# THE LEGENDS OF ST. ANDREWS

SITUATED IN THE CITY OF MASSILLON, COUNTY OF STARK, STATE OF OHIO AND BEING PART OF OUTLOTS 562 & 563

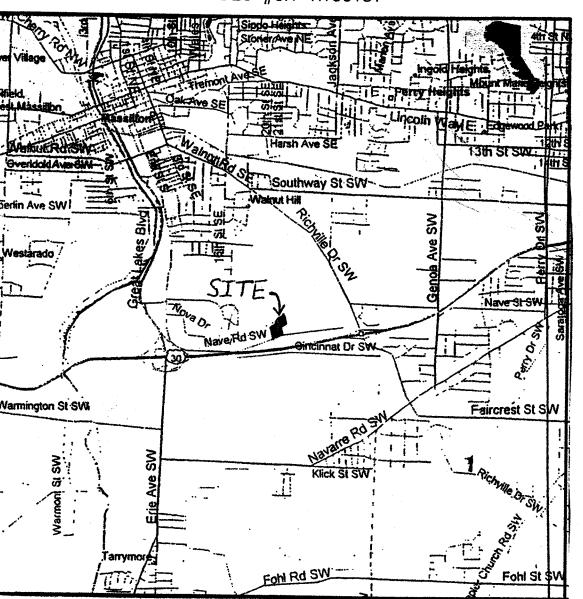
JUNE 1, 2000

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- 6. DETENTION BASIN PLAN & PROFILE
- 7. STORMWATER POLLUTION PREVENTION DETAILS

PREPARED BY:
HAMMONTREE & ASSOCIATES, LTD
ENGINEERS, PLANNERS & SURVEYORS
NORTH CANTON, OHIO

NPDES #0H-R109151



VICINITY MAP

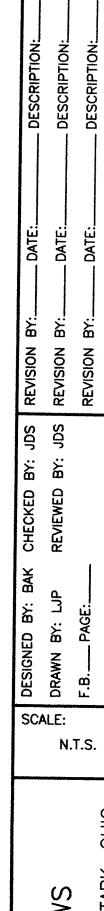
PPROVED BY: Jan J. 10/3/00
CITY OF MASSILLON INGINEER DATE

