



# WINGHAVEN™

## PHASE I APARTMENT AREA OFF-SITE SANITARY & STORM SEWER

Prepared For

**WINGHAVEN™ RESIDENTIAL L.L.C.**

#1 McBRIDE & SON CENTER DRIVE

ST. LOUIS, MISSOURI 63005

PHONE: (314) 537-2000

FAX: (314) 537-2546

The existing sewer lengths, sizes, flowlines, depths of structures and sewers and locations with respect to existing or proposed easements have been measured. The results of those measurements are shown on this set of Final Measurement Plans. Since the wye locations have been plotted from information provided by the sewer contractor or other sources, I disclaim any responsibility for that specific information.

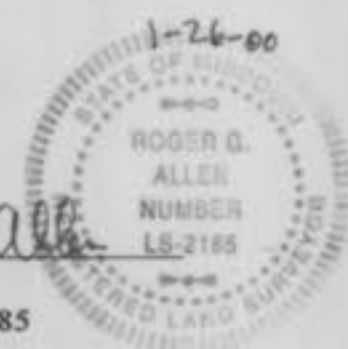
All public sewers are located within designated existing or proposed easements except as shown in this drawing.

The results of those measurements are shown on this drawing by lining out the planned number and indicating the measured number adjacent to the planned number. All other numbers shown have not been measured or verified.

The location of the sewers were determined by locating the manholes and traversing in a straight line between them.

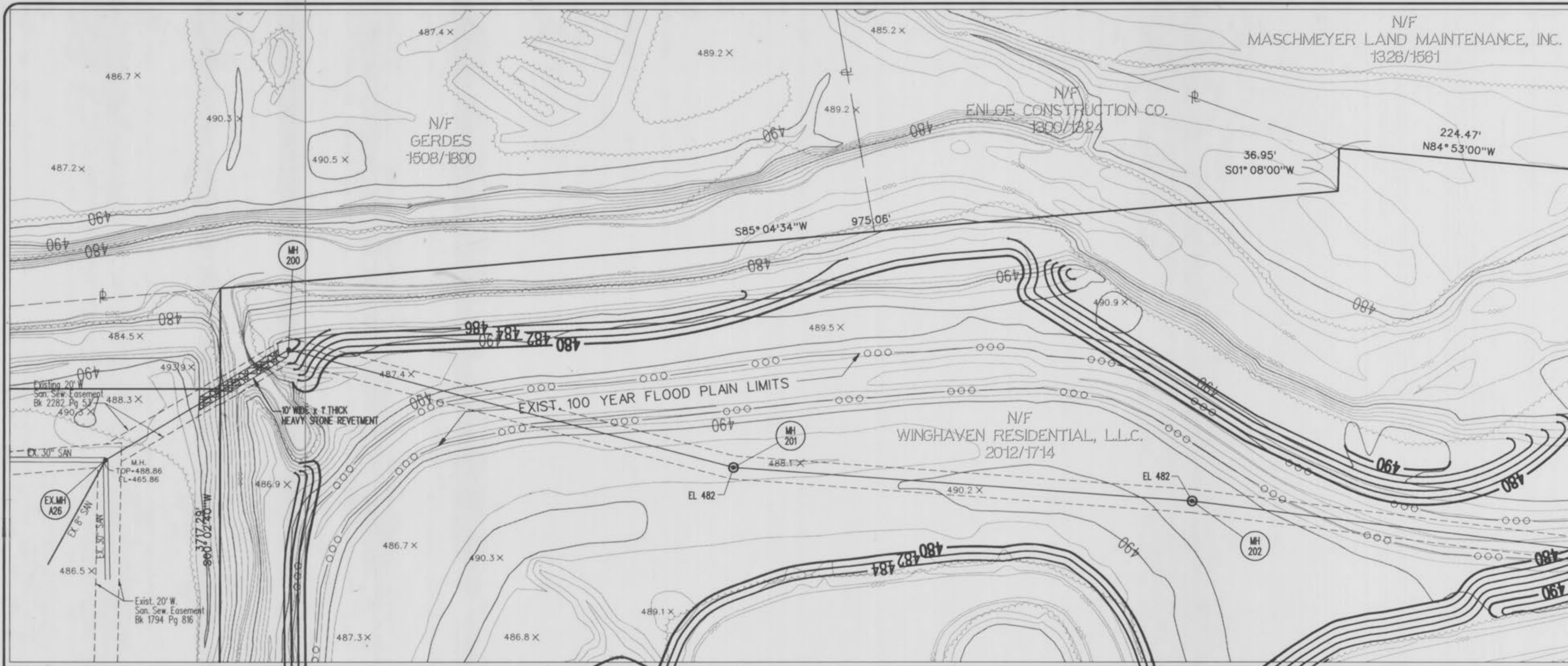
No hydraulic computations have been done on the measured lines to verify or confirm the capacity, freeboard or design requirements of the sewers.

