

DRAINAGE IMPROVEMENTS

FOR

WINNWOOD/BELLBROOK ESTATES

PHASE 2 AND 3

T O W N O F **ADDISON**

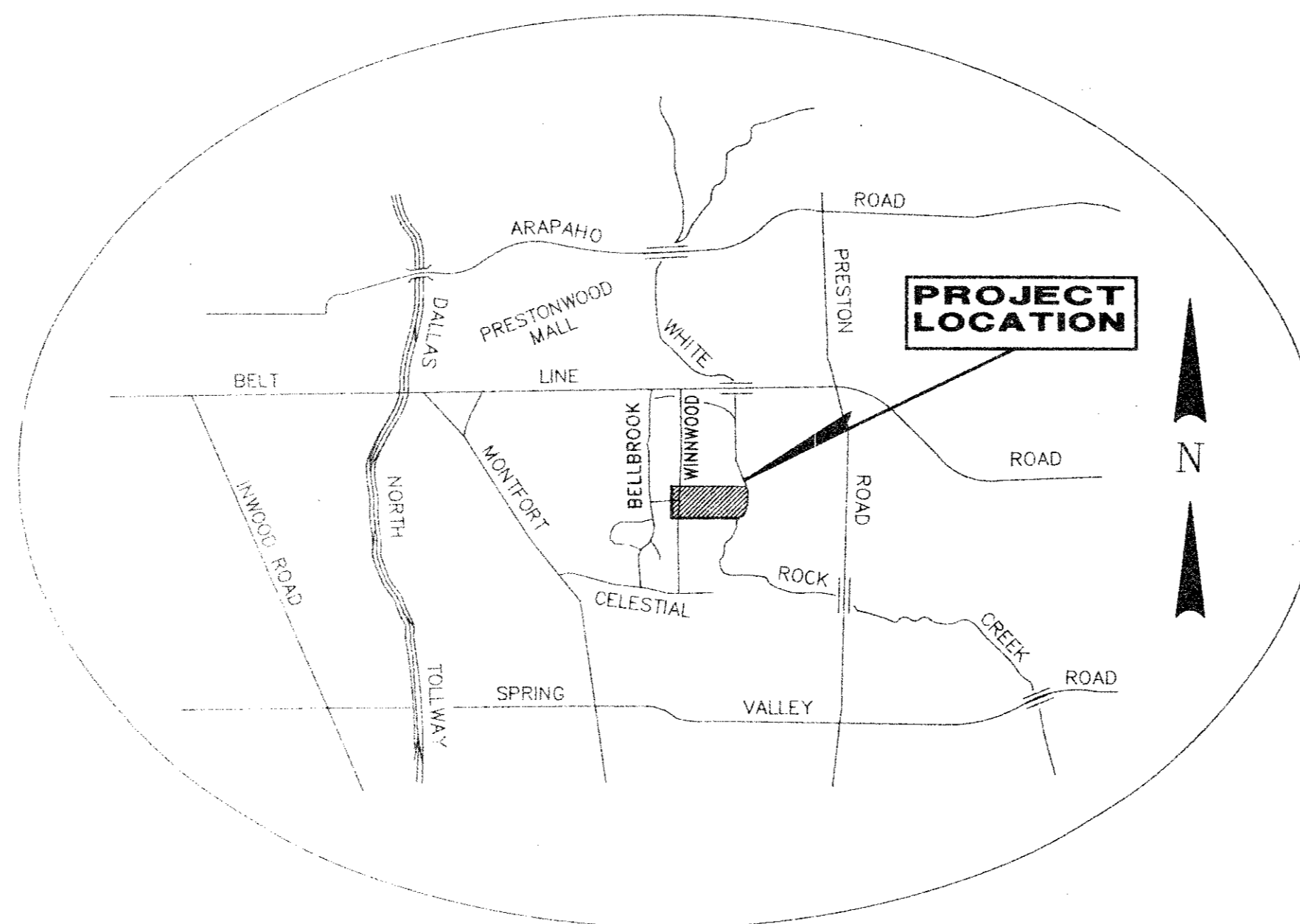
TOWN OF ADDISON

LYNN SPRUILL
MAYOR

RON WHITEHEAD
CITY MANAGER

CITY COUNCIL

BUD AKIN
JOHN BRANCH
MARY DOLAN
DAVID GRANOFF
RILEY REINKER



LOCATION MAP

N.T.S.

SHEET INDEX

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6	CONSTRUCTION DETAILS

TOWN OF ADDISON ENGINEER JOHN BAUMGARTNER, P.E.

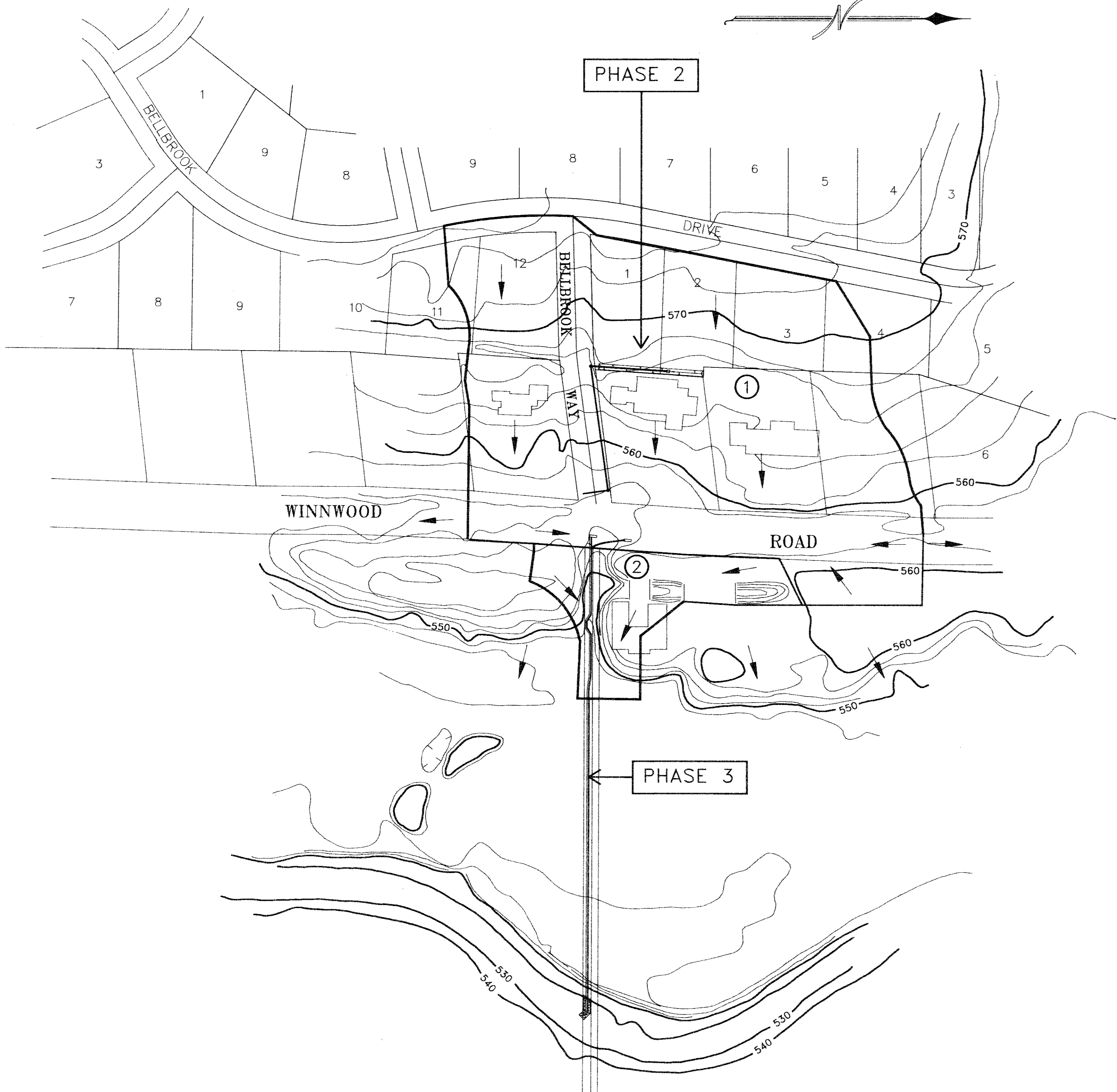
EH&A PROJECT MANAGER BRUCE GRANTHAM, P.E.



ESPEY, HUSTON & ASSOCIATES, INC.
Engineering & Environmental Consultants
17811 Waterview Parkway Dallas, Texas 75252
(214) 669-9600

EH&A JOB NO. 13404

BA
8/19/91



PROJECT LAYOUT AND DRAINAGE AREA MAP

SCALE: 1"=100'

LEGEND

- EXISTING**
- EASEMENT LINE
 - x-x- FENCE
 - w-w- WALL
 - 12"W- WATER LINE (SIZE)
 - 8"SS- MH- SANITARY SEWER LINE AND MANHOLE (SIZE)
 - SWBT- SOUTHWESTERN BELL TELEPHONE CABLE
 - 6"G- LONE STAR GAS LINE
 - OH- PP- OVERHEAD POWER LINE AND POLE
 - CURB LINE
 - ELEC- TU ELECTRIC UNDERGROUND CABLE
 - +553.1 GROUND ELEVATION
 - o SPRINKLER HEAD
- PROPOSED**
- STORM DRAIN LINE
 - STORM DRAIN LINE AND TYPE Y INLET
 - STORM DRAIN LINE AND MANHOLE
 - CONCRETE SWALE
 - o 553.0 GROUND ELEVATION