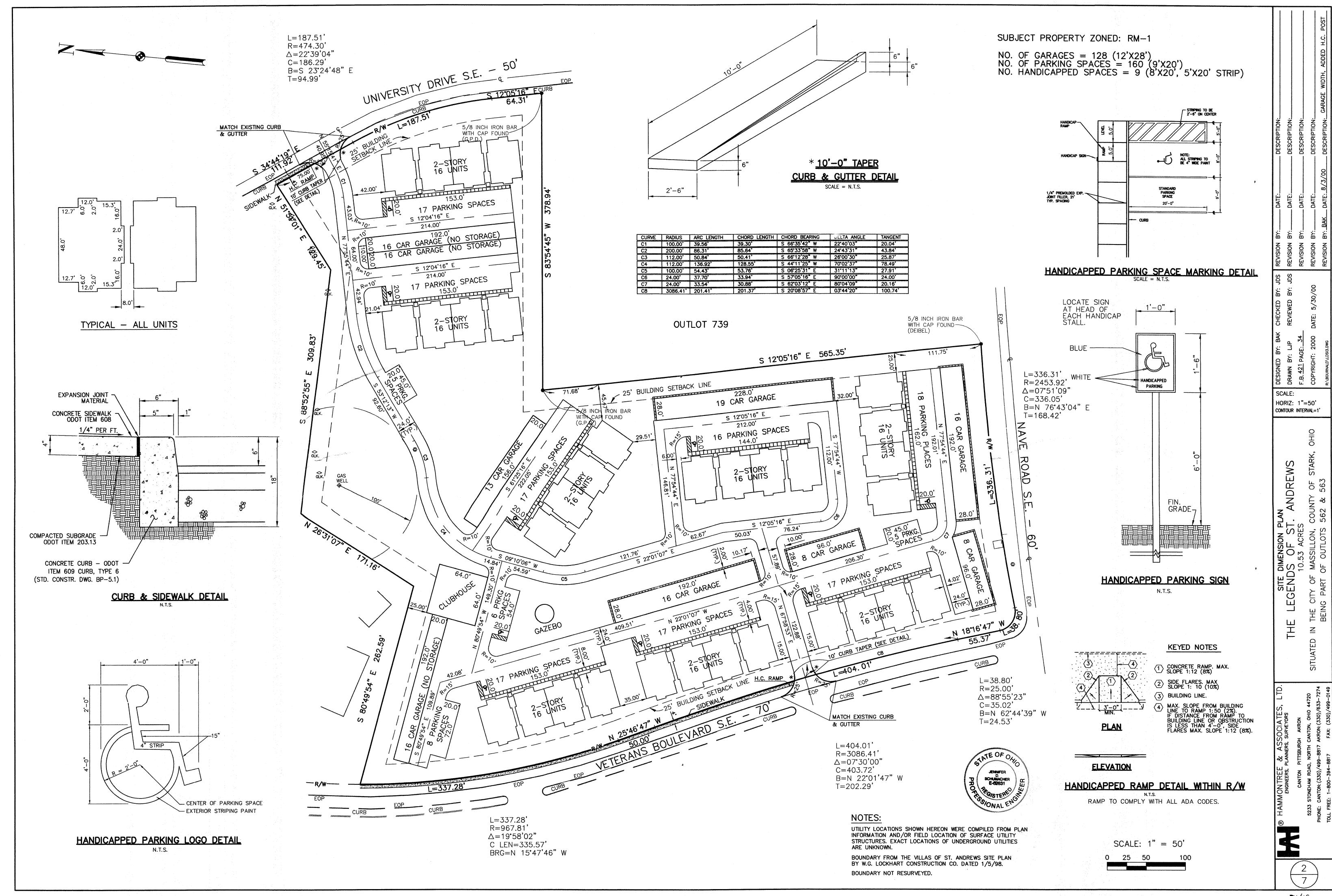


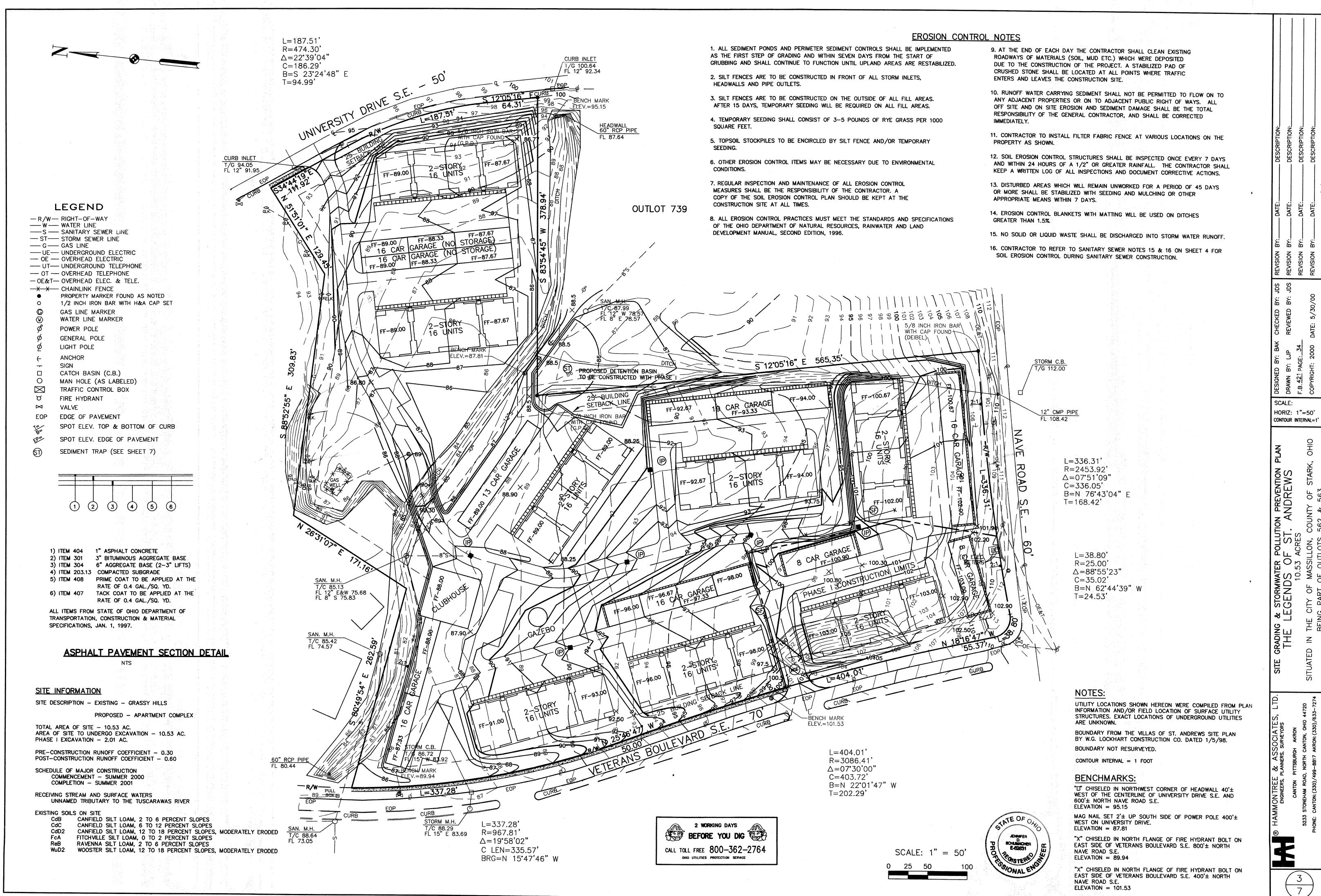
OWNER/DEVELOPER

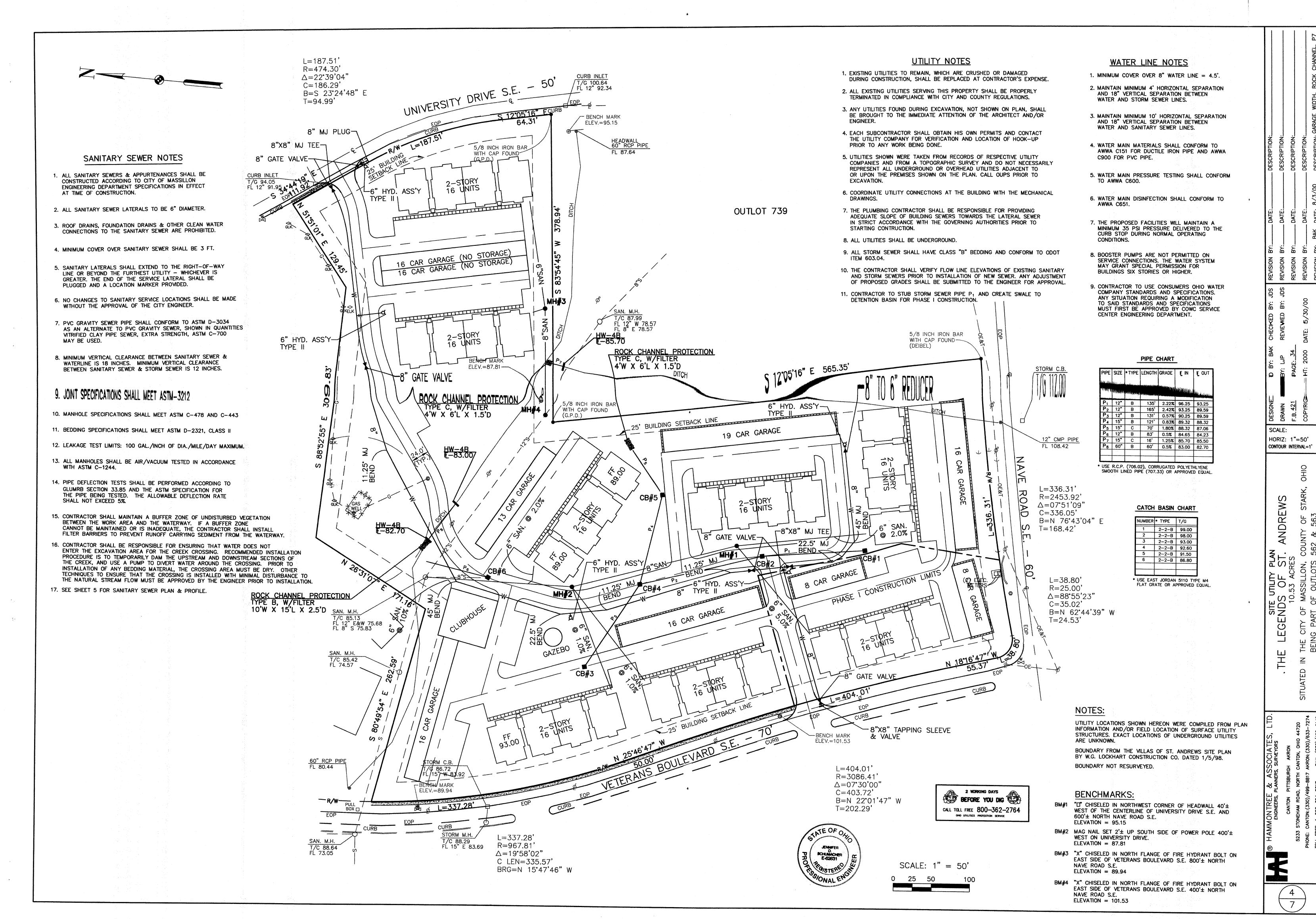
BOURLAS CONSTRUCTION
4990 BATTON ST. N.W., SUITE 4
NORTH CANTON, OHIO 44720
PHONE: 499-4410
ATTN: ALEX BOURLAS

