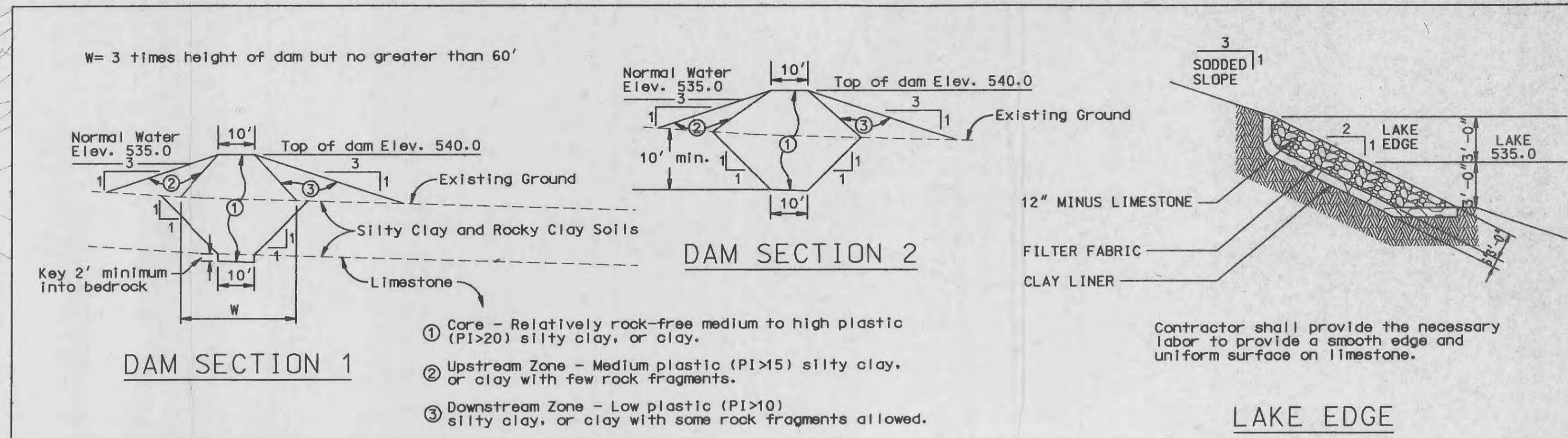
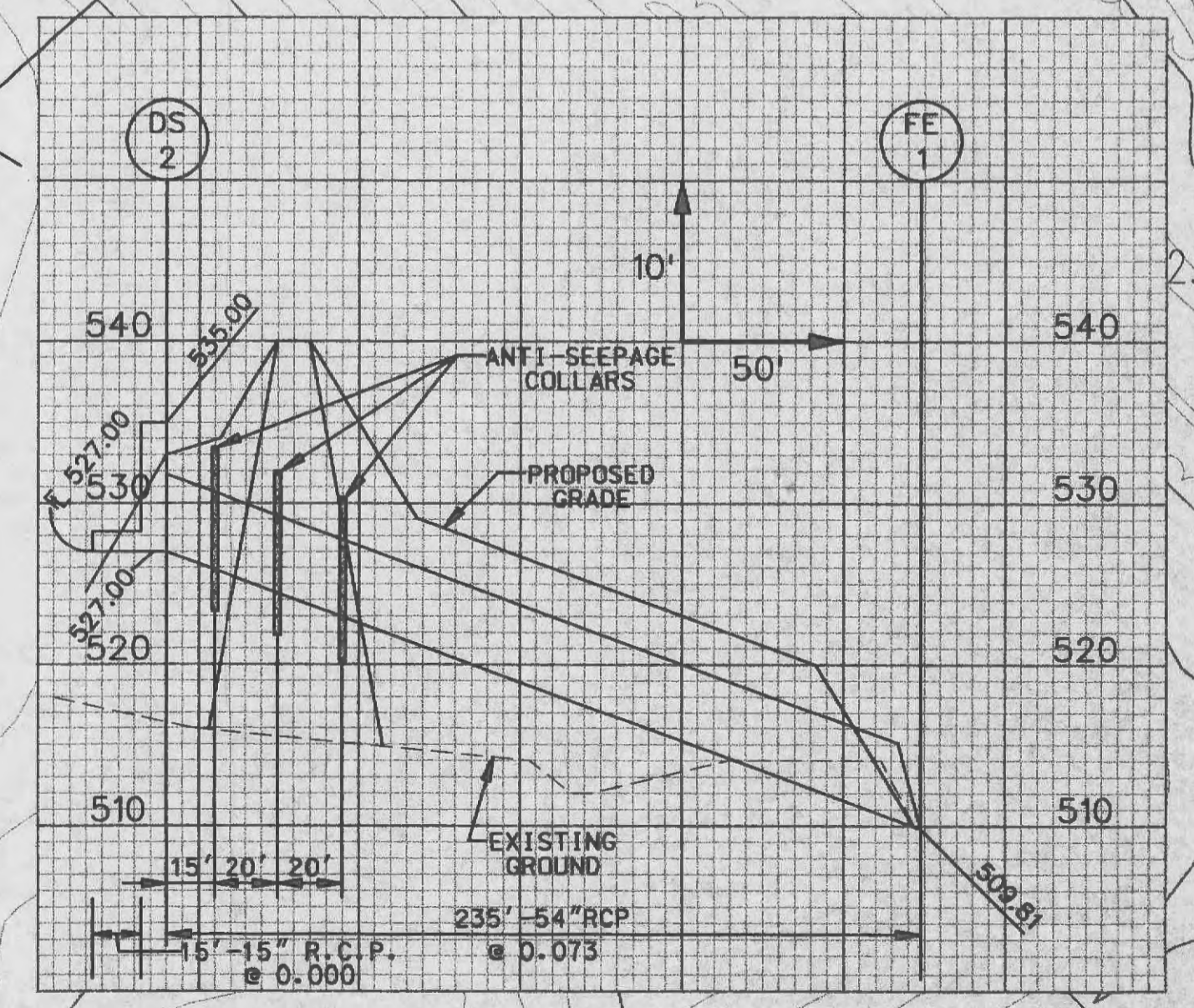
