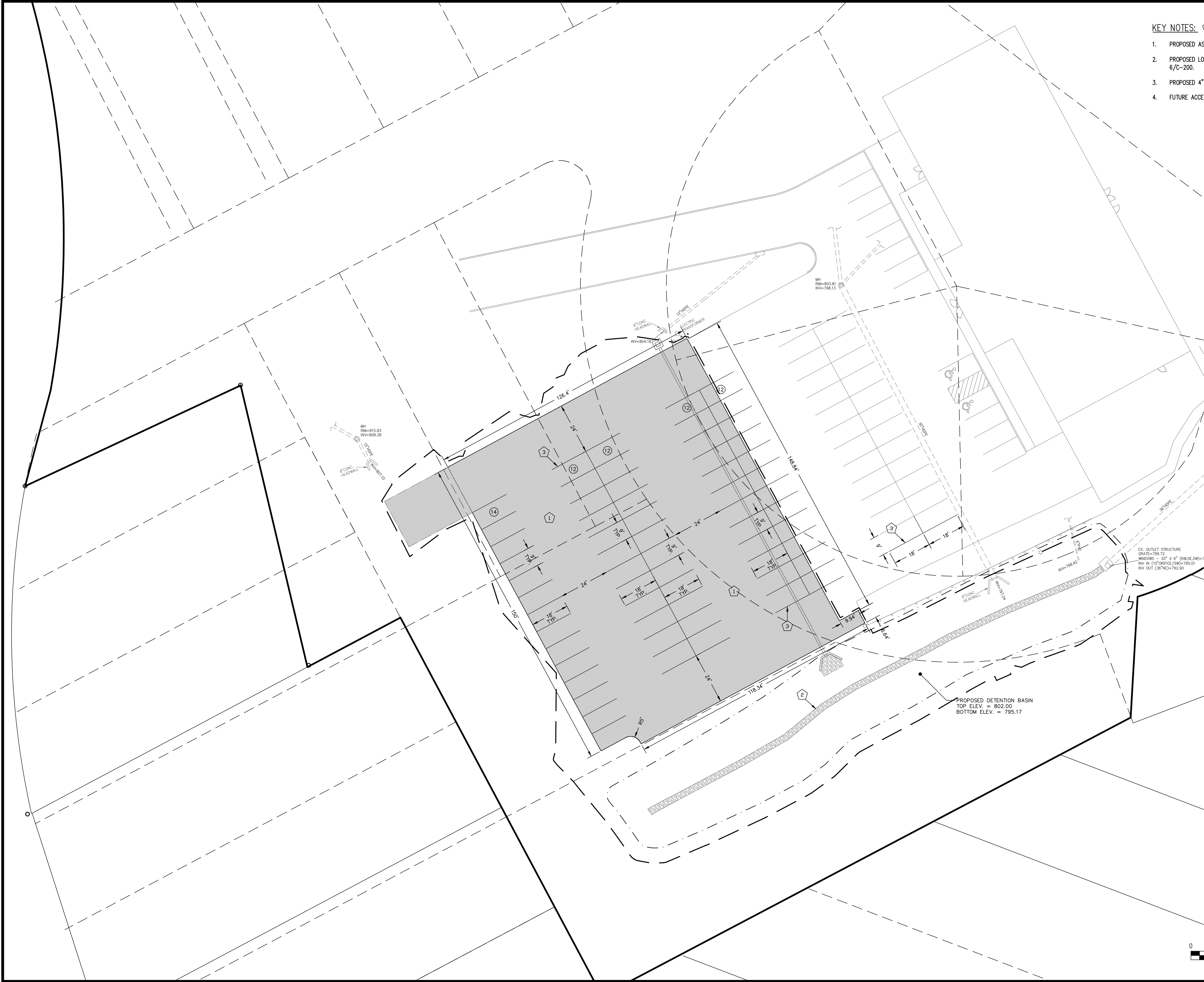
SCALE 1" = 20'