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF DALLAS 291-D STANDARDS AND SPECIFICATIONS AND NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (1983 EDITION) INCLUDING ALL AMENDMENTS AND ADDITIONS. USE TOWN OF ADDISON STANDARD INLET FRAME & COVER ON ALL MANHOLES AND INLETS.
2. CONTRACTOR SHALL NOT PLACE FILL OR WASTE MATERIAL ON ANY PRIVATE PROPERTY WITHOUT PRIOR WRITTEN AGREEMENT WITH THE PROPERTY OWNER. NO EXCESS EXCAVATED MATERIAL SHALL BE DEPOSITED IN LOW AREAS OR ALONG NATURAL DRAINAGE WAY WITHOUT WRITTEN PERMISSION FROM THE ENGINEER. IF THE CONTRACTOR PLACES EXCESS MATERIAL IN AREAS WITHOUT WRITTEN PERMISSION HE WILL BE RESPONSIBLE FOR ALL DAMAGE RESULTING FROM SUCH FILL AND HE SHALL REMOVE THE MATERIAL AT HIS OWN COST IF THE TOWN SO DIRECTS.
3. NO TREES SHALL BE CUT EXCEPT ON SPECIFIC AUTHORITY OF THE TOWN.
4. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS UNLESS OTHERWISE NOTED.
5. ALL REINFORCING STEEL AND DOWEL BARS IN PAVEMENT SHALL BE SUPPORTED AND MAINTAINED AT THE CORRECT CLEARANCES BY THE USE OF BAR CHAIRS OR OTHER APPROVED SUPPORT.
6. THE CONTRACTOR SHALL NOTIFY THE DALLAS WATER UTILITIES DISTRIBUTION DIVISION, 670-8543, AND THE WASTEWATER COLLECTION DIVISION, 670-7440, AT LEAST 48 HOURS PRIOR TO START OF ANY CONSTRUCTION THAT MIGHT AFFECT THEIR FACILITIES.
7. THE CONTRACTOR SHALL CONSTRUCT UTILITY SUPPORTS FOR EXISTING WATER MAINS AND SANITARY SEWERS WHERE DIRECTED BY THE ENGINEER. ALL SUCH UTILITY SUPPORTS SHALL BE INCIDENTAL ON THIS PROJECT. NO PAY ITEMS WILL BE PROVIDED.
8. STANDARD DEPTH OF INLETS IS 4.0 FEET, EXCEPT AS SHOWN OTHERWISE. DEPTH MAY BE VARIED TO CLEAR UTILITIES.
9. LOCATION OF ALL UNDERGROUND UTILITIES IN THE AREA OF SWALE, FRENCH DRAIN AND STORM DRAIN CONSTRUCTION AND OTHER AREAS OF POSSIBLE CONFLICT WILL BE UNCOVERED TO DETERMINE EXACT LOCATIONS PRIOR TO START OF CONSTRUCTION.
10. ALL STORM DRAIN PIPE WILL BE INSTALLED ACCORDING TO THE REQUIREMENTS OF THE SPECIFICATIONS.
11. ALL BARRICADES, WARNING SIGNS, LIGHTS, DEVICES, ETC., FOR THE GUIDANCE AND PROTECTION OF TRAFFIC AND PEDESTRIANS MUST CONFORM TO THE INSTALLATION SHOWN IN THE 1980 TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS CURRENTLY AMENDED, TEXAS STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION.
12. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING STREETS AND SIDEWALKS ADJACENT TO PROJECT FREE OF MUD AND DEBRIS FROM CONSTRUCTION ON A DAILY BASIS.
13. HAND FINISH OF CONCRETE PAVEMENT SHALL NOT BE A SEPARATE PAY ITEM ON THIS PROJECT.
14. ACCESS TO ADJUTING PROPERTY DURING THE CONSTRUCTION OF THIS PROJECT MUST BE MAINTAINED FOR EMERGENCY TRAFFIC.
15. NO STOP OR YIELD SIGN IS TO BE RELOCATED OR REMOVED WITHOUT PRIOR APPROVAL BY THE TOWN.
16. ADJUSTMENT OF UNPAVED SURFACES TO GRADE AND RESTORATION OF THE SURFACE TO EQUAL OR BETTER THAN THE ORIGINAL WILL BE INCIDENTAL ON THIS PROJECT. NO PAY ITEMS WILL BE PROVIDED.
17. VERIFY LOCATIONS OF TU ELECTRIC COMPANY UNDERGROUND FACILITIES BEFORE BEGINNING EXCAVATION. CONTACT TU ELECTRIC AT 323-8910 48 HOURS PRIOR TO BEGINNING CONSTRUCTION SO THAT THE LOCATION OF UNDERGROUND LINES CAN BE MARKED.
18. PRIOR TO BEGINNING CONSTRUCTION IN THE AREA OF SOUTHWESTERN BELL TELEPHONE UNDERGROUND FACILITIES, CALL 938-4102 48 HOURS IN ADVANCE OF WORK. IF NECESSARY, TEST DITCHES WILL BE DUG TO VERIFY ACTUAL LOCATIONS AND CONDITIONS.
19. CONTACT STORER CABLE AT 840-2388 48 HOURS PRIOR TO BEGINNING CONSTRUCTION SO THAT THE LOCATION OF UNDERGROUND LINES CAN BE MARKED.
20. CONTACT LONE STAR GAS COMPANY AT 263-0100 48 HOURS PRIOR TO BEGINNING CONSTRUCTION SO THAT THE LOCATION OF UNDERGROUND LINES CAN BE MARKED.
21. STREET NAME SIGNS WILL BE RELOCATED BY THE CONTRACTOR. THE CONTRACTOR WILL BE REQUIRED TO GIVE 5 DAYS NOTICE IN ADVANCE OF THE TIME A STREET SIGN MUST BE RELOCATED TO CLEAR CONSTRUCTION OPERATIONS.
22. REMOVAL AND REPLACEMENT OF FENCE WILL BE INCIDENTAL ON THIS PROJECT. NO PAY ITEMS WILL BE PROVIDED. ANY DAMAGE TO EXISTING FENCING SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.
23. THE CEMENT CONTENT FOR PAVEMENT WILL BE INCREASED TO 6 BAGS PER CUBIC YARD TO ENABLE EARLIER OPENING OF THE STREET TO TRAFFIC, IF NECESSARY. NO SEPARATE OR ADDITIONAL PAY WILL BE PROVIDED.
24. WHEN EXCAVATING NEAR POWER POLES, CONTRACTOR SHALL ARRANGE AND PAY FOR HAVING POLES SUPPORTED IN PLACE. NO SEPARATE OR ADDITIONAL PAY WILL BE PROVIDED.
25. LOCATION OF ALL UTILITIES IS APPROXIMATE. CONTRACTOR TO LOCATE, PROTECT AND REPAIR AT HIS EXPENSE ALL UTILITIES.
26. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AT LEAST 48 HOURS PRIOR TO START OF ANY CONSTRUCTION.
27. CONTRACTOR SHALL EXERCISE REASONABLE CARE TO PREVENT UNNECESSARY DAMAGE TO TREES AND SHRUBS. WHERE REQUIRED, REPLACEMENT OR RESTORATION OF TREES AND SHRUBS SHALL BE PERFORMED BY THE TOWN OF ADDISON.
28. CONTRACTOR SHALL CONFORM TO THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION'S STANDARDS FOR TRENCH SAFETY THAT ARE IN EFFECT DURING THE PERIOD OF CONSTRUCTION.
29. TREES SHALL BE TRIMMED PRIOR TO CONSTRUCTION TO PREVENT DAMAGE BY EQUIPMENT.

DRAINAGE CALCULATIONS

DRAINAGE AREA NO.	DRAINAGE AREA (acres)	RUNOFF COEFFICIENT (C)	TIME OF CONCENTRATION (min)	RAINFALL INTENSITY (inches/hour)			RUNOFF (cfs)		
				1s	12s	100	Q5	Q25	Q100
1	6.8	0.45	15	5.0	7.3	8.9	15.3	22.3	27.3
2	1.0	0.45	15	5.0	7.3	8.9	2.2	3.3	4.0

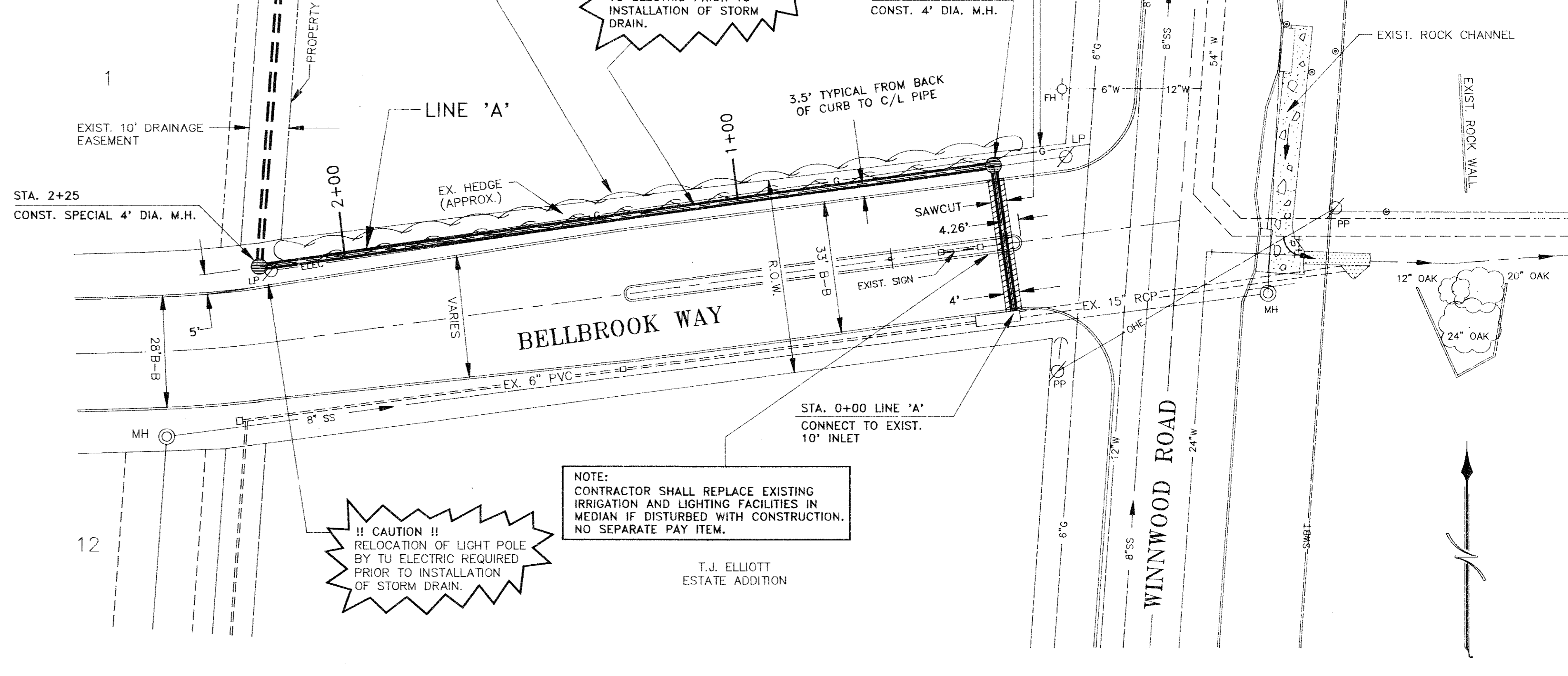
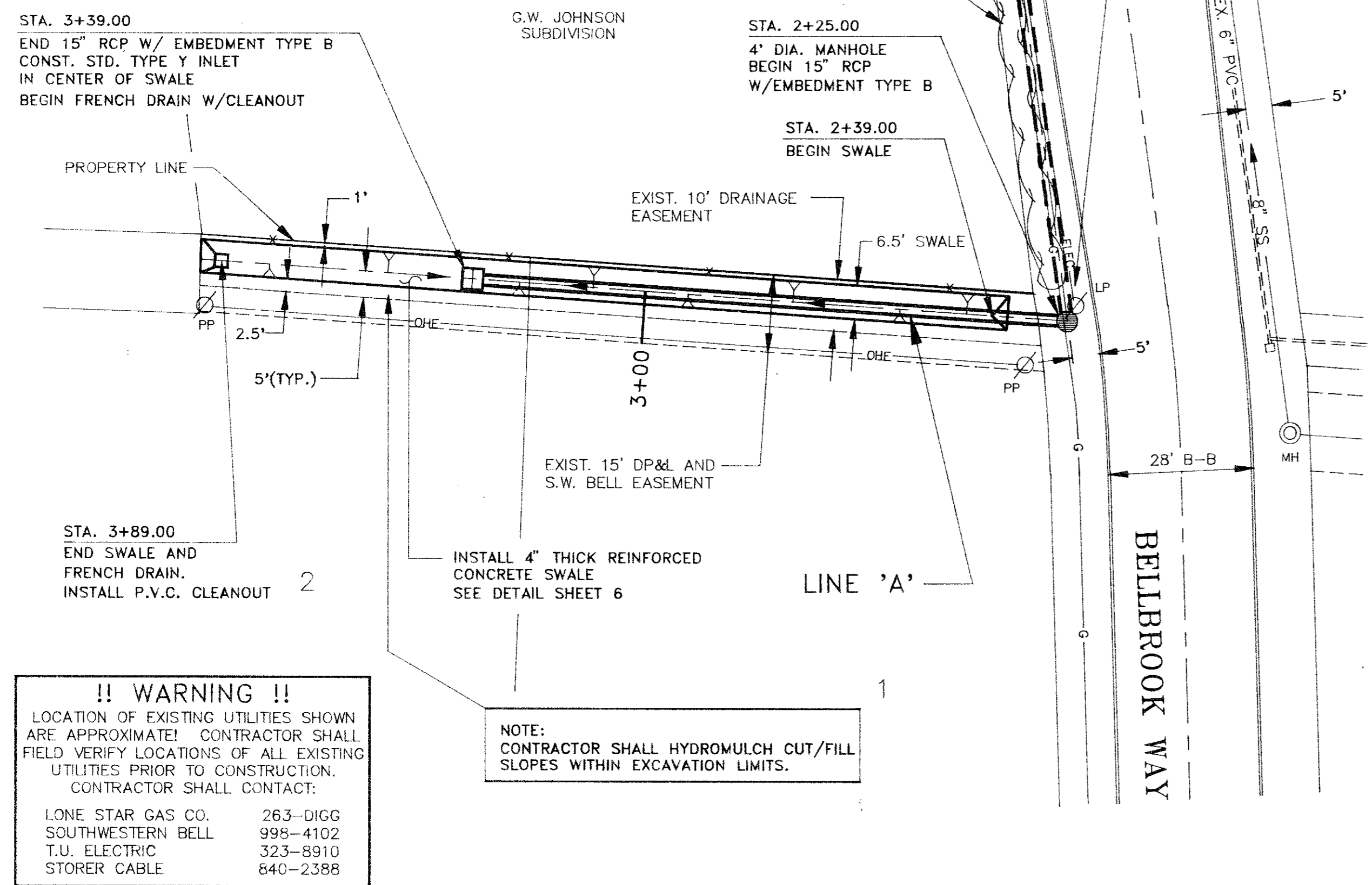
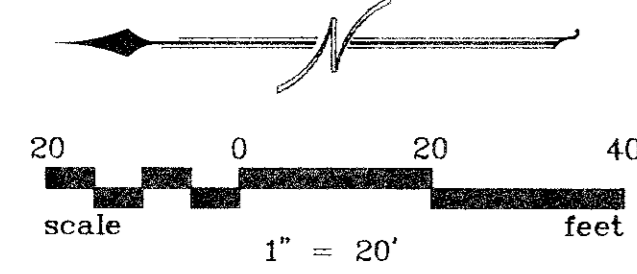
DRAINAGE NOTE