*Roger G. Allen*  
ROGER G. ALLEN  
MO. REG. L.S. NO. 1285



**VOLZ**

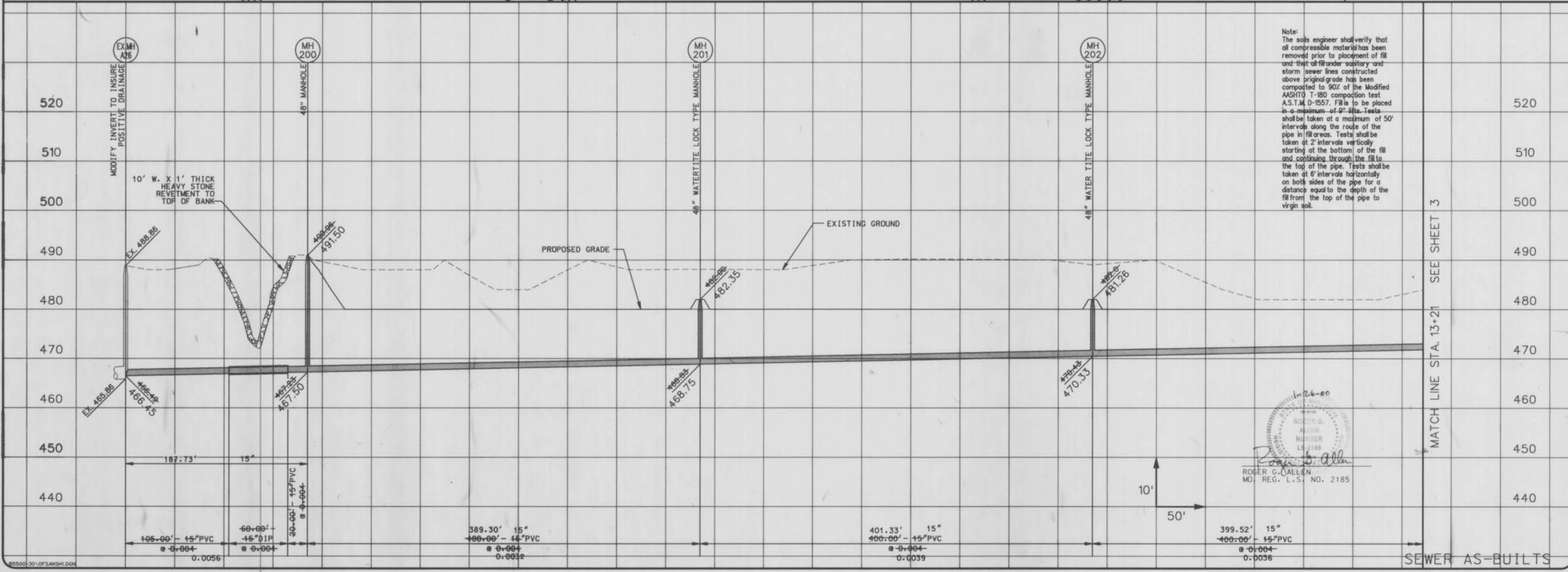
Sewer As-Builts



MATCH LINE STA. 13+21 SEE SHEET 3



The underground utilities shown herein were plotted from available information and do not necessarily reflect the actual existence, or nonexistence, size, type, number, or location of these or other utilities. The general contractor shall be responsible for verifying the actual location of all underground utilities in the field, shown or not shown, prior to any grading, excavation, or construction of improvements. These provisions shall in no way absolve any party from complying with the Underground Facility Safety and Damage Prevention Act, Chapter 319, RSMo.



Note:  
The soils engineer shall verify that all compressible material has been removed prior to placement of fill and that all fill under sanitary and storm sewer lines constructed above original grade has been compacted to 90% of the Modified AASHTO T-99 compaction test AS.1M D-1557. Fill to be placed in a maximum of 9" lifts. Tests shall be taken at a maximum of 50' intervals along the route of the pipe in fill areas. Tests shall be taken at 2' intervals vertically starting at the bottom of the fill and continuing through the fill to the top of the pipe. Tests shall be taken at 6' intervals horizontally on both sides of the pipe for a distance equal to the depth of the fill from the top of the pipe to virgin soil.