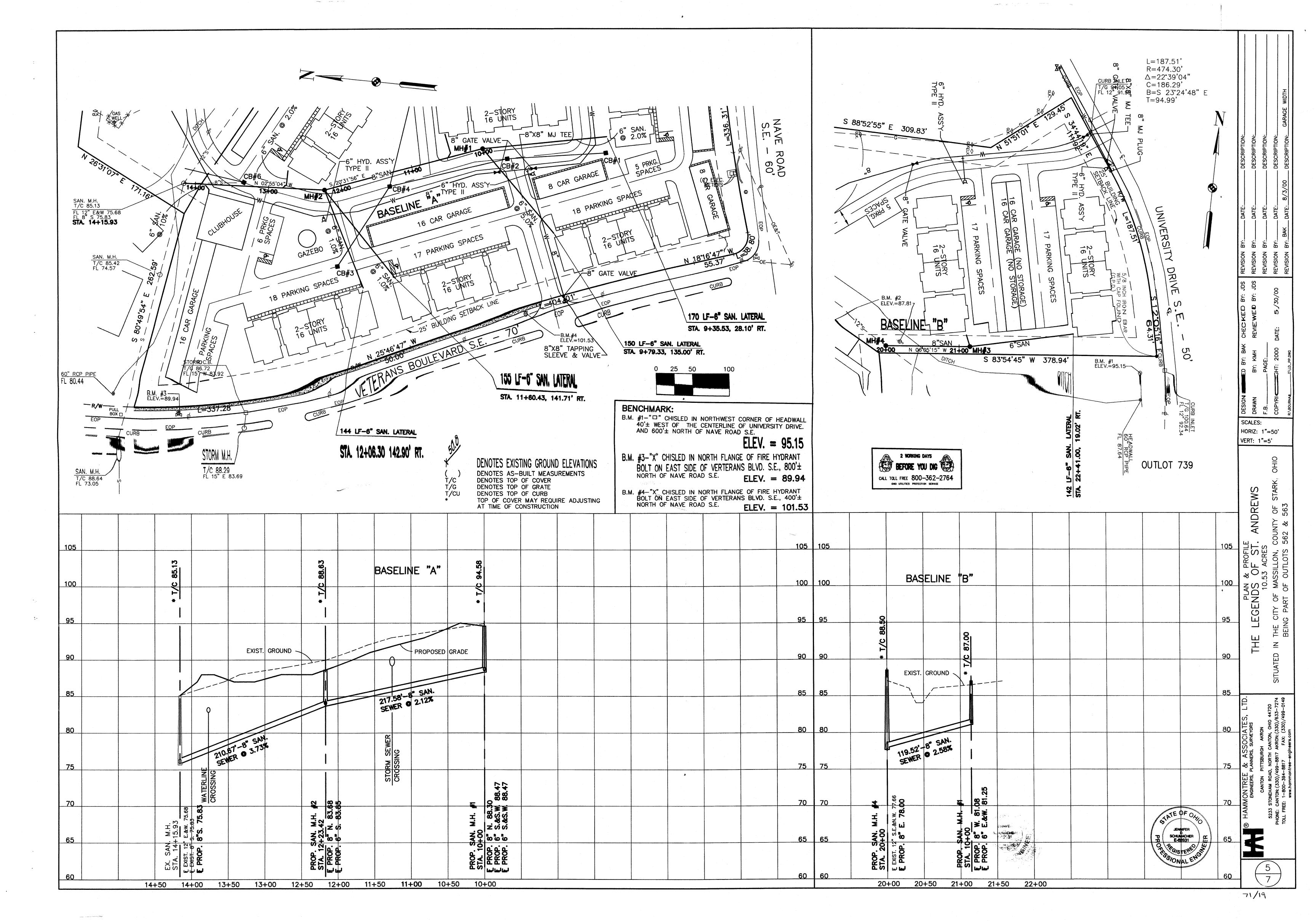


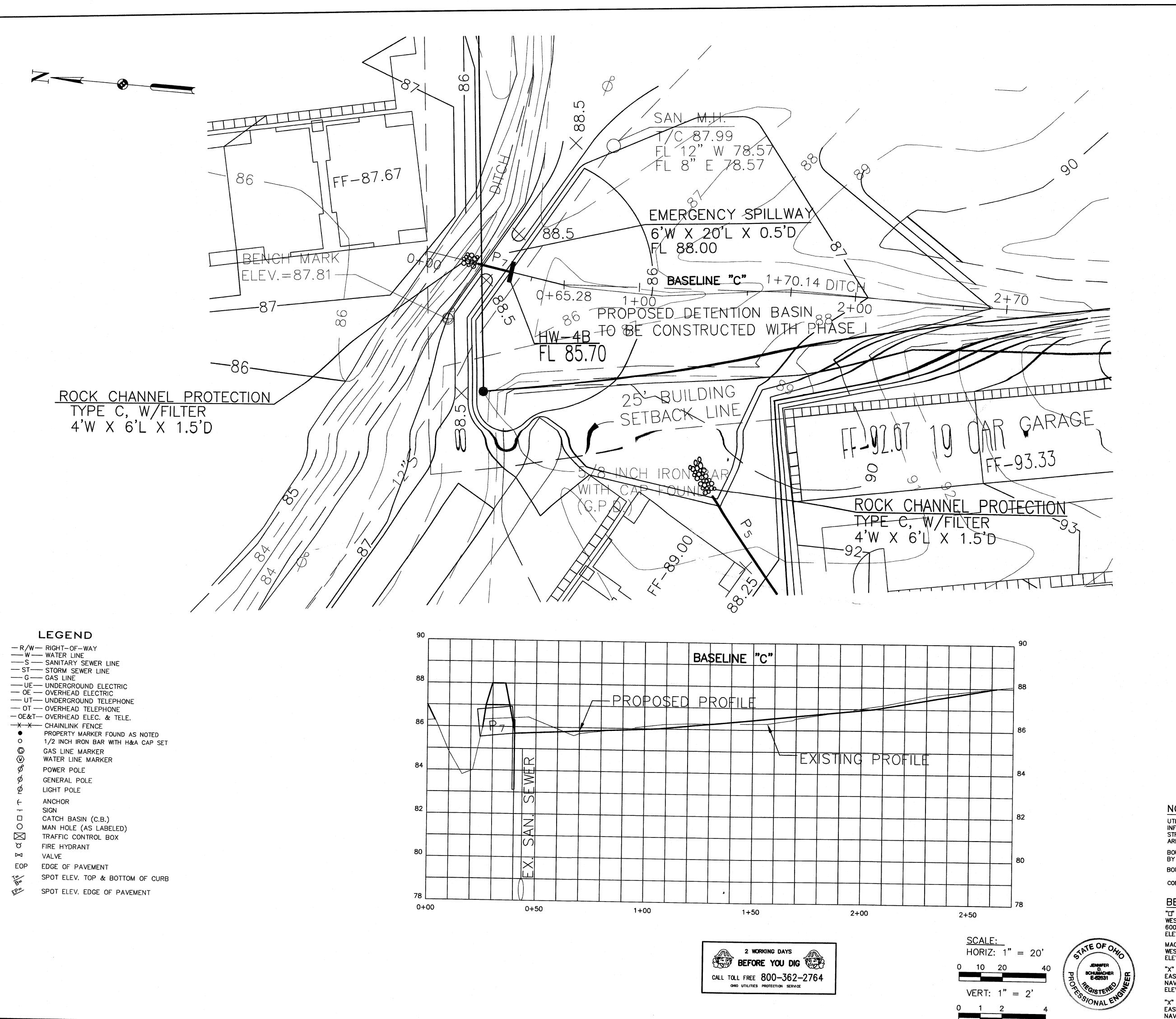












NOTES:

UTILITY LOCATIONS SHOWN HEREON WERE COMPILED FROM PLAN INFORMATION AND/OR FIELD LOCATION OF SURFACE UTILITY STRUCTURES. EXACT LOCATIONS OF UNDERGROUND UTILITIES ARE UNKNOWN.