1. PHASE 2 DRAINAGE SYSTEM HAS BEEN DESIGNED TO COLLECT AND CONTAIN RUNOFF FROM THE 100-YEAR STORM.
2. PHASE 3 DRAINAGE SYSTEM HAS BEEN DESIGNED TO COLLECT AND CONTAIN RUNOFF UP TO A LEVEL BETWEEN THE 5-YEAR AND 25-YEAR STORM.

LIST OF BENCHMARKS

- B.M. #6:
RAILROAD SPIKE FOUND IN A POWER POLE ON THE SOUTH SIDE OF CELESTIAL ROAD 400'± EAST OF THE SOUTHWEST PROPERTY CORNER, FIRST POLE EAST OF BELLBROOK DRIVE. ELEVATION = 603.83
- B.M. #10:
RAILROAD SPIKE FOUND IN A POWER POLE 20'± WEST OF THE SOUTHEAST LOT CORNER OF NAW'S LITTLE ACRE ADDITION, SAME CORNER BEING 57'± SOUTH OF THE NORTHEAST CORNER OF LOT 9 OF BELLBROOK ESTATES. ELEVATION = 567.24
- B.M. #11:
BOX SET IN THE NORTH RIM OF A SANITARY SEWER MANHOLE 5' SOUTH OF THE SOUTH CURB LINE OF BELLBROOK WAY, NEAR THE NORTHEAST CORNER OF LOT 12 OF BELLBROOK ESTATES. ELEVATION = 567.70

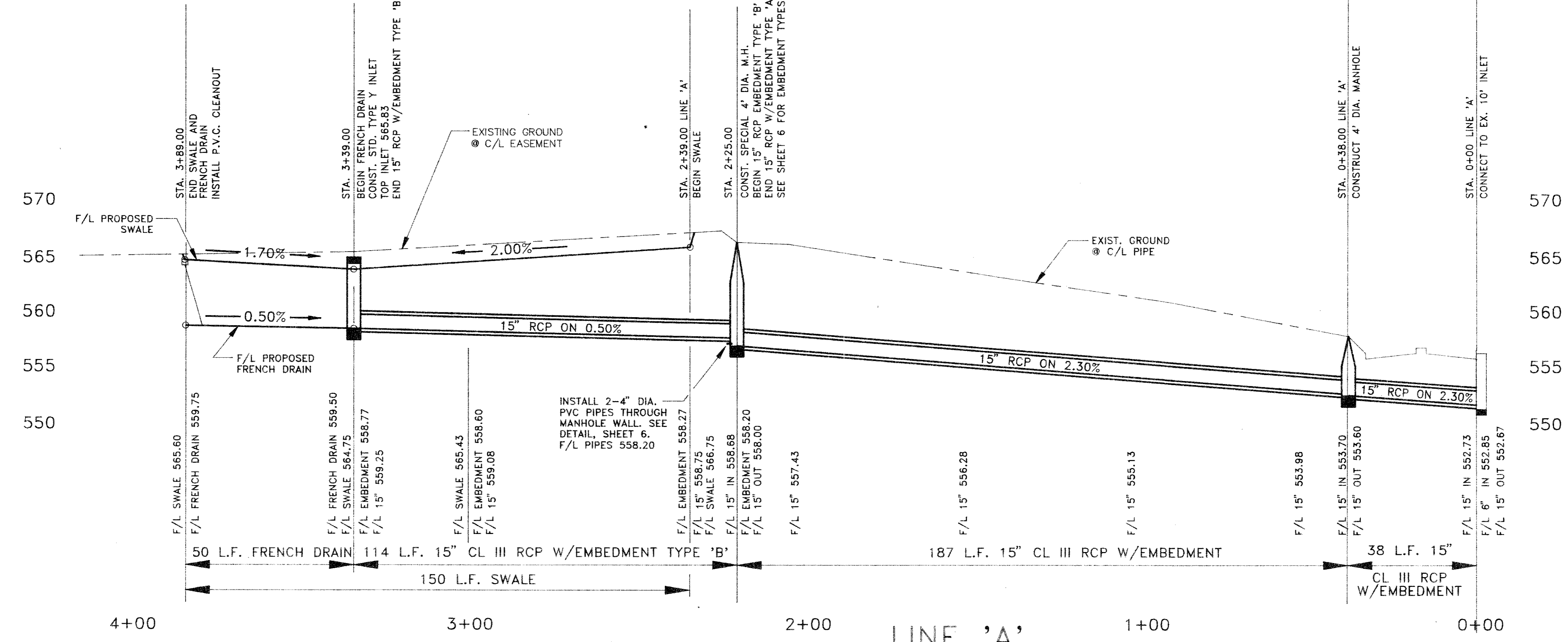
DESIGNED BY J. WALDBAUMER DRAWN BY CHECKED BY SCALE DATE JULY 9		ESPEY, HUSTON & ASSOCIATES, INC. Engineering & Environmental Consultants 17811 Waterview Parkway Dallas, Texas 75252 (214) 669-9600	PROJECT LAYOUT/NOTES WINNWOOD/BELLBROOK DRAINAGE PHASES 2 AND 3 for THE TOWN OF ADDISON	SHEET NO. 2 OF 6 SHEETS JOB NO. 13404
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!! WARNING !!
 LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE! CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL CONTACT:
 LONE STAR GAS CO. 263-0166
 SOUTHWESTERN BELL 995-4102
 T.U. ELECTRIC 323-8910
 STORER CABLE 640-2388

NOTE:
 CONTRACTOR SHALL HYDROMULCH CUT/FILL SLOPES WITHIN EXCAVATION LIMITS.

LIST OF BENCHMARKS
 B.M. #1: RAILROAD SPIKE FOUND IN A POWER POLE ON THE SOUTH SIDE OF CELESTIAL ROAD... ELEVATION = 563.83
 B.M. #10: RAILROAD SPIKE FOUND IN A POWER POLE 20' NEST OF THE SOUTHEAST LOT CORNER... ELEVATION = 567.28
 B.M. #11: BOX SET IN THE NORTH RM OF A SANITARY SEWER MANHOLE... ELEVATION = 567.70



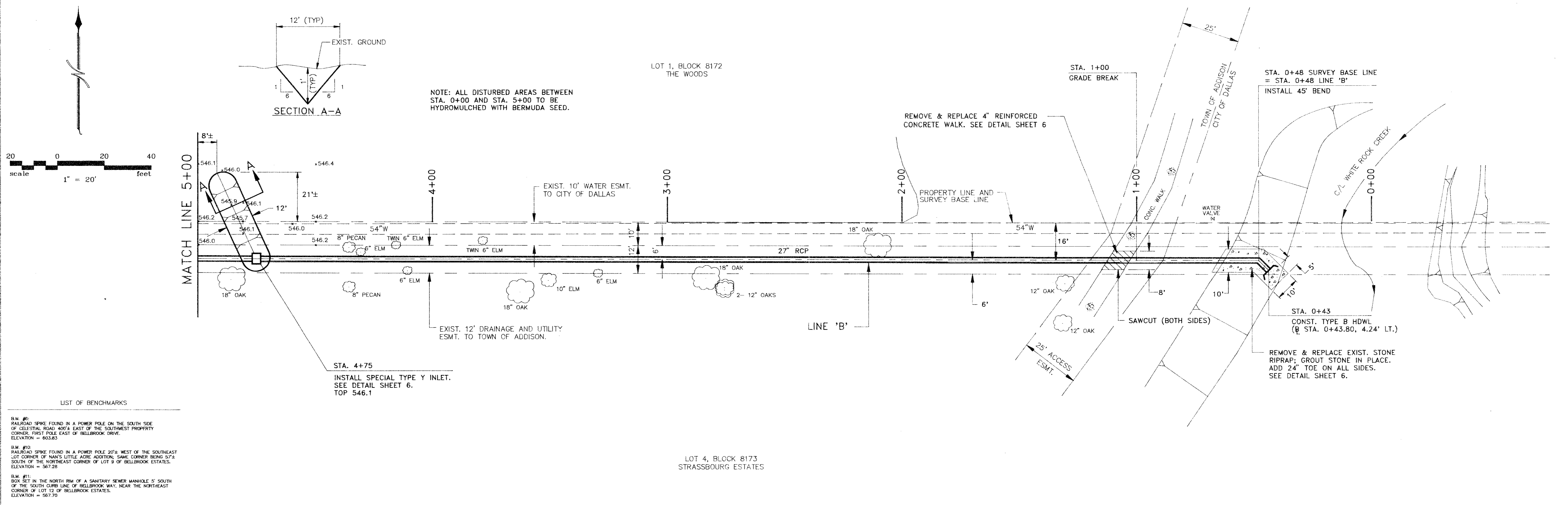
NO.	REVISION	BY	DATE

DESIGNED BY: J. WALLBAUER
 DRAWN BY: C. PARKER
 CHECKED BY: B. GRANTHAM
 SCALE: 1" = 6' V, 1" = 20' H
 DATE: J Y 1991

ESPEY, HUSTON & ASSOCIATES, INC.
Engineering & Environmental Consultants
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PHASE 2
DRAINAGE PLAN & PROFILE
 WINNWOOD/BELLBROOK DRAINAGE
 PHASES 2 AND 3
 for
 THE TOWN OF ADDISON