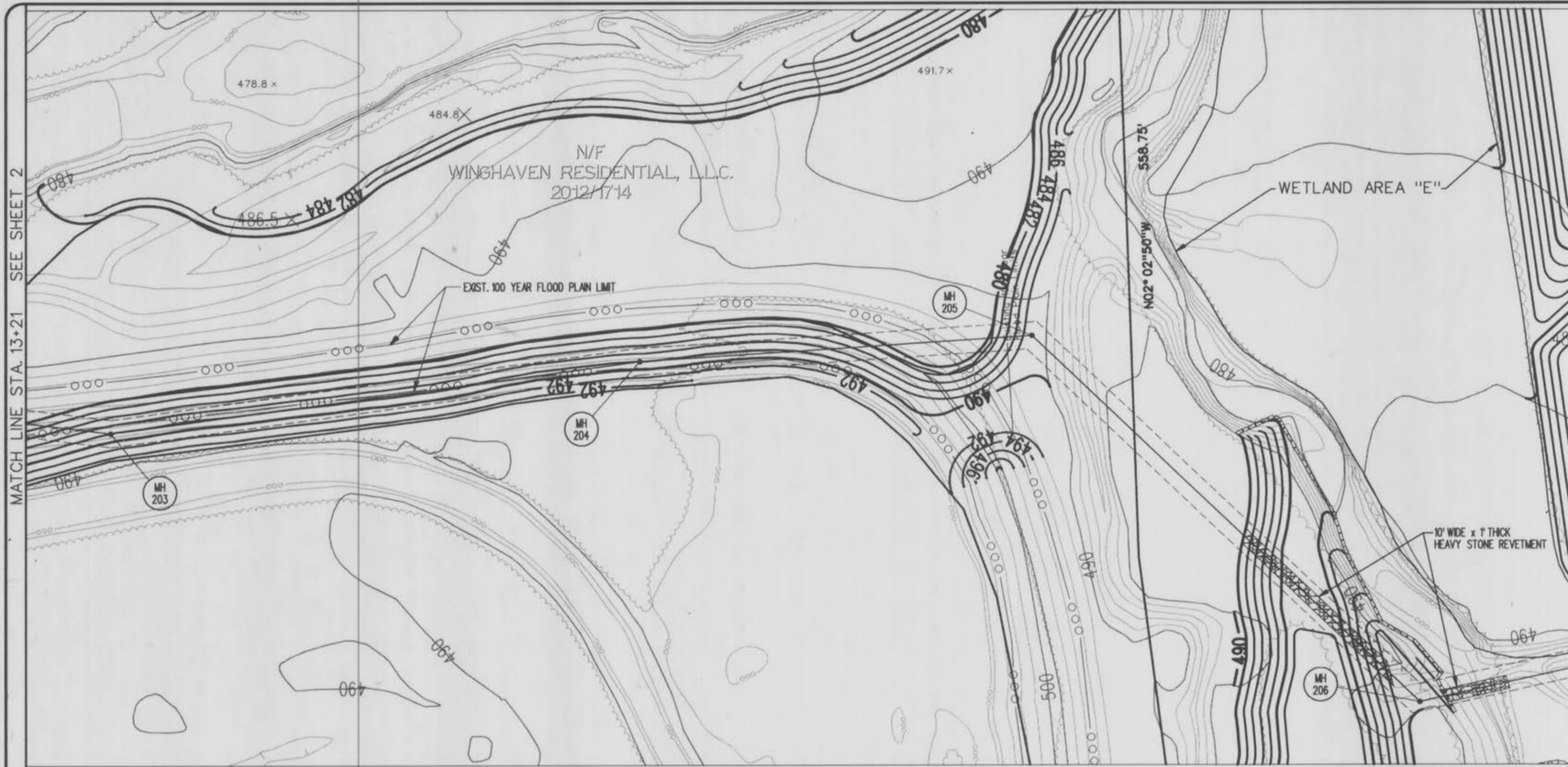
1-26-80  
ROGER G. CALLEN  
REGISTERED PROFESSIONAL ENGINEER  
NO. 2185  
MO. REG. L.S. NO. 2185

MCBRIDE & SON  
111 MCBRIDE & SON  
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**VOLZ**