BOUNDARY FROM THE VILLAS OF ST. ANDREWS SITE PLAN BY W.G. LOCKHART CONSTRUCTION CO. DATED 1/5/98. BOUNDARY NOT RESURVEYED.

CONTOUR INTERVAL = 1 FOOT

#### **BENCHMARKS:**

"" CHISELED IN NORTHWEST CORNER OF HEADWALL 40'± WEST OF THE CENTERLINE OF UNIVERSITY DRIVE S.E. AND 600'± NORTH NAVE ROAD S.E. ELEVATION = 95.15

MAG NAIL SET 2'± UP SOUTH SIDE OF POWER POLE 400'± WEST ON UNIVERSITY DRIVE.

ELEVATION = 87.81"X" CHISELED IN NORTH FLANGE OF FIRE HYDRANT BOLT ON EAST SIDE OF VETERANS BOULEVARD S.E. 800'± NORTH NAVE ROAD S.E. ELEVATION = 89.94

"X" CHISELED IN NORTH FLANGE OF FIRE HYDRANT BOLT ON EAST SIDE OF VETERANS BOULEVARD S.E. 400'± NORTH NAVE ROAD S.E.

ELEVATION = 101.53

PROFILE ANDREWS

DETENTION BASIN PLAN & F. LEGENDS OF ST.
10.53 ACRES
THE CITY OF MASSILLON, COURING PART OF OUTLOTS 562

MAINTENANCE FERTILIZATION RATES SHALL BE ESTABLISHED BY SOIL TEST RECOMMENDATIONS OF BY USING THE RATES SHOWN IN THE FOLLOWING

MIXTURE	FORMULA	LB./AC.	LB./1,000 FT:	TIME	MOWING
CREEPING RED FESCUE RYEGRASS KENTUCKY BLUEGRASS	10-10-10	500	12		NOT CLOSER THAN 3
TALL FECUE	10-10-10	500	12	FALL, YEARLY OR AS NEEDED.	NOT CLOSER THAN 4
DWARF FESCUE	10-10-10	500	12		NOT CLOSER THAN 2
CROWN VETCH FESCUE	0-20-20	400	10	SPRING, YEARLY FOLLOWING ESTABLISH—	DO NOT
FLAT PEA FESCUE	0-20-20	400	10	MENT AND EVERY 4-7 YR. THEREAFTER	DO NOT

### MAINTENANCE OF PERMANENT SEEDING

PERMANENT SEEDING					
SEED MIX	SEEDII	SEEDING RATE		NOTES.	
	LB./AC.	LB./AC. LB./1,000		NOTES:	
GENERAL USE					
CREEPING RED FESCUE DOMESTIC RYEGRASS KENTUCKY BLUEGRASS	10-20	1/2-1 1/4-1/2 1/4-1/2			
TALL FESCUE	40	1			
DWARF FESCUE	40	1	<u> </u>		
STEEP BANKS OR CUT SLOPES					
TALL FESCUE	40	1			
CROWN VETCH TALL FESCUE	10 20	1/4	DO 1	NOT SEED LATER THAN AUGUST	
FLAT PEA TALL FESCUE	20 20	1/2	DO 1	NOT SEED LATER THAN AUGUST	
ROAD DITCHES AND SWALES					
TALL FESCUE	40	<u> </u>			
DWARF FESCUE KENTUCKY BLUEGRASS	90	2 1/4			
LAWNS					
KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	60 60	1 1/2			
KENTUCKY BLUEGRASS CREEPING RED FESCUE		1 1/2 1 1/2		FOR SHADED AREAS.	
NOTE: OTHER APPROVED SEED SPECIES MAY BE SUBSTITUTED.					