SHEET NO. **3**
 OF 6 SHEETS
 JOB NO. 13404

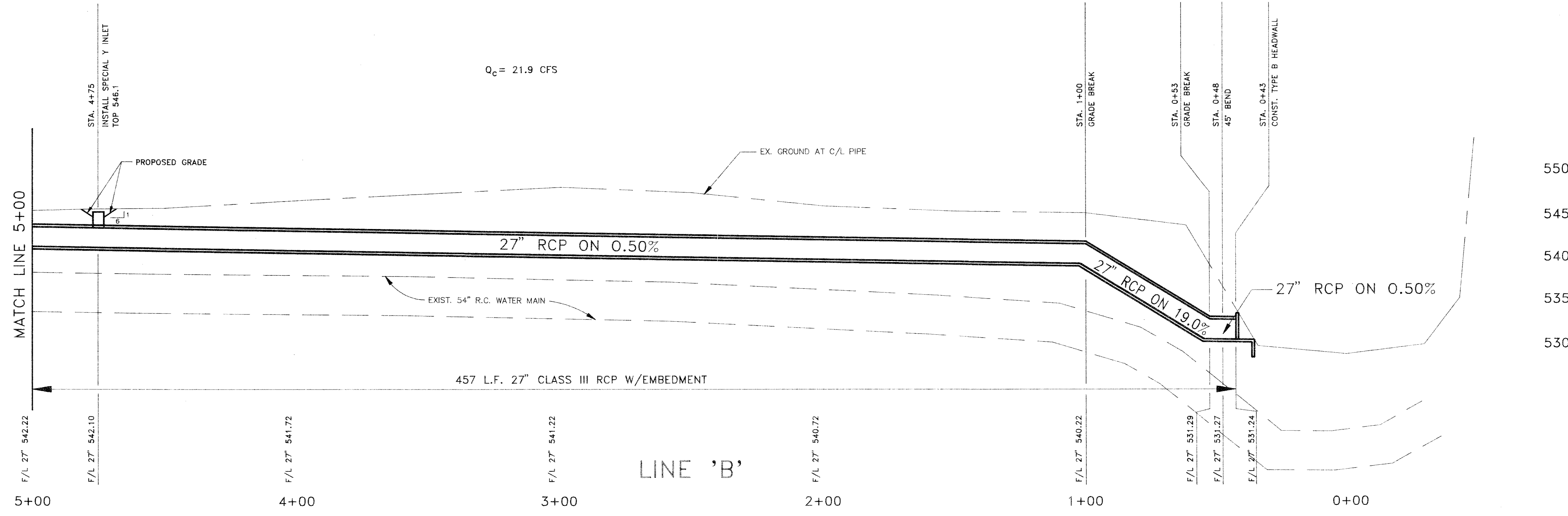


LIST OF BENCHMARKS

B.M. #1:
RAILROAD SPIKE FOUND IN A POWER POLE ON THE SOUTH SIDE OF ELLISTAL ROAD, 400' EAST OF THE SOUTHWEST PROPERTY CORNER, FIRST POLE EAST OF BELLBROOK DRIVE. ELEVATION = 803.83

B.M. #2:
RAILROAD SPIKE FOUND IN A POWER POLE 20' WEST OF THE SOUTHEAST LOT CORNER OF NANA'S LITTLE ACRE ADDITION, SAME CORNER BEING 57' SOUTH OF THE NORTHEAST CORNER OF LOT 3 OF BELLBROOK ESTATES. ELEVATION = 567.28

B.M. #3:
BOX SET IN THE NORTH RIM OF A SANITARY SEWER MANHOLE 5' SOUTH OF THE SOUTH CURB LINE OF BELLBROOK WAY, NEAR THE NORTHEAST CORNER OF LOT 12 OF BELLBROOK ESTATES. ELEVATION = 567.70



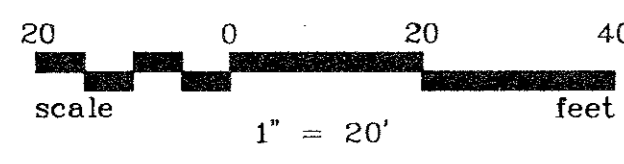
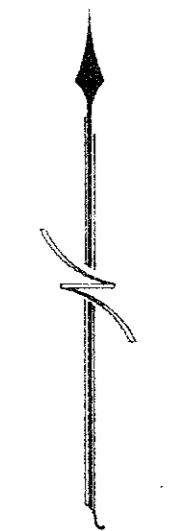
NO	REVISION	BY	DATE

DESIGNED BY: J. WALDBAUER
 DRAWN BY: C. PARKER
 CHECKED BY: B. GRANITHAM
 SCALE: 1"=6'V, 1"=20'H
 DATE: JULY 1991



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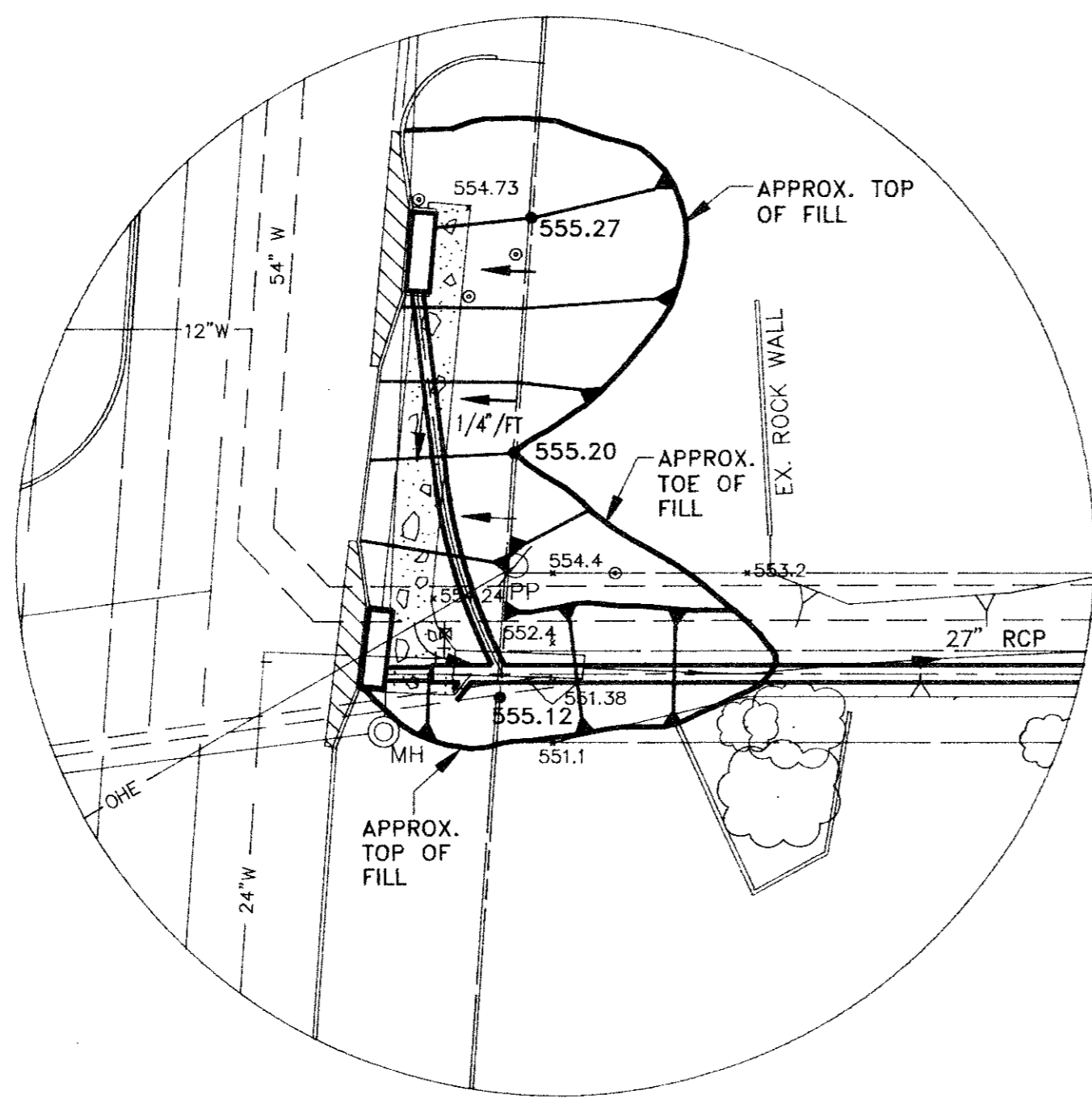
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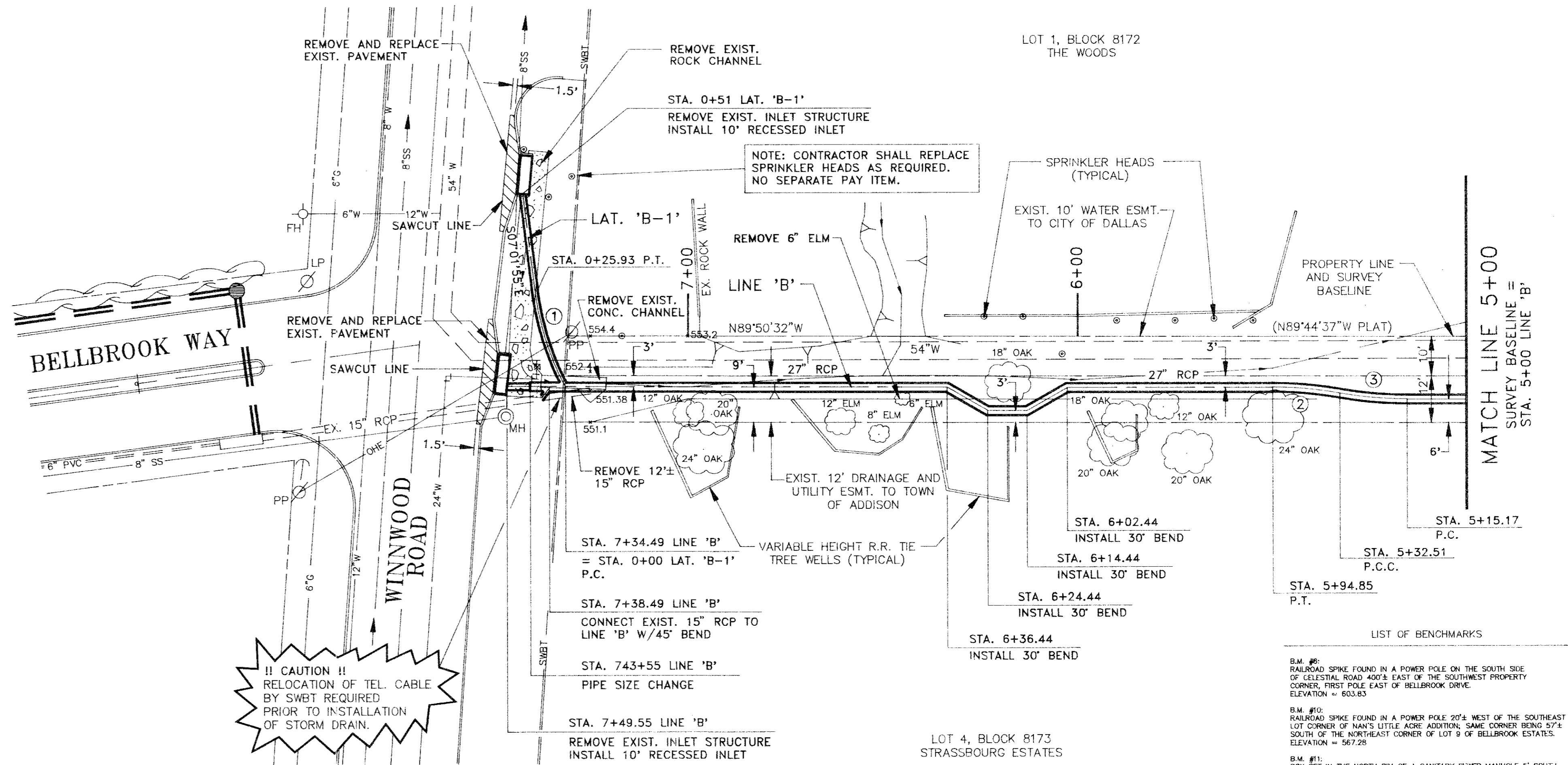
CURVE DATA		
①	②	③
$\Delta = 21'13.32''$	$\Delta = 9'56.11''$	$\Delta = 9'56.11''$
$R = 70'$	$R = 100'$	$R = 100'$
$L = 25.93'$	$L = 17.34'$	$L = 17.34'$
$T = 13.12'$	$T = 8.69'$	$T = 8.69'$