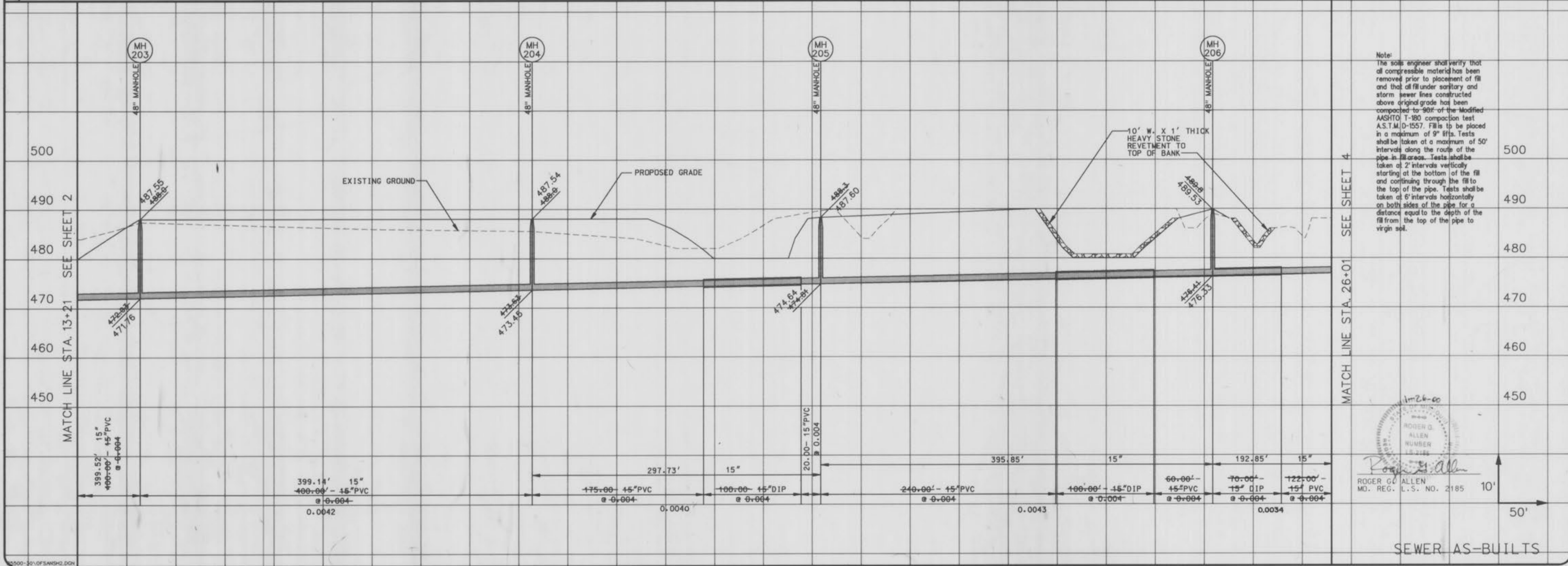
**WINGHAVEN**  
OFFSITE SANITARY SEWER

OFF-SITE SANITARY SEWER  
PLAN & PROFILE  
Design By: C.W.C.  
Drawn By: J.L.F.  
Checked By: D.A.L.  
B-5000-30  
11-12-99



MATCH LINE STA. 26+01 SEE SHEET 4

The underground utilities shown herein were plotted from available information and do not necessarily reflect the actual existence, or nonexistence, size, type, number, or location of these or other utilities. The general contractor shall be responsible for verifying the actual location of all underground utilities in the field, shown or not shown, prior to any grading, excavation, or construction of improvements. These provisions shall in no way absolve any party from complying with the Underground Facility Safety and Damage Prevention Act, Chapter 319, RSMo.

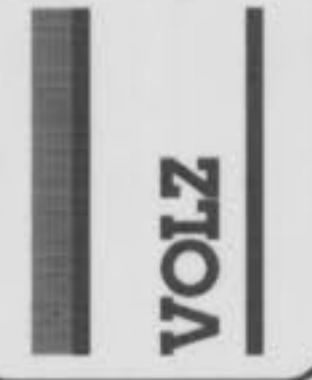


Note: The soils engineer shall verify that all compressible material has been removed prior to placement of fill and that all fill under sanitary and storm sewer lines constructed above original grade has been compacted to 90% of the Modified AASHTO T-99 compaction test A.S.T.M. D-1557. Fill is to be placed in a maximum of 9" lifts. Tests shall be taken at a maximum of 50' intervals along the route of the pipe in fill areas. Tests shall be taken at 2' intervals vertically starting at the bottom of the fill and continuing through the fill to the top of the pipe. Tests shall be taken at 6' intervals horizontally on both sides of the pipe for a distance equal to the depth of the fill from the top of the pipe to virgin soil.