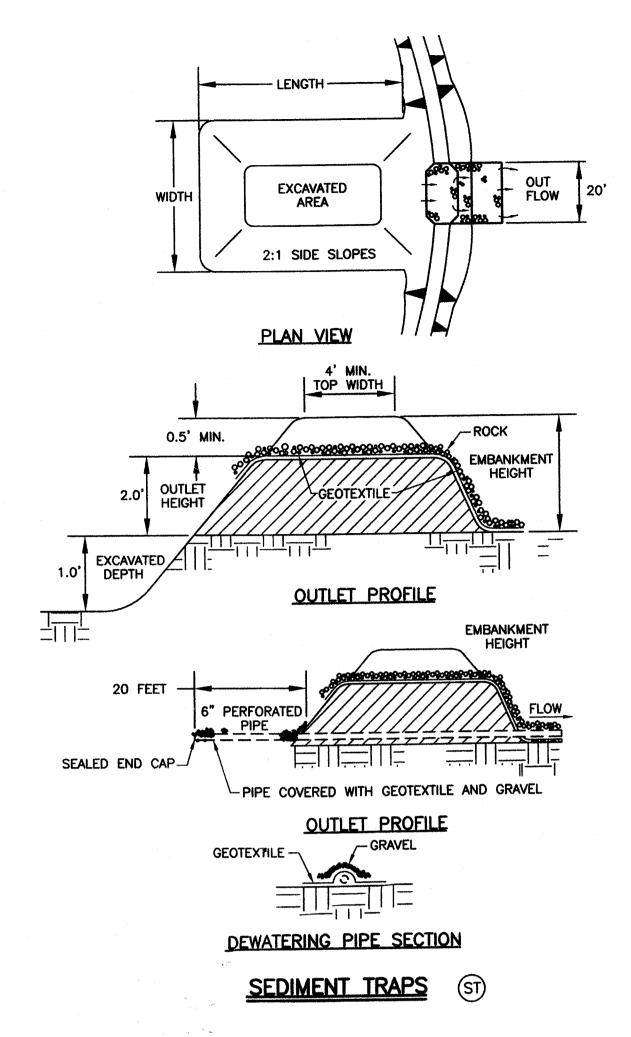
#### PERMANENT SEEDING

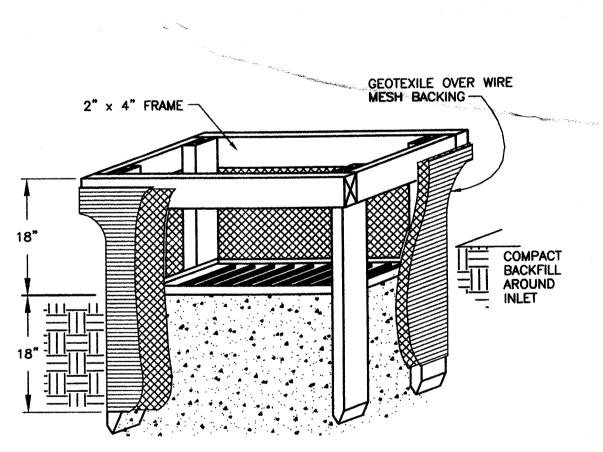
SEEDING DATES	SPECIES	LB./1,000 FT. <sup>2</sup>	PER ACRE
MARCH 1 TO AUGUST 15	OATS	3	4 BUSHEL
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
	PERENNIAL RYGRASS TALL FESCUE ANNUAL RYEGRASS	1 1 1	40 LB. 40 LB. 40 LB.
AUGUST 16 TO NOVEMBER 1	RYE	3	2 BUSHEL
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
	WHEAT	3	2 BUSHEL
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
	PERENNIAL RYEGRASS	1	40 LB.
	TALL FESCUE	1	40 LB.
	ANNUAL RYEGRASS	1	40 LB.
NOVEMBER 1 TO SPRING SEEDING	USE MULCH ONLY, SO	DDING PRACTICES OF	DORMANT SEEDING

- STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS AND SEDIMENT TRAPS SHALL BE INSTALLED AND STABILIZED WITH TEMPORARY SEEDING PRIOR TO GRADING THE REST OF THE CONSTRUCTION SITE.
- 2. TEMPORARY SEED SHALL BE APPLIED BETWEEN CONSTRUCTION OPERATIONS ON SOIL THAT WILL NOT BE GRADED OR RE-WORKED FOR 45 DAYS OR MORE. THESE IDLE AREAS SHOULD BE SEEDED AS SOON AS POSSIBLE AFTER GRADING OR SHALL BE SEEDED WITHIN 7 DAYS. SEVERAL APPLICATIONS OF TEMPORARY SEEDING ARE NECESSARY ON TYPICAL CONSTRUCTION PROJECTS.
- 3. THE SEED BED SHOULD BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION. HOWEVER, TEMPORARY SEEDING SHALL NOT BE POSTPONED IF IDEAL SEED BED PREPARATION IS NOT POSSIBLE.
- 4. SOIL AMENDMENTS APPLICATIONS OF TEMPORARY VEGETATION SHALL ESTABLISH ADEQUATE STANDS OF VEGETATION WHICH MAY REQUIRE THE USE OF SOIL AMENDMENTS. SOIL TESTS SHOULD BE TAKEN ON THE SITE TO PREDICT THE NEED FOR LIME AND
- 5. SEEDING METHOD SEED SHALL BE APPLIED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER. OR HYDROSEEDER. WHEN FEASIBLE, SEED THAT HAS BEEN BROADCAST SHALL BE COVERED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPED INTO PLACE USING A ROLLER OR OF CULTIPACKER. IF HYDROSEEDING IS USED, THE SEED AND FERTILIZER WILL BE MIXED ON-SITE AND THE SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.