GRADING NOTES

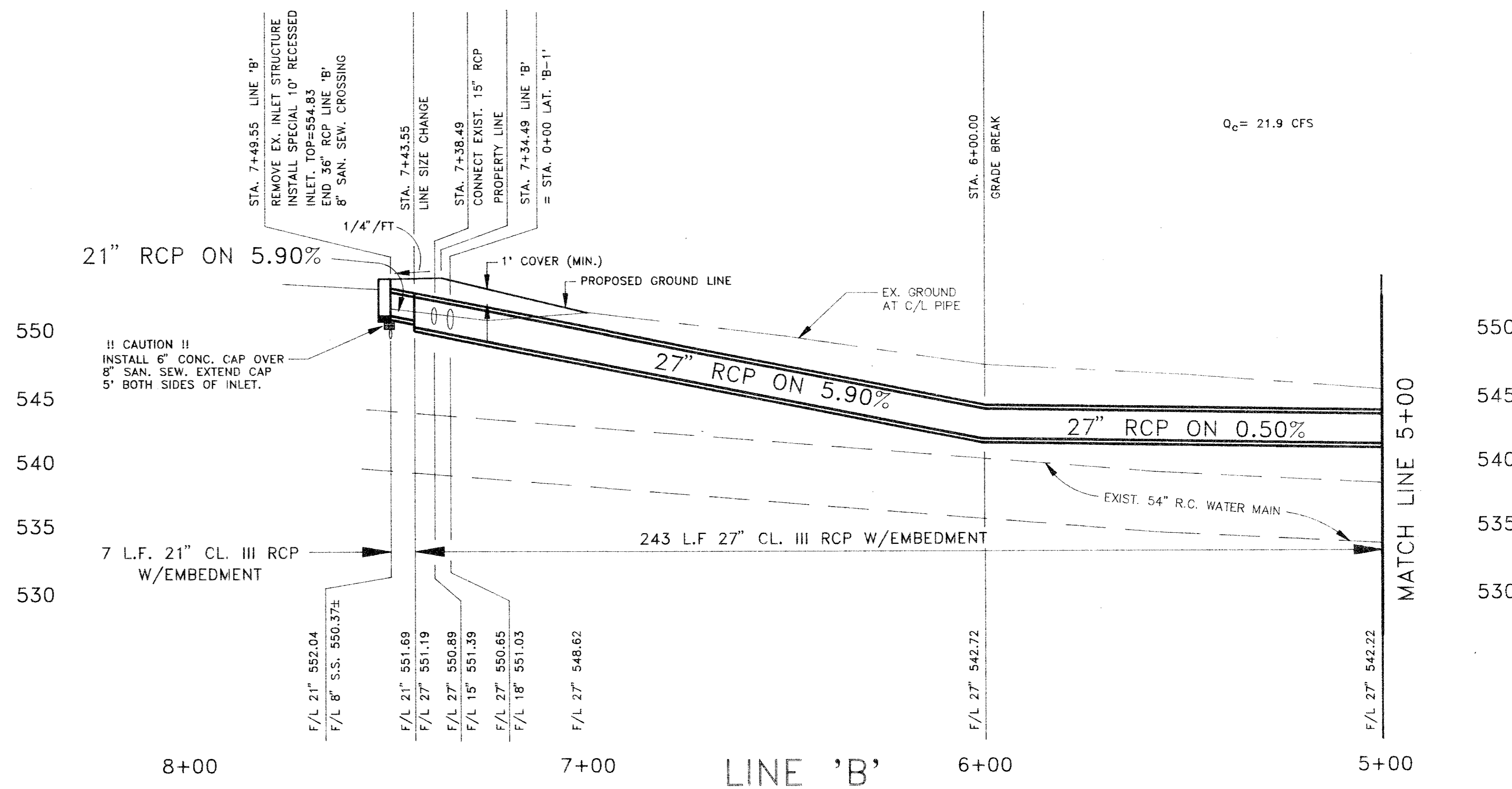
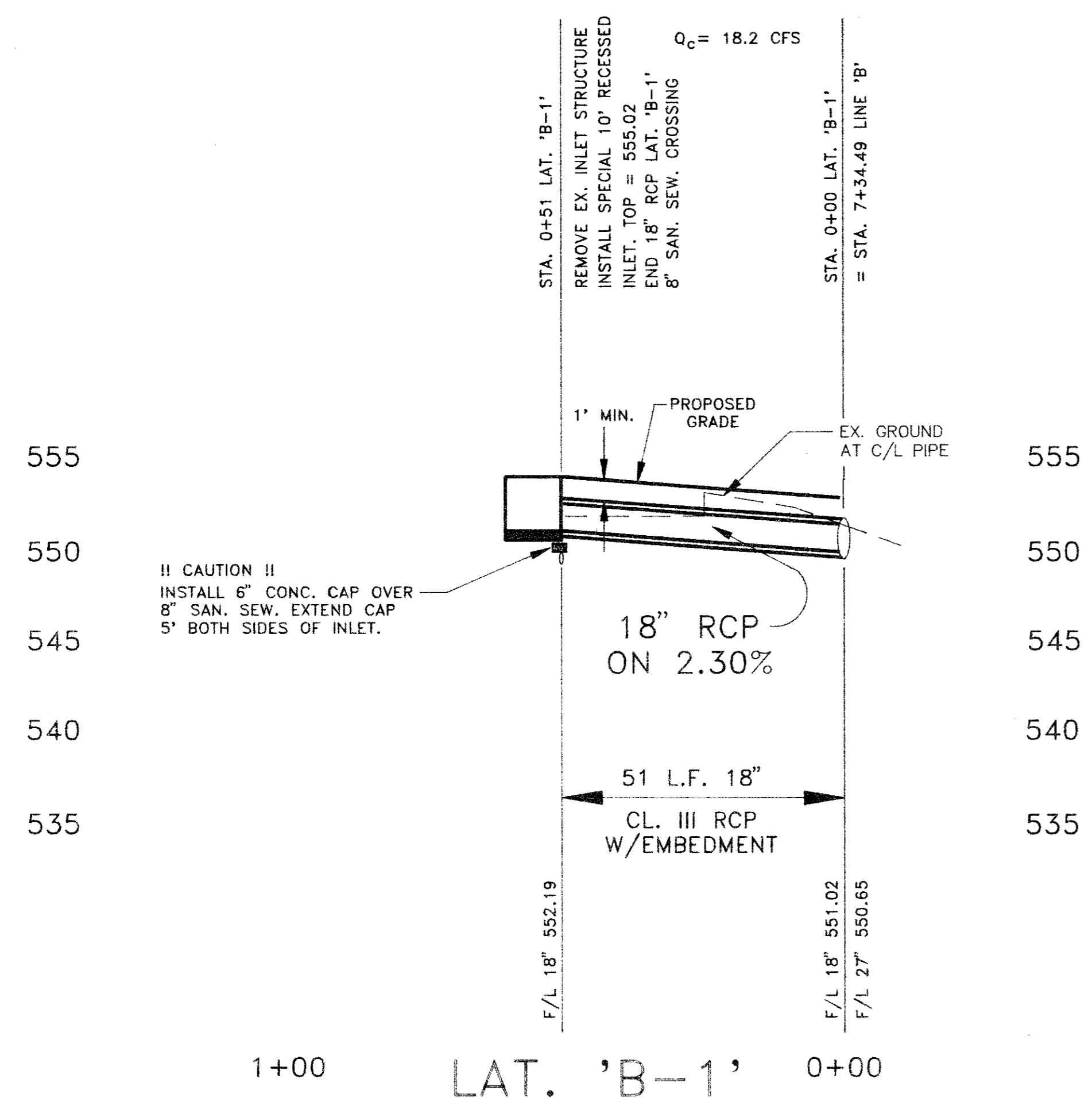
1. TOP OF FILL/TOE OF FILL LIMITS ARE APPROXIMATE ONLY. CONTRACTOR SHALL CONFIRM LIMITS WITH ENGINEER IN FIELD PRIOR TO COMMENCING WORK.
2. BERMUDA SOD SHALL BE PLACED ON ALL FILL WITHIN APPROXIMATE LIMITS SHOWN ON THE GRADING PLAN.
3. ALL FILL SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY IN MAXIMUM 8-INCH LIFTS.
4. ALL FILL SHALL BE VOID OF DEBRIS AND ROCKS.
5. CONTRACTOR SHALL PROTECT AND ADJUST THE EXISTING IRRIGATION SYSTEM.