10-26-00  
 ROGER G. ALLEN  
 NUMBER 152185  
 MO. REG. L.S. NO. 2185

SEWER AS-BUILTS

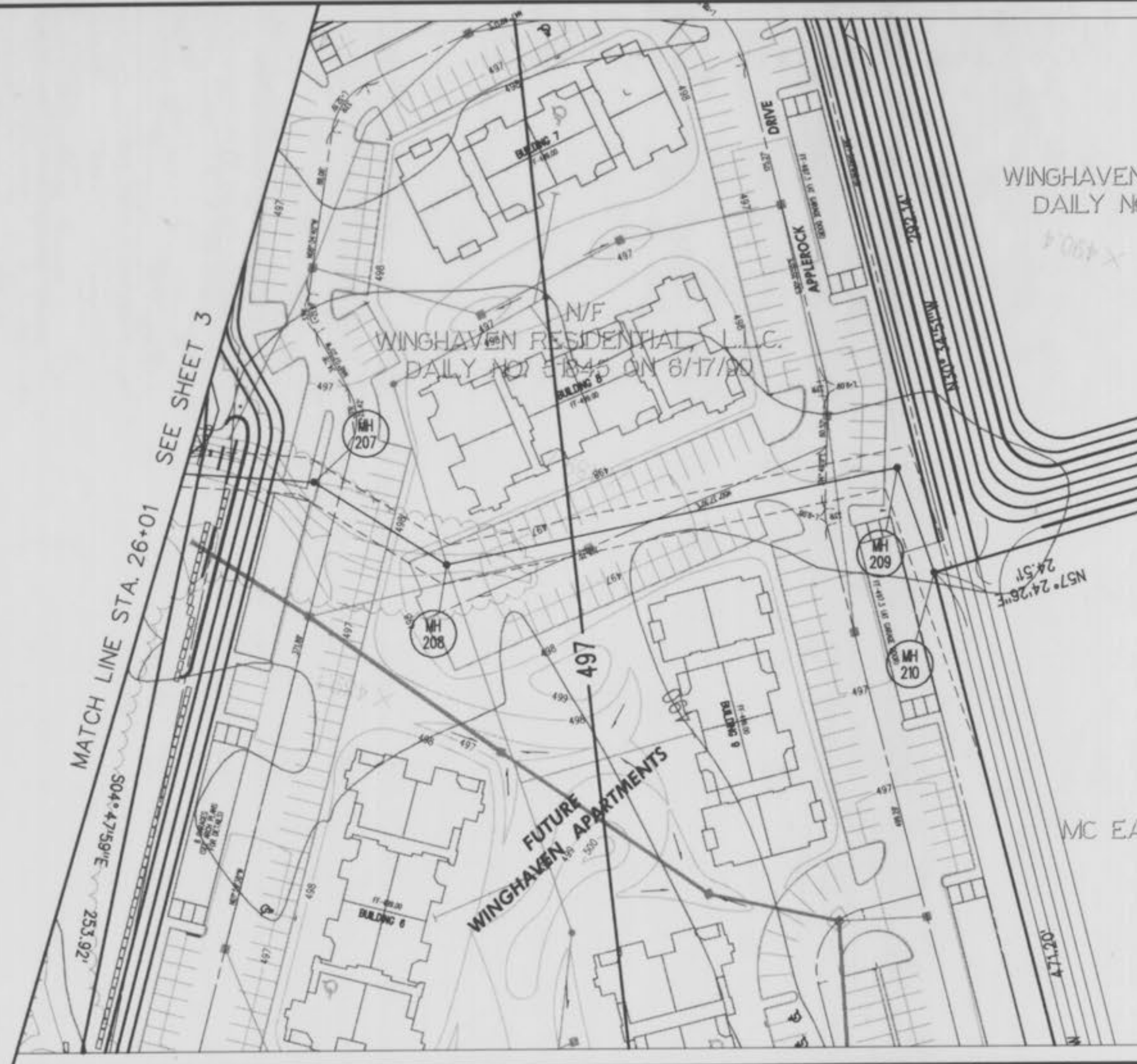
MCBRIDE & SON  
 411 W. GOLF COURSE  
 ST. LOUIS, MISSOURI 63105  
 PHONE (314) 537-2000



# WINGHAVEN<sup>™</sup>

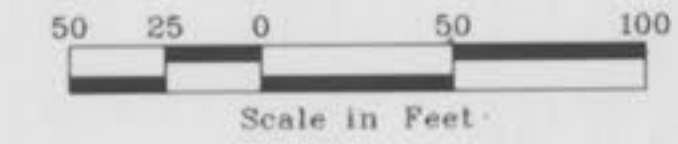
OFFSITE SANITARY SEWER

OFF-SITE SANITARY SEWER  
 PLAN & PROFILE  
 Design By: C.W.C.  
 Drawn By: J.L.F.  
 Checked By: D.A.L.  
 10-29-99  
 3