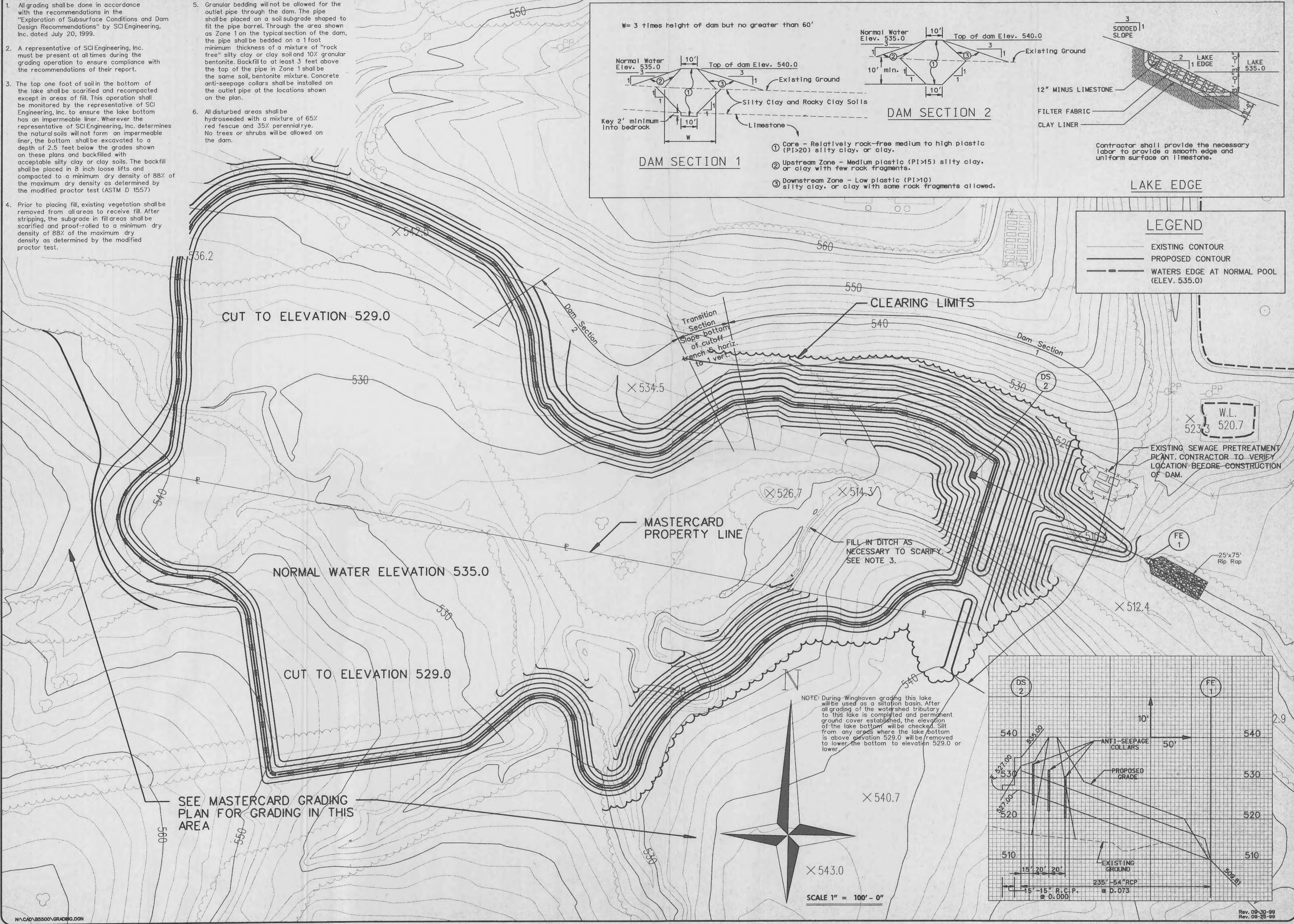
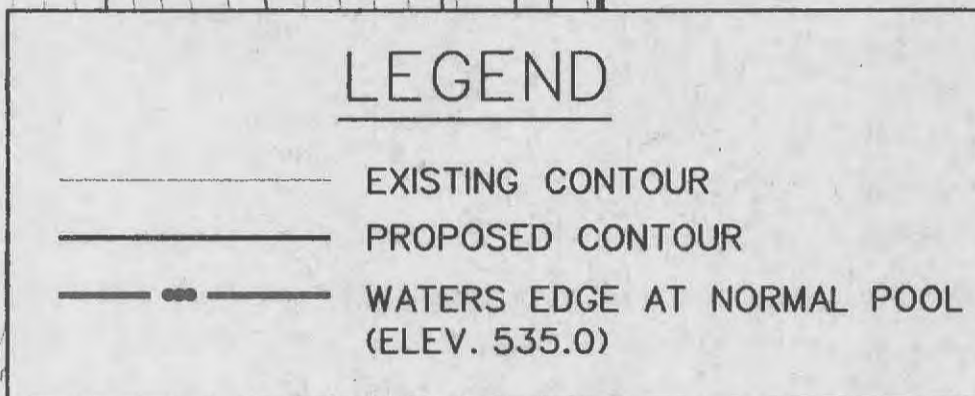