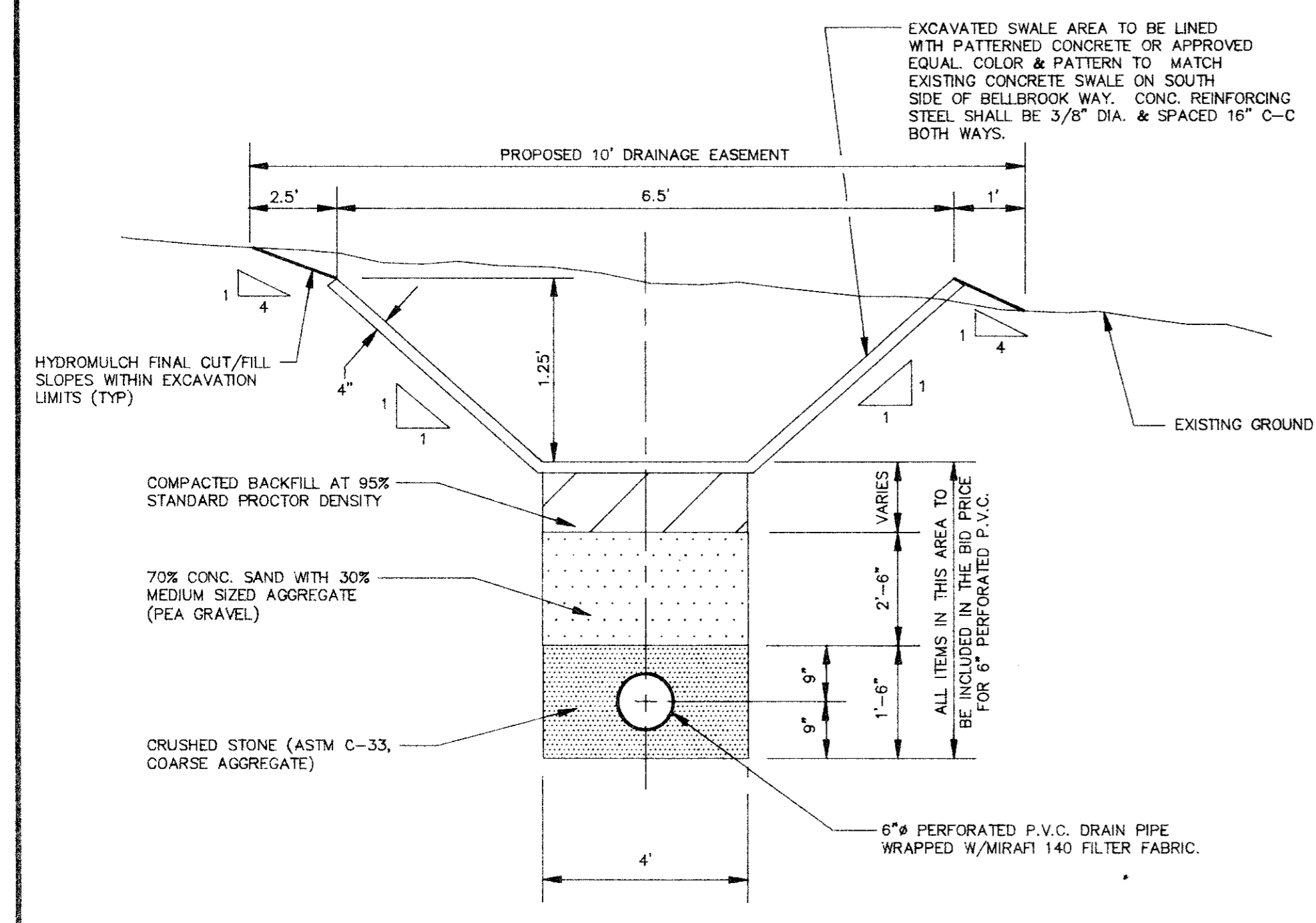
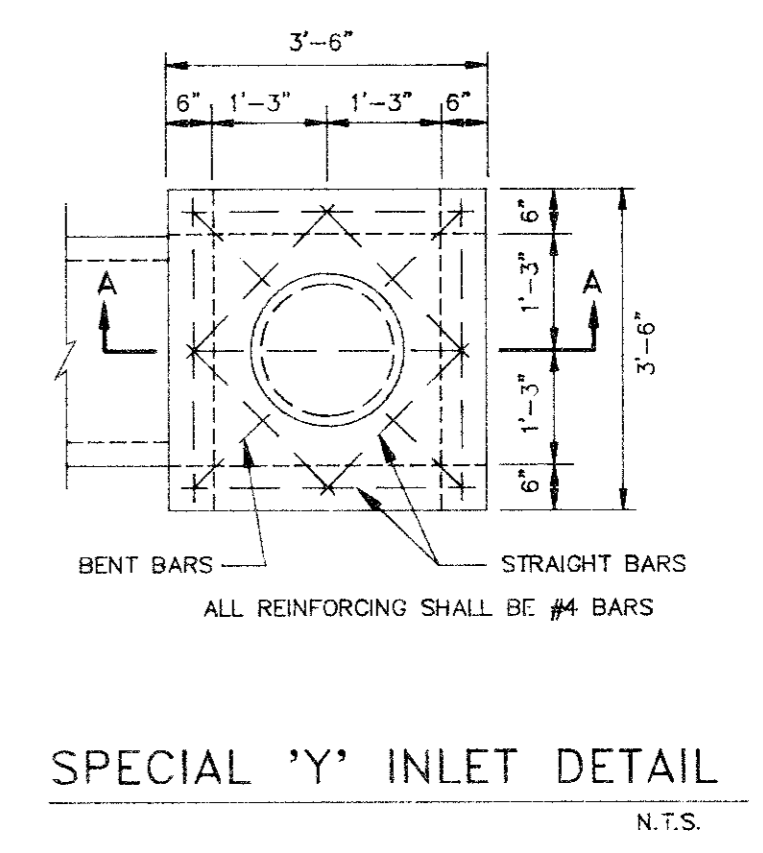
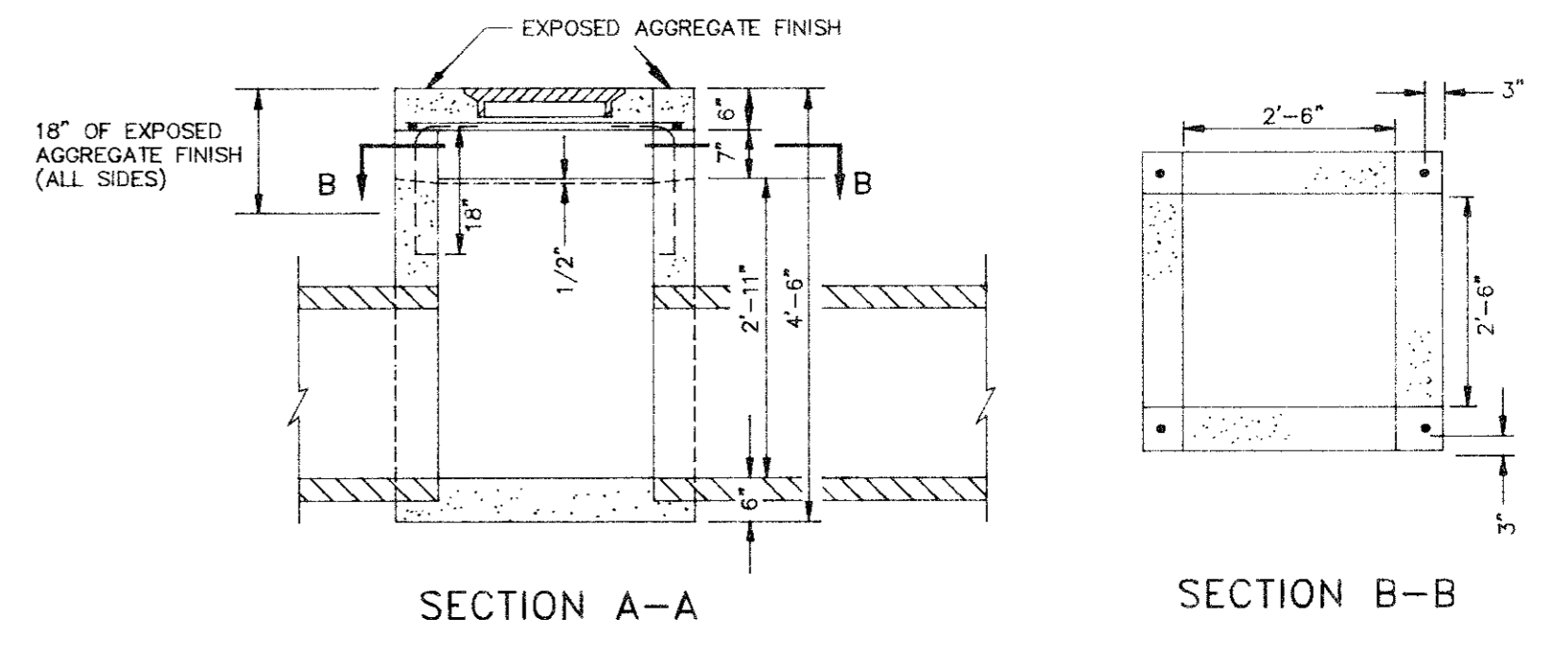
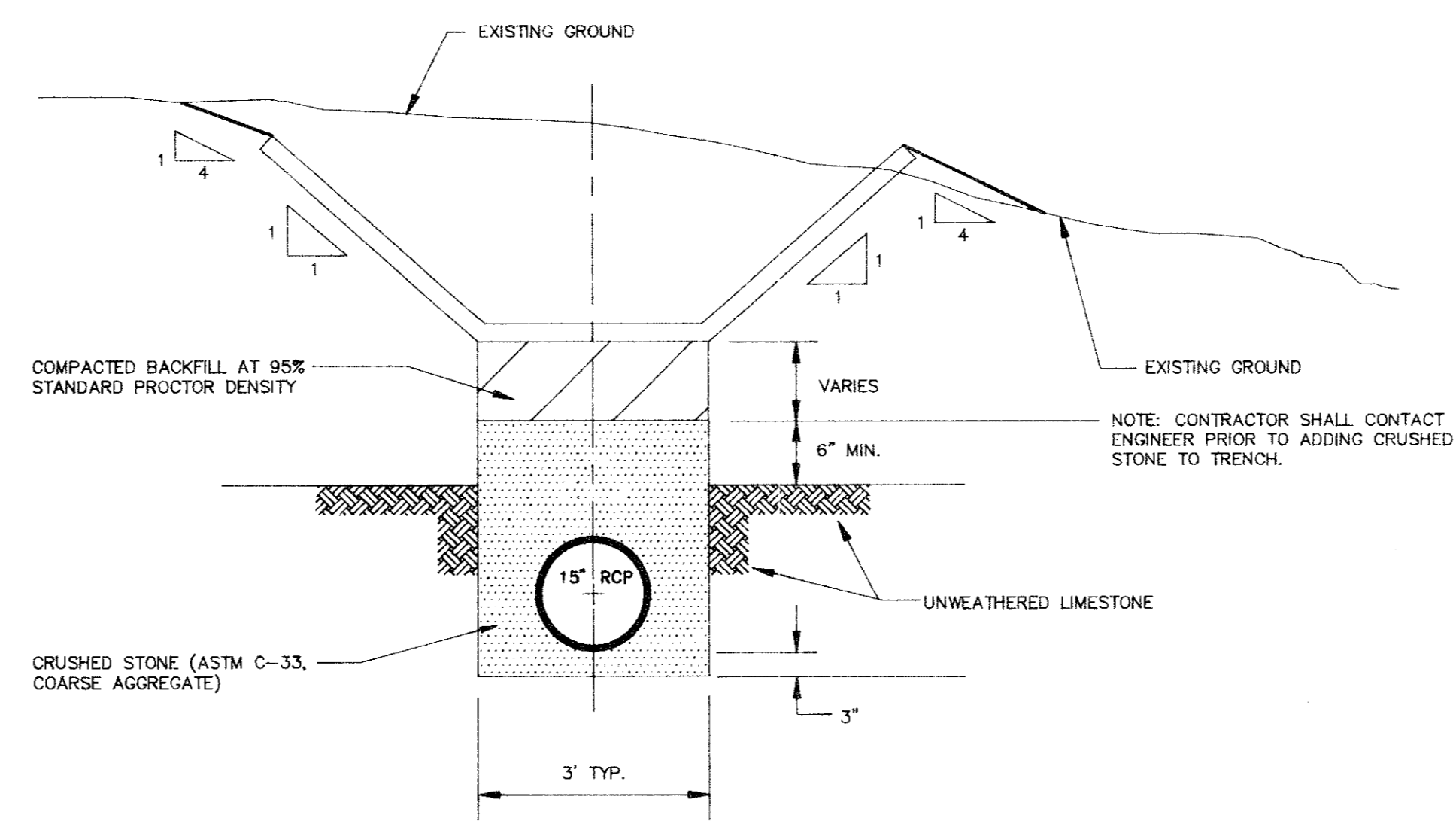
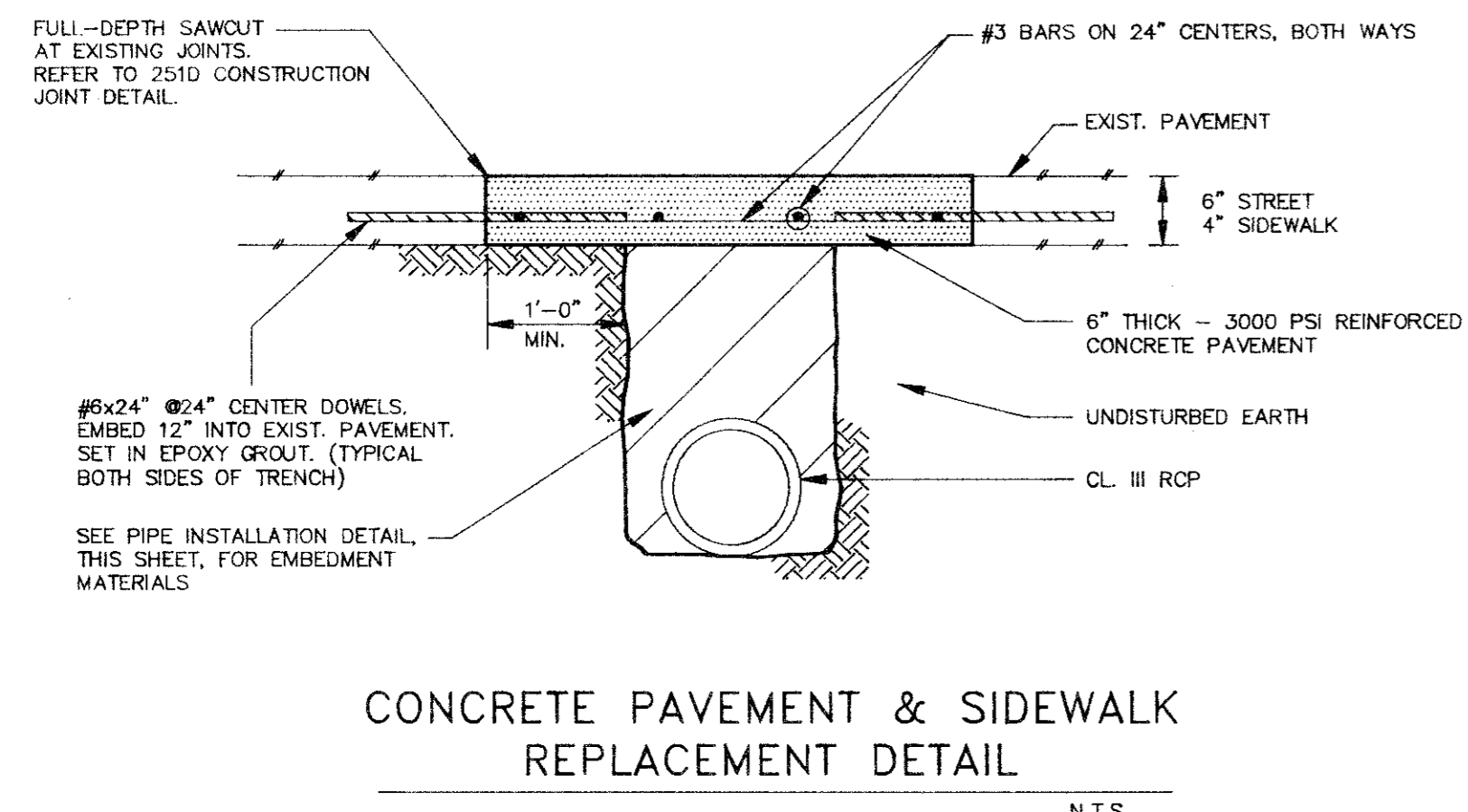
GRADING PLAN