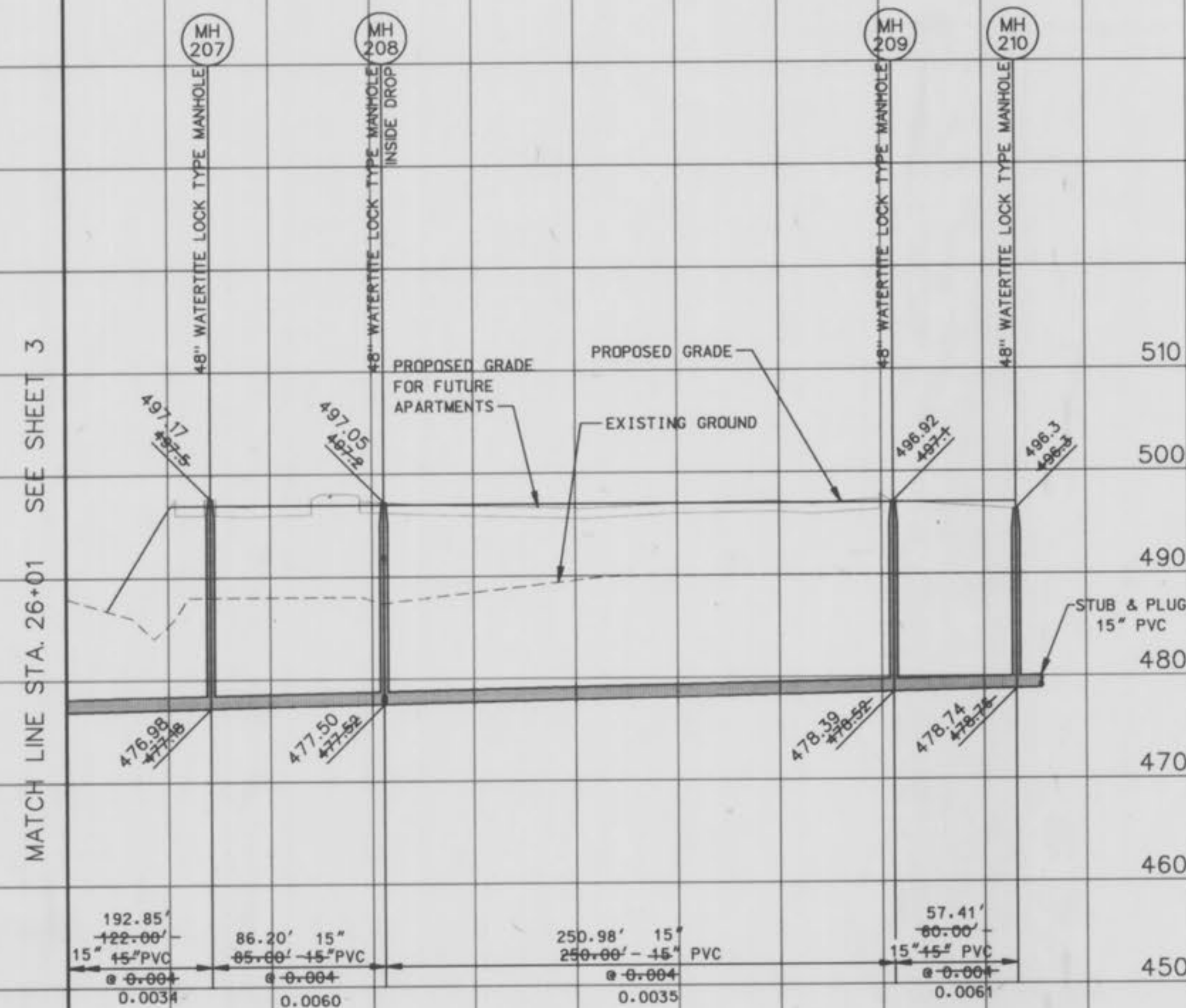


N/F  
WINGHAVEN RESIDENTIAL, L.L.C.  
DAILY NO. 51845 ON 6/17/99

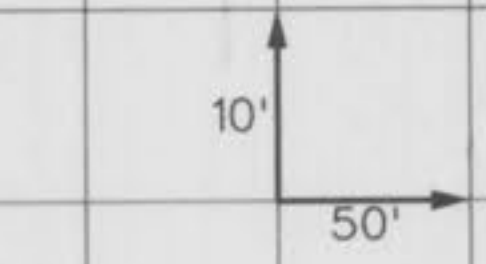
N/F  
MC EAGLE - O'FALLON, L.C.  
1865/200