GENERAL NOTES:

- All grading shall be done in accordance with the recommendations in the "Exploration of Subsurface Conditions and Dam Design Recommendations" by SCIEngineering, Inc. dated July 20, 1999.
- A representative of SCIEngineering, Inc. must be present at all times during the grading operation to ensure compliance with the recommendations of their report.
- The top one foot of soil in the bottom of the lake shall be scarified and recompacted except in areas of fill. This operation shall be monitored by the representative of SCIEngineering, Inc. to ensure the lake bottom has an impermeable liner. Wherever the representative of SCIEngineering, Inc. determines the natural soils will not form an impermeable liner, the bottom shall be excavated to a depth of 2.5 feet below the grades shown on these plans and backfilled with acceptable silty clay or clay soils. The backfill shall be placed in 8 inch loose lifts and compacted to a minimum dry density of 88% of the maximum dry density as determined by the modified proctor test (ASTM D 1557)
- Prior to placing fill, existing vegetation shall be removed from all areas to receive fill. After stripping, the subgrade in fill areas shall be scarified and proof-rolled to a minimum dry density of 88% of the maximum dry density as determined by the modified proctor test.
- Granular bedding will not be allowed for the outlet pipe through the dam. The pipe shall be placed on a soil subgrade shaped to fit the pipe barrel. Through the area shown as Zone 1 on the typical section of the dam, the pipe shall be bedded on a 1 foot minimum thickness of a mixture of "rock free" silty clay or clay soil and 10% granular bentonite. Backfill to at least 3 feet above the top of the pipe in Zone 1 shall be the same soil, bentonite mixture. Concrete anti-seepage collars shall be installed on the outlet pipe at the locations shown on the plan.
- All disturbed areas shall be hydroseeded with a mixture of 65% red fescue and 35% perennial ryegrass. No trees or shrubs will be allowed on the dam.



- ① Core - Relatively rock-free medium to high plastic (PI>20) silty clay, or clay.
- ② Upstream Zone - Medium plastic (PI>15) silty clay, or clay with few rock fragments.
- ③ Downstream Zone - Low plastic (PI>10) silty clay, or clay with some rock fragments allowed.



MC EAGLE DEVELOPMENT
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 ST. LOUIS, MISSOURI 63141
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VOLZ



WINGHAVEN™
 10 ACRE LAKE

GRADING PLAN

Design By: E.A.K.
 Drawn By: C.A.F.
 Checked By: E.A.K.

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 07-22-99