DATE	03-21-22
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DEMOLITION PLAN

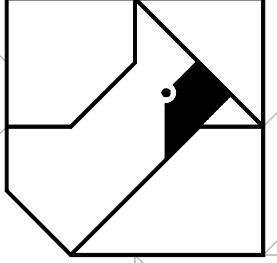
SHEET

C-300



- KEY NOTES: 
1. PROPOSED ASPHALT PAVEMENT PER SECTION 1/C-201.
 2. PROPOSED LOW FLOW CHANNEL W/ 8-IN PERF. PIPE PER DETAIL 6/C-200.
 3. PROPOSED 4" PAINTED LINE (TYP.), COLOR PER OWNER.
 4. FUTURE ACCESS DRIVE TO BACK LOT.

REVISIONS		ITEM
DATE	#	

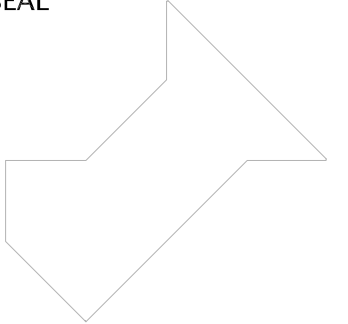


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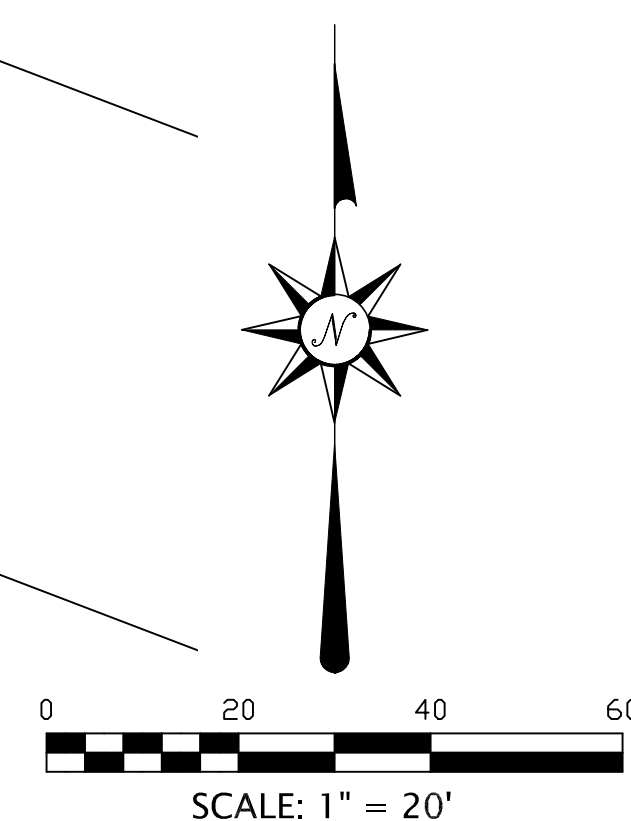
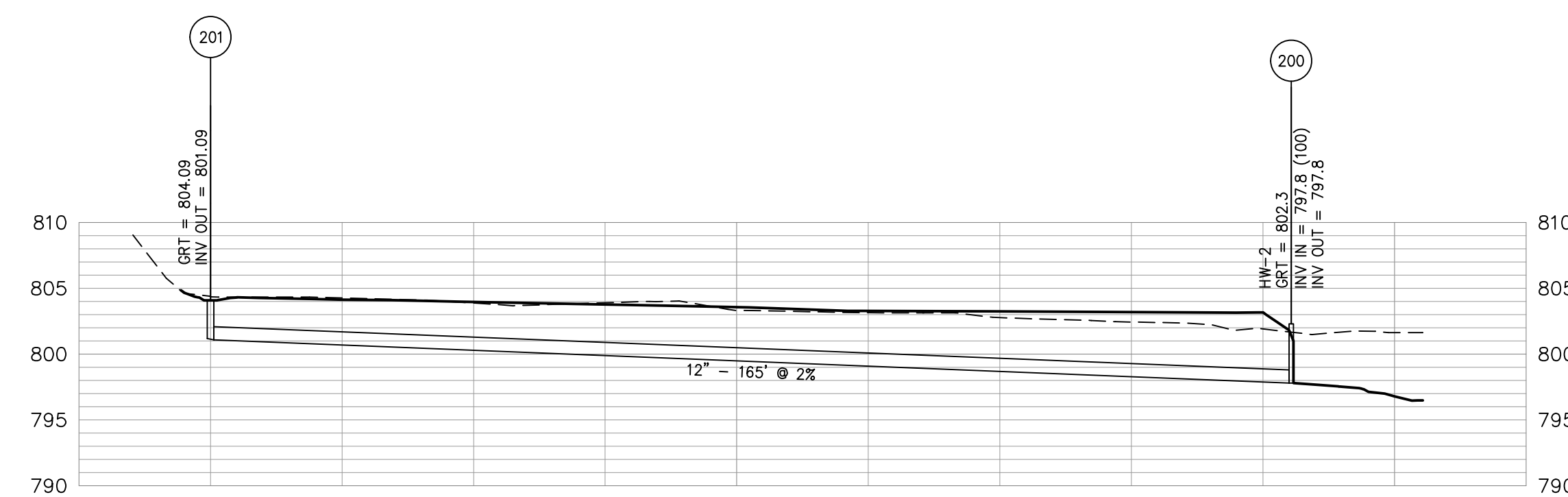
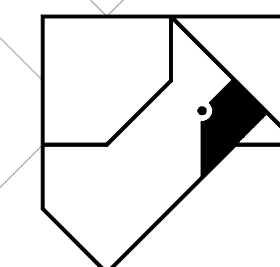
PROJECT: CIVIL SITE IMPROVEMENTS
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CLIENT:

DRAWN BY: CWH
CHECKED BY: KGH
PROJECT MANAGER: KGH

SEAL 


PROJECT NO. 22-023
SCALE 1" = 20'
DATE 03-21-22
SITE LAYOUT / DIMENSION PLAN
SHEET **C-400**

[illegible]

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PROJECT MANAGER: KGH	

PROJECT NO. 22-023

SCALE 1" = 20'

DATE	03-21-2
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UTILITY PLAN

SHEET C-500

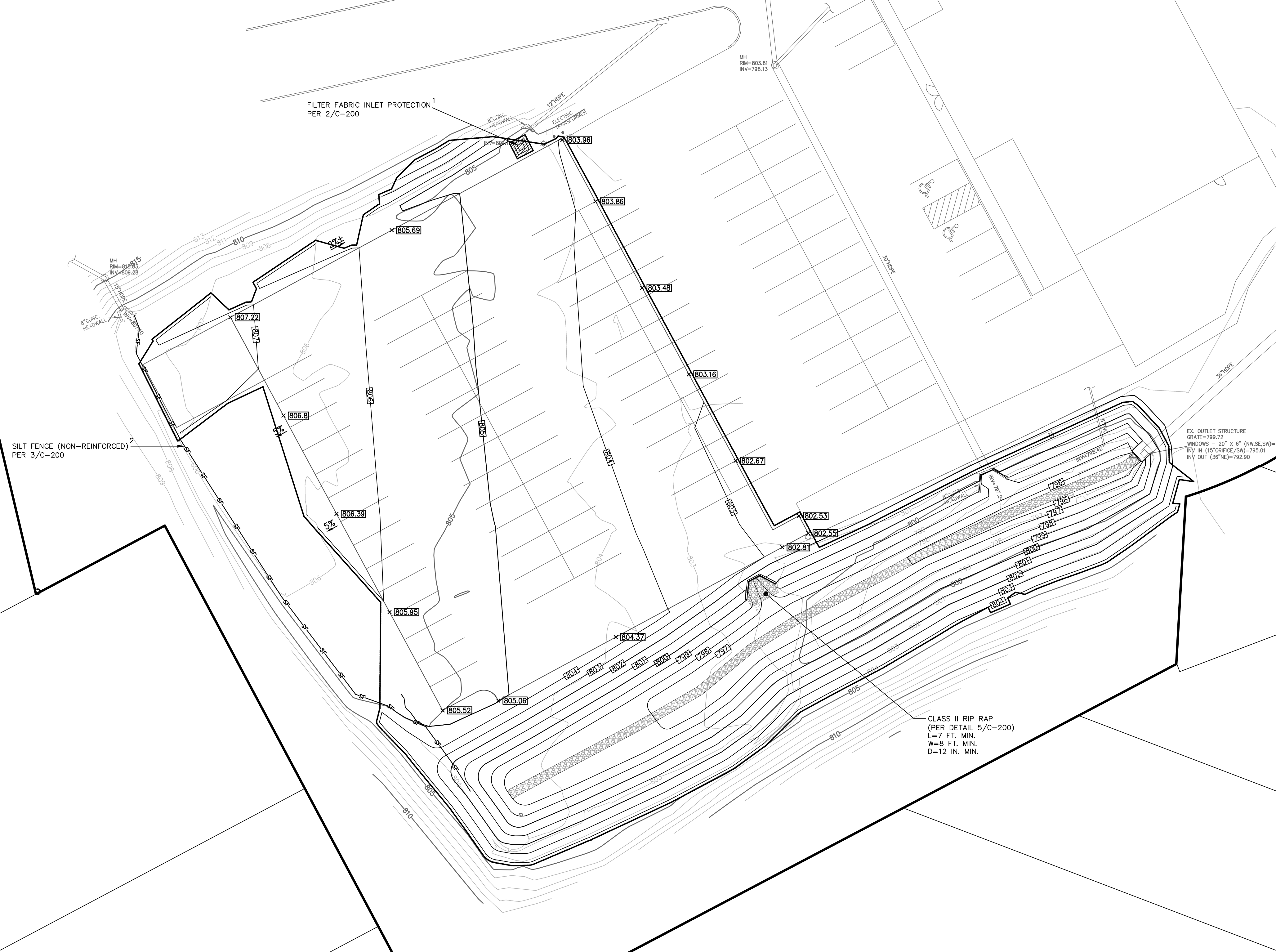
GRADING NOTES

- 1 CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING PUBLIC SANITARY SEWER DURING STORM AND/OR SANITARY SEWER EXTENSION OPERATIONS.
- 2 GRADES SHOWN ARE FINISH GRADE ELEVATIONS.
- 3 CONTRACTOR IS RESPONSIBLE FOR RE-SPREADING TOPSOIL AND FINE GRADING AREAS.
- 4 CARE SHOULD BE TAKEN TO KEEP THE ADJOINING STREETS CLEAN AND FREE OF DIRT, GRAVEL AND DEBRIS FROM THE DEMOLITION PROCESS.
- 5 NO PARKING AREA, PARKING DRIVE AISLE GRADES NEAR ADA PARKING SPACES SHALL BE OVER 5.0%.
- 6 ALL PROPOSED PAVEMENT, WALKS, AND CURBS THAT MEET EXISTING SHALL MEET FLUSH.

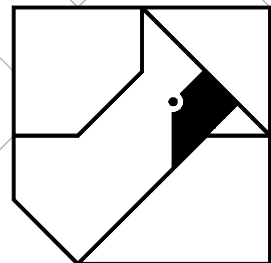
SWPPP LEGEND

CE TEMPORARY STONE CONSTRUCTION EXIT
SF TEMPORARY SILT FENCE

LIMITS OF CONSTRUCTION



REVISIONS		ITEM
DATE	#	



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SEAL

PROJECT NO. 22-023
SCALE 1" = 20'
DATE 03-21-22

GRADING PLAN

SHEET C-600