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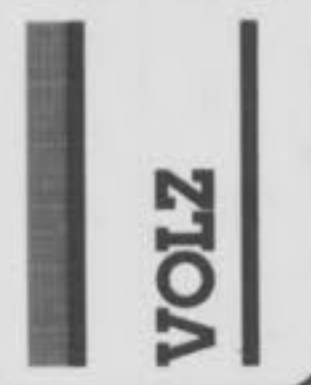
Note:  
The soils engineer shall verify that all compressible material has been removed prior to placement of fill and that all fill under sanitary and storm sewer lines constructed above original grade has been compacted to 90% of the Modified AASHTO T-180 compaction test A.S.T.M. D-1557. Fill is to be placed in a maximum of 9" lifts. Tests shall be taken at a maximum of 50' intervals along the route of the pipe in fill areas. Tests shall be taken at 2' intervals vertically starting at the bottom of the fill and continuing through the fill to the top of the pipe. Tests shall be taken at 8' intervals horizontally on both sides of the pipe for a distance equal to the depth of the fill from the top of the pipe to virgin soil.



ROGER Q. ALLEN  
REGISTERED PROFESSIONAL ENGINEER  
NO. REG. L.S. NO. 2185

SEWER AS-BUILTS

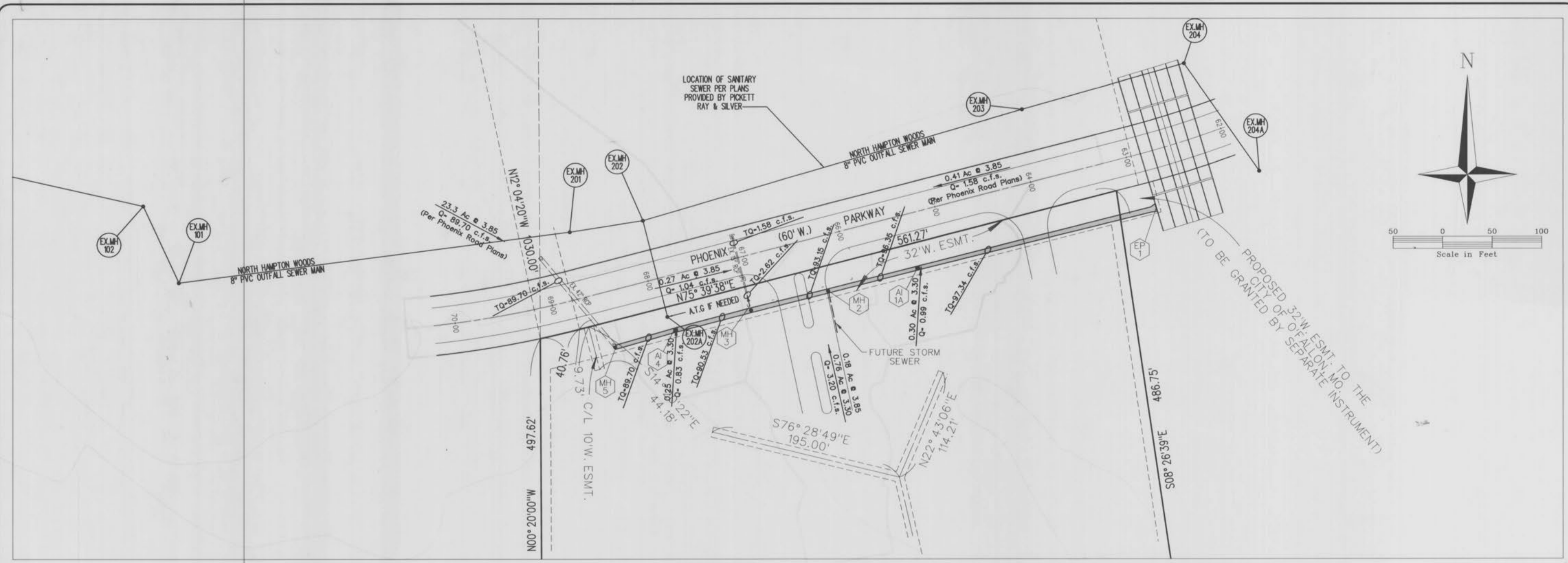
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OFFSITE SANITARY SEWER