- LIST OF BENCHMARKS**
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 - B.M. #8: RAILROAD SPIKE FOUND IN A POWER POLE 20' WEST OF THE SOUTHWEST LOT CORNER OF MAN'S LITTLE ASSE. ADDITION. SAME CORNER BEING 27' SOUTH OF THE NORTHEAST CORNER OF LOT 9 OF BELLBROOK ESTATES. ELEVATION = 567.25
 - B.M. #11: BOX SET IN THE NORTH RM OF A SANITARY SEWER MANHOLE 5' SOUTH OF THE SOUTH CURB LINE OF BELLBROOK WAY, NEAR THE NORTHEAST CORNER OF LOT 12 OF BELLBROOK ESTATES. ELEVATION = 567.70

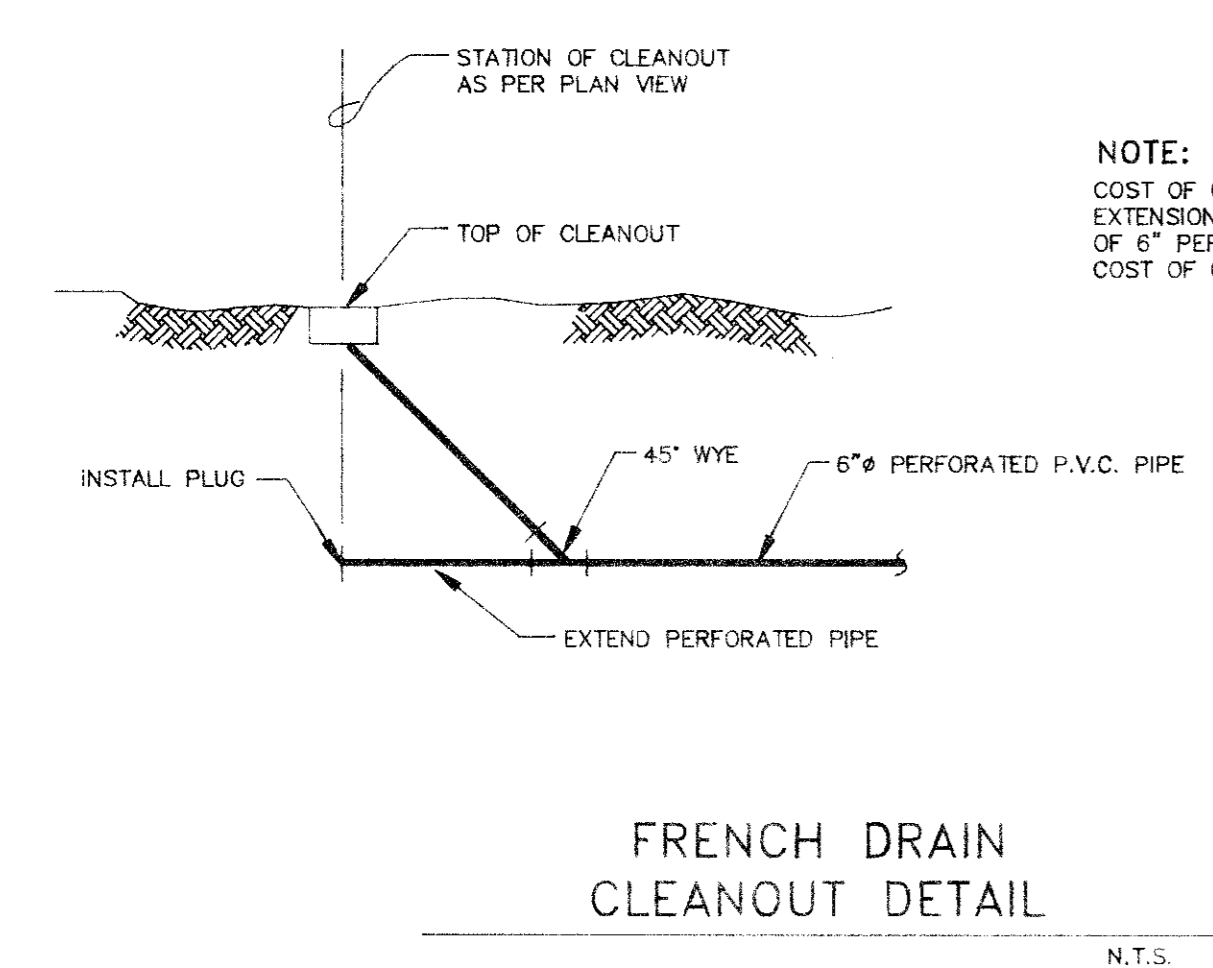
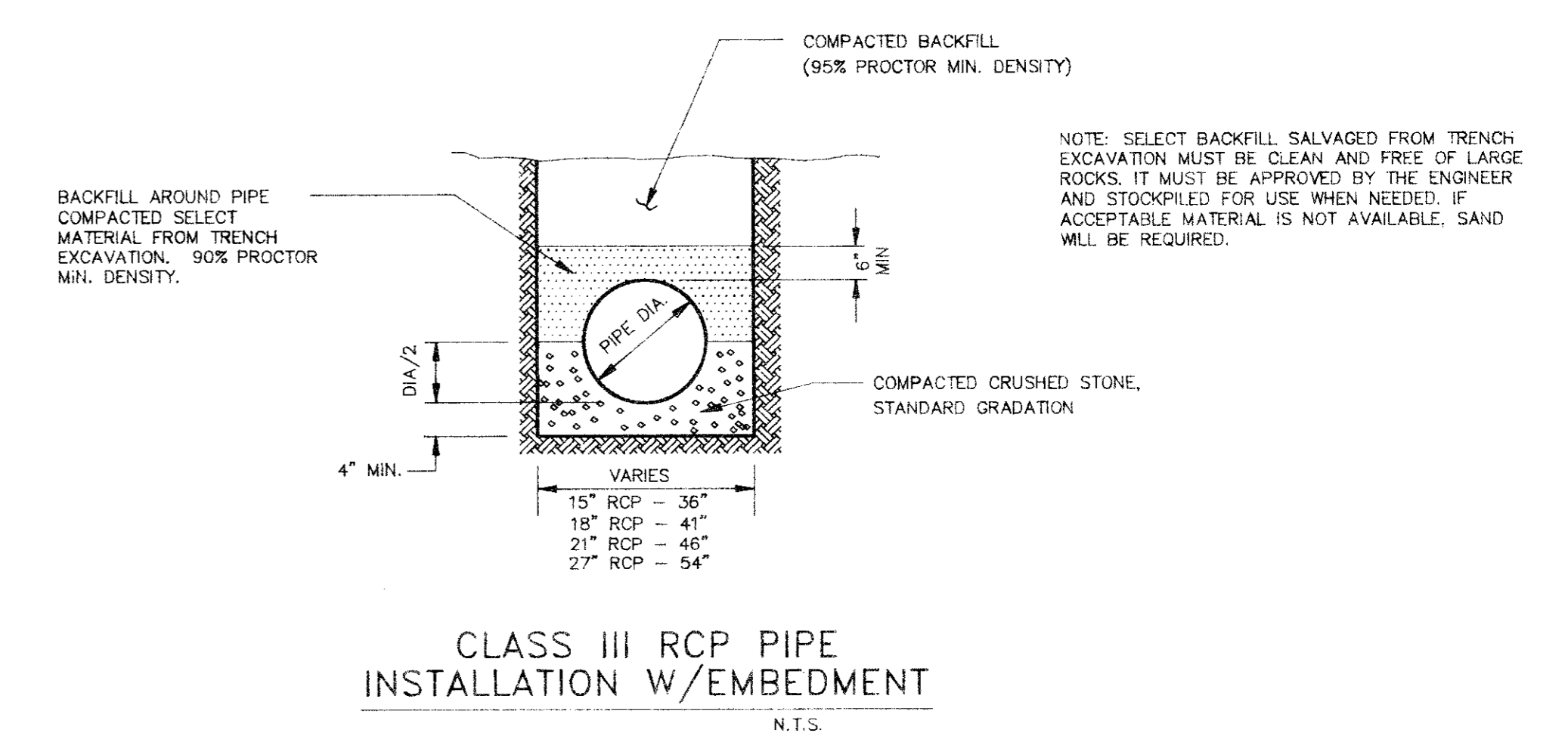
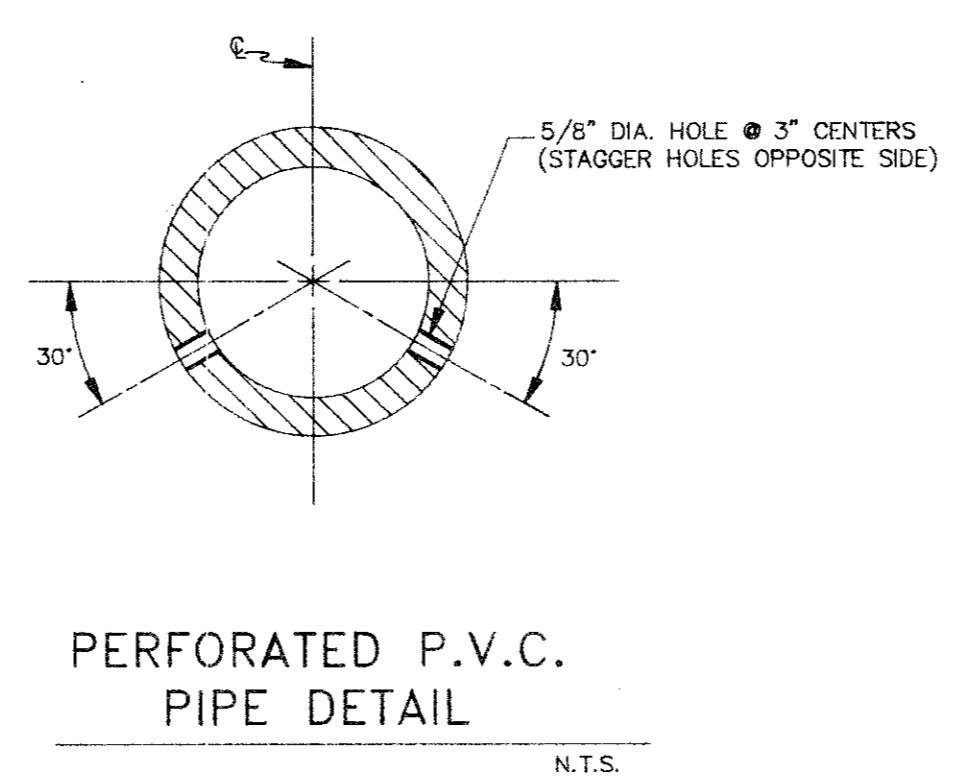