#### SEDIMENT TRAP NOTES:

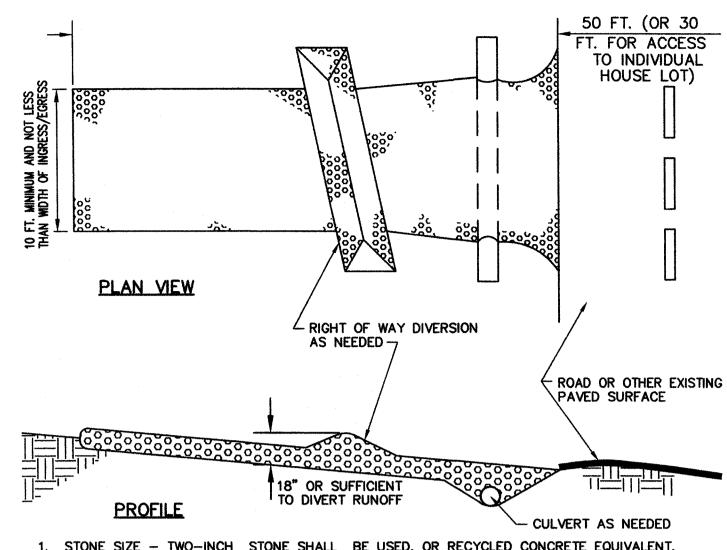
- SEDIMENT TRAPS SHALL BE CONSTRUCTED AND OPERATIONAL BEFORE UPSLOPE LAND DISTURBANCE
- 2. THE AREA UNDER THE EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED AS NEEDED TO FACILITATE SEDIMENT CLEANOUT.
- 3. FILL MATERIAL USED FOR THE EMBANKMENT SHALL BE FREE OF ROOTS OR OTHER WOODY VEGETATION AS WELL AS OVERSIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED. MAXIMUM HEIGHT OF THE EMBANKMENT SHALL BE 5 FT. AS MEASURED FROM THE SURROUNDING GROUND.
- 4. CUT-AND-FILL SLOPES SHALL BE 2:1 OR FLATTER.
- 5. DIKES DIRECTING WATER TO THE TRAP SHALL BE HIGHER THAN THE HEIGHT OF THE EMBANKMENT.
- 6. TEMPORARY SEEDING SHALL BE ESTABLISHED ON ALL NON-SUBMERGED AREAS OF THE SEDIMENT
- 7. THE STORAGE VOLUME SHALL BE ACHIEVED TO THE DIMENSIONS SHOWN IN THE PLANS TO ACHIEVE 67 CY OF STORAGE VOLUME BELOW THE CREST OF THE OUTLET FOR EVERY ACRE OF CONTRIBUTING DRAINAGE AREA.
- 8. THE OUTLET SPILLWAY SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN IN THE PLANS.
- 9. GEOTEXTILE SHALL BE PLACED OVER THE BOTTOM AND SLOPES OF THE OUTLET SPILLWAY. GEOTEXTILE SHALL CONTINUE DOWNSTREAM EMBANKMENT TO FORM AN APRON ON THE SURROUNDING GROUND. TO PREVENT RUNOFF FROM FLOWING UNDER THE GEOTEXTILE, THE SECTIONS PLACED NEAREST THE FRONT SHALL OVERLAP FOLLOWING SECTIONS. SECTIONS OF GEOTEXTILE SHALL OVERLAP AT LEAST 2 FT.
- 10. ROCK USED IN THE OUTLET SPILLWAY SHALL BE PLACED 1 FT. THICK ON THE GEOTEXTILE. THE ROCK SHALL BE BETWEEN TYPE C AND TYPE D ROCK WHERE D<sub>50</sub> IS ABOUT 8 IN.
- SEDIMENT SHALL BE REMOVED AND THE SEDIMENT TRAP RESTORED TO ITS ORIGINAL 11. SEDIMENT DIMENSIONS WHEN THE SEDIMENT HAS FILLED THE POND'S ORIGINAL DEPTH. ONE-HALF REMOVED SEDIMENT SHALL BE SPREAD IN A SUITABLE AREA AND STABILIZED SO IT WILL NOT
- 12. THE STRUCTURE AND ACCUMULATED SEDIMENT SHALL BE PERMANTLY STABILIZED WHEN THE DRAINAGE AREA HAS BEEN STABILIZED.





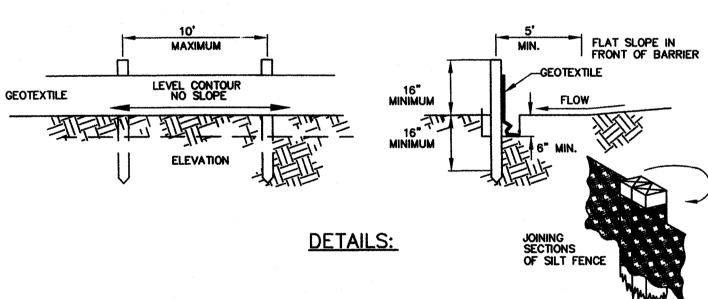
- 1. INLET PROTECTION SHALL BE CONSTRUCTED EITHER BEFORE UPSLOPE LAND DISTURBANCE BEGINS OR BEFORE THE STORM DRAIN BECOMES OPERATIONAL.
- 2. THE EARTH AROUND THE INLET SHALL BE EXCAVATED COMPLETELY TO A DEPTH AT LEAST 18
- 3. THE WOODEN FRAME SHALL BE CONSTRUCTED OF 2 IN BY 4 IN. CONSTRUCTION GRADE LUMBER. THE 2 IN. BY 4 IN. POSTS SHALL BE DRIVEN 18 IN. INTO THE GROUND AT FOUR CORNERS OF THE INLET AND THE TOP PORTION OF 2 IN. BY 4 IN. FRAME ASSEMBLED USING THE OVERLAP JOINT SHOWN THE TOP OF THE FRAME SHALL BE AT LEAST 6 IN. BELOW ADJACENT ROADS IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC.
- WIRE MESH SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT FABRIC WITH WATER FULLY IMPOUNDED AGAINST IT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY TO THE FRAME.
- GEOTEXTILE SHALL HAVE AN EQUIVALENT OPENING SIZE OF 20 40 SIEVE AND BE RESISTANT TO SUNLIGHT. IT SHALL BE STRETCHED TIGHTLY AROUND THE FRAME AND FASTENED SECURELY. IT SHALL EXTEND FROM THE TOP OF THE FRAME TO 18 IN. BELOW THE INLET NOTCH ELEVATION. THE GEOTEXTILE SHALL OVERLAP ACROSS ON SIDE OF THE INLET SO THE ENDS OF THE CLOTH ARE NOT FASTENED TO THE SAME POST.
- BACKFILL SHALL BE PLACED AROUND THE INLET IN COMPACTED 6 IN. LAYERS UNTIL THE EARTH IS EVEN WITH NOTCH ELEVATION ON ENDS AND TOP ELEVATION ON SIDES.
- A COMPACTED EARTH DIKE OR A CHECK DAM SHALL BE CONSTRUCTED IN THE DITCH LINE BELOW THE INLET IF THE INLET IS NOT IN A DEPRESSION AND IF RUNOFF BYPASSING THE INLET WILL NOT FLOW TO A SETTLING POND. THE TOP OF EARTH DIKES SHALL BE AT LEAST 6 IN. HIGHER THAN THE TOP OF THE FRAME.