DESIGNED BY: J. WALDBAUER DRAWN BY: C. PARKER CHECKED BY: B. GRANTHAM SCALE: 1"=6' V, 1"=20' H DATE: JULY 1991	<p>ESPEY, HUSTON & ASSOCIATES, INC. <i>Engineering & Environmental Consultants</i> (214) 669-9600</p>	PHASE 3 DRAINAGE PLAN & PROFILE	SHEET NO. 5
		WINNWOOD/BELLBROOK DRAINAGE PHASES 2 AND 3 for THE TOWN OF ADDISON	OF 6 SHEETS JOB NO. 13404

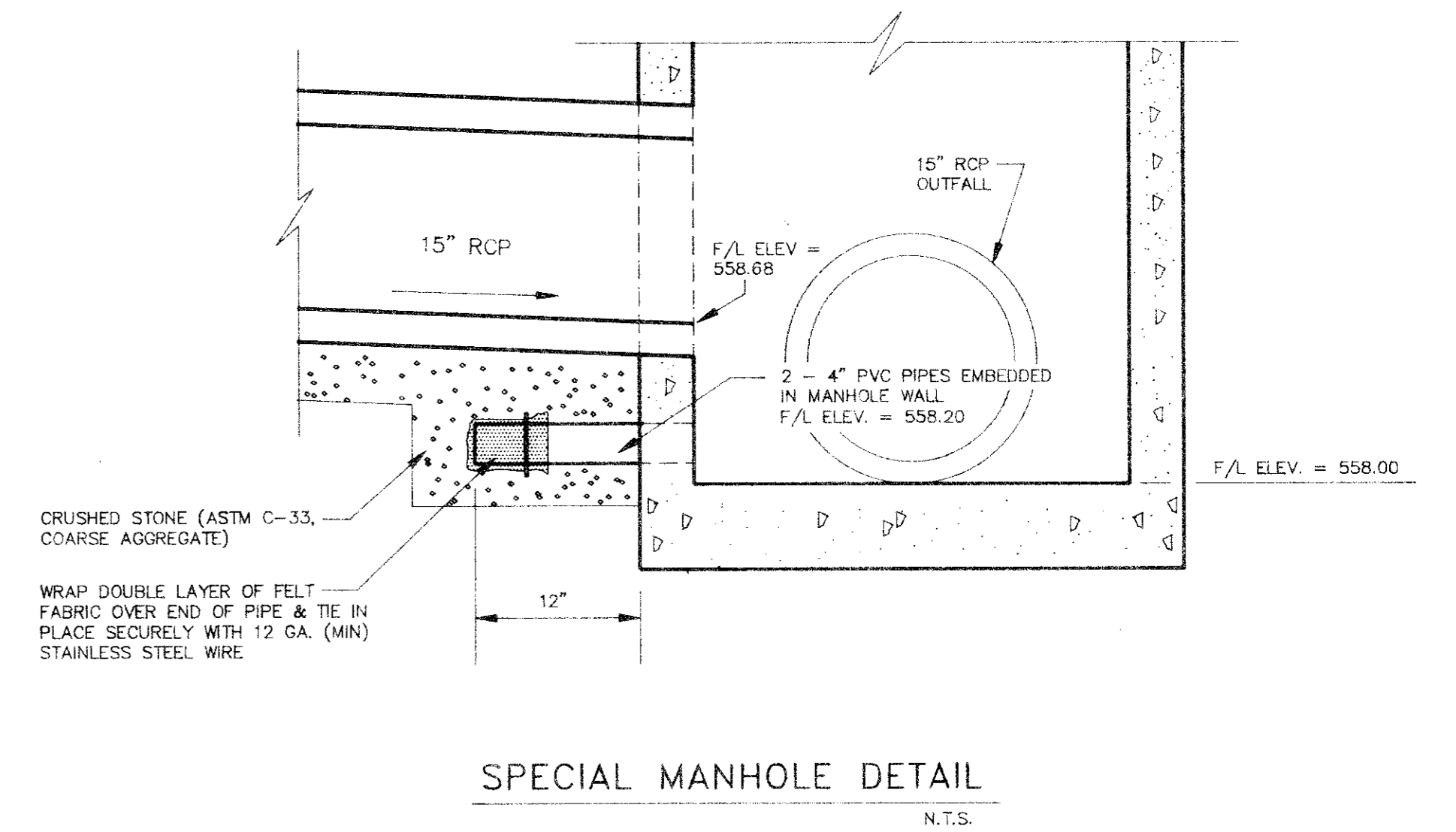
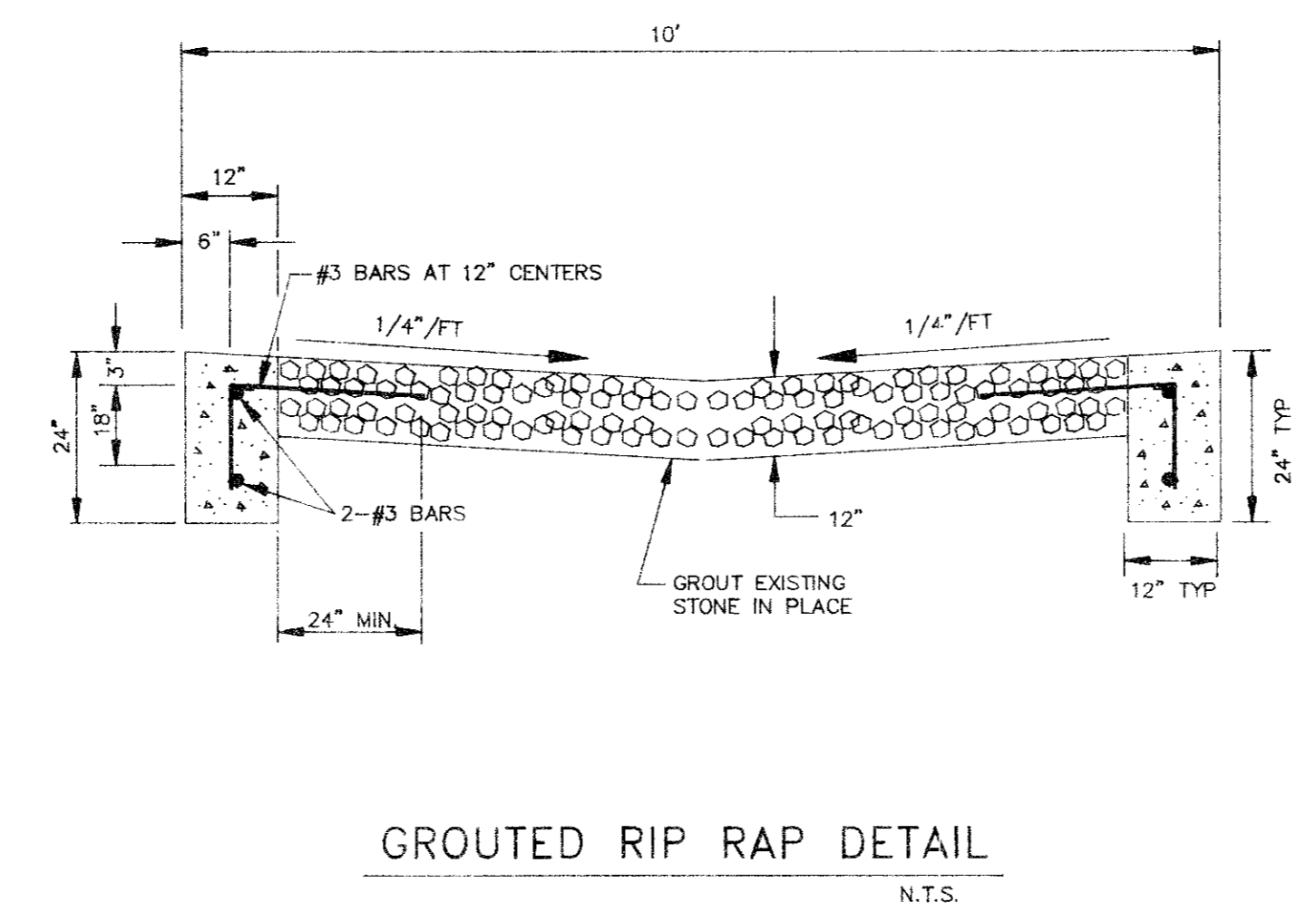


NOTES:

- P.V.C. PIPE SHALL BE SCHEDULE 80 WITH SOLVENT WELDED COUPLING JOINTS.
- CONTRACTOR SHALL PROVIDE AND MAINTAIN ADEQUATE DEWATERING EQUIPMENT TO REMOVE AND DISPOSE OF ALL SURFACE AND GROUND WATER ENTERING EXCAVATIONS, TRENCHES OR OTHER PARTS OF THE WORK. NO SEPARATE PAY ITEMS SHALL BE PROVIDED.
- BACKFILL MATERIAL OVER AND AROUND THE P.V.C. PIPE SHALL BE LIGHTLY HAND TAMPED.



NOTE:
COST OF 6" PERFORATED P.V.C. PIPE FOR CLEANOUT, EXTENSION, PLUG AND 45° WYE TO BE INCLUDED IN COST OF 6" PERFORATED P.V.C. PIPE (NO SEPARATE PAY). COST OF CLEANOUT SHALL BE A SEPARATE PAY ITEM.



NO	REVISION	BY	DATE

DESIGNED BY J. WALDBAUER
DRAWN BY C. PARKER
CHECKED BY B. CHAIT
SCALE: NOT TO SCALE
DATE: JULY

ESPEY, HUSTON & ASSOCIATES, INC.
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17811 Waterview Parkway Dallas, Texas 75252
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CONSTRUCTION DETAILS
WINNWOOD/BELLBROOK DRAINAGE
PHASES 2 AND 3
for
THE TOWN OF ADDISON

SHEET NO. **6**
OF **6** SHEETS
JOB NO. **13404**