# INLET PROTECTION IN SWALES, DITCH LINES OR YARD INLETS



- 1. STONE SIZE TWO-INCH STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT.
- 2. LENGTH THE CONSTRUCTION ENTRANCE SHALL BE AS LONG AS REQUIRED TO STABILIZE HIGH TRAFFIC AREAS BUT NOT LESS THAN 50 FT. (EXCEPT ON SINGLE RESIDENCE LOT WHERE A 30-FT. MINIMUM LENGTH APPLIES.
- 3. THICKNESS THE STONE LAYER SHALL BE AT LEAST 6 IN. THICK.
- 4. WIDTH THE ENTRANCE SHALL BE AT LEAST 10 FT. WIDE, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
- 5. BEDDING A GEOTEXTILE SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE. IT SHALL HAVE A GRAB TENSILE STRENGTH OF AT LEAST 200 LB. AND A MULLEN BURST STRENGTH OF AT LEAST 190 LB.
- 6. CULVERT A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FLOWING ACROSS THE ENTRANCE FROM BEING DIRECTED OUT ONTO PAVED SURFACES.
- 7. WATER BAR A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES.
- 8. MAINTENANCE TOP DRESSING OF ADDITIONAL STONE WALL SHALL BE APPLIED AS CONDITIONS DEMAND. MUD SPILLED. DROPPED. WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY. REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
- 9. CONSTRUCTION ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF-SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION SITE SHALL BE RESTRICTED FROM MUDDY AREAS.

## CONSTRUCTION ENTRANCE



#### NOTES:

- 1. SILT FENCE SHALL BE CONSTRUCTED BEFORE UPSLOPE LAND DISTRUBANCE BEGINS. . ALL SILT FENCE SHALL BE PLACED AS CLOSI TO THE CONTOUR AS POSSIBLE SO THAT WATER WILL NOT CONCENTRATE AT LOW POINTS IN THE FENCE AND SO THAT SMALL SWALES OR DEPRESSIONS WHICH MAY CARRY SMALL CONCENTRATED FLOWS TO THE SILT FENCE ARE DISSIPATED ALONG ITS LENGTH.
- 3. TO PREVENT WATER PONDED BY THE SILT FENCE FROM FLOWING AROUND THE ENDS, EACH END SHALL BE CONSTRUCTED UPSLOPE SO THAT THE ENDS ARE AT A HIGHER FLEVATION
- 4. WHERE POSSIBLE, SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
- WHERE POSSIBLE, VEGETATION SHALL BE PRESERVED FOR 5 ft. (OR AS MUCH AS POSSIBLE) UPSLOPE FROM THE SILT FENCE. IF VEGETATION IS REMOVED, IT SHALL BE RE-ESTABLISHED WITHIN 7 DAYS FROM THE INSTALLATION OF THE FENCE.
- 6. SOIL STOCKPILES OR OTHER SOURCES OF SEDIMENT SHALL HAVE SILT FENCE PROTECTION. SILT FENCE SHALL BE PLACED IN A CH CUT A MINIMUM OF 6 DEEP. TRENCHER, TRENCHER, E LAYING MACHINE, OR OTHER SUITABLE WHICH WILL ENSURE AN ADEQUATELY
- SEAMS BETWEEN SECTION OF SILT FENCE SHALL BE OVERLAPPED WITH THE END STAKES OF EACH SECTION WRAPPED TOGETHER BEFORE DRIVING INTO THE GROUND.
- NAINTENANCE—— SILT FENCE SHALL ALLOW
  RUNOFF TO PASS ONLY AS DIFFUSE FLOW
  THROUGH THE GEOTEXTILE. IF RUNOFF
  OVERTOPS THE SILT FENCE, FLOWS UNDER OR
  AROUND THE ENDS, OR IN ANY OTHER WAY
  BECOMES A CONCENTRATED FLOW, ONE OF THE
  FOLLOWING SHALL BE PERFORMED,
  AS APPROPRIATE:

  1) THE LAYOUT OF THE SILT FENCE SHALL BE
  CHANGED,
  2) ACCUMULATED SEDIMENT SHALL BE REMOVED.
- CRITERIA FOR SILT FENCE MATERIALS 1. FENCE POSTS — THE LENGTH SHALL BE A MINIMUM OF 32" LONG. WOOD POST WILL BE 2" X 2" HARDWOOD OF SOUND QUALITY. THE MAXIMUM SPACING BETWEEN POSTS SHALL BE 10 FT.
- 2. SILT FENCE FABRIC (SEE CHART BELOW):

FABRIC PROPERTIES	VALUES	TEST METHOD
GRAB TENSILE STRENGTH	90 LB. MINIMUM	ASTM D 1682
MULLEN BURST STRENGTH	190 P.S.I. MINIMUM	ASTM D 3786
SLURRY FLOW RATE	0.3 GAL./MIN./FT. <sup>2</sup> MAXIMUM	
EQUIVALENT OPENING SIZE	40-80	US STD. SIEVE CW-02215
ULTRAVIOLET RAD. STABILITY	90% MINIMUM	ASTM-G-26

SCALE:

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