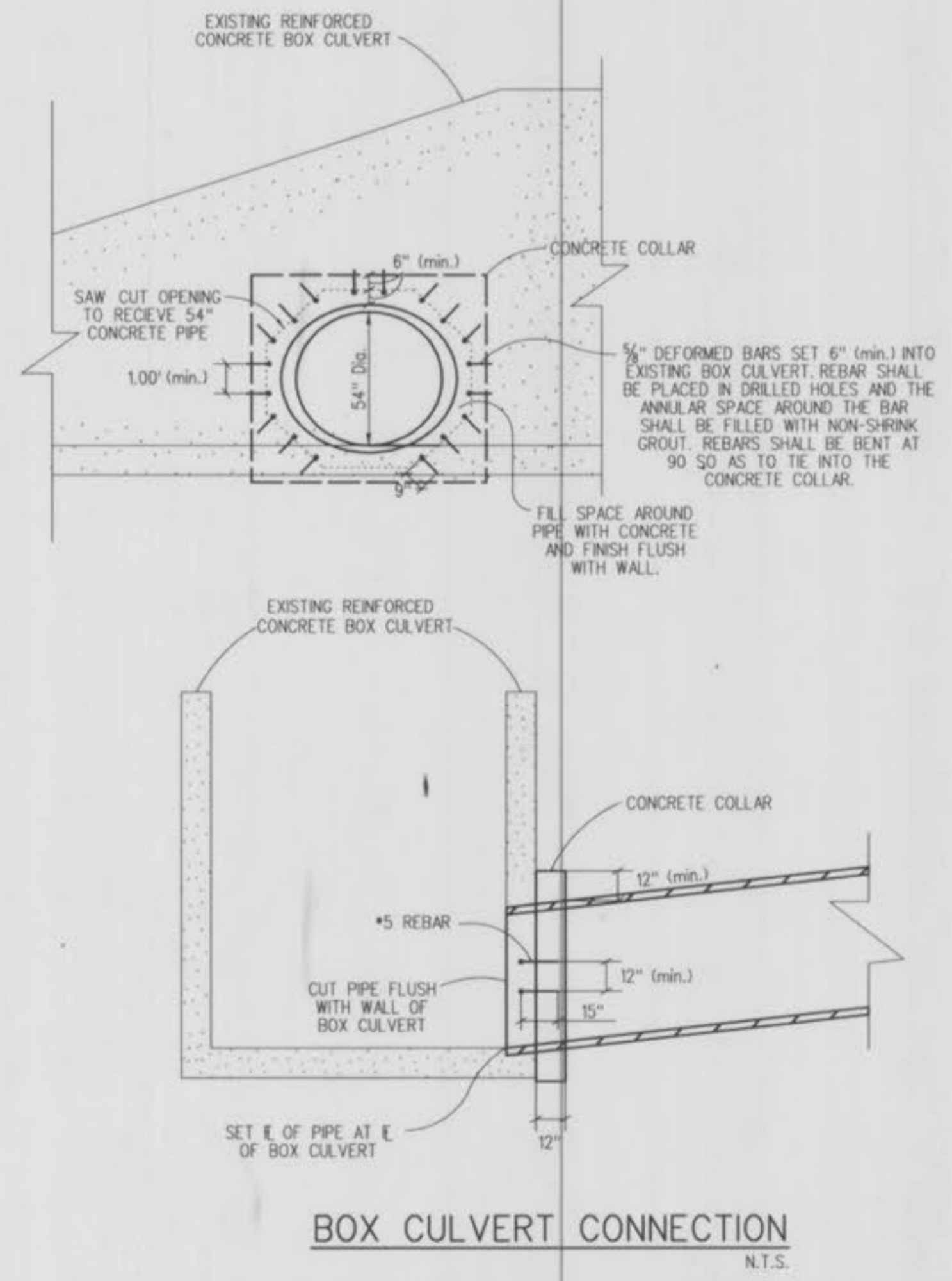
OFF-SITE SANITARY SEWER  
PLAN & PROFILE  
11-02-99  
Design By: D.A.L.  
Drawn By: J.L.F.  
Checked By: D.A.L.  
B-5000-30



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**VOLZ**

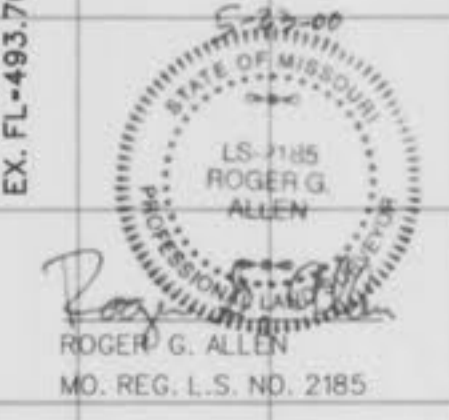
**WINGHAVEN™**  
 OFFSITE STORM SEWER



Station	Proposed Grade	Existing Ground	Future Proposed Grade	Notes
530	530			
520	520			
510	510			
500	500			REMOVE EX. 15" FLARED END AND EXTEND PIPE TO MANHOLE.
490	490			
480	480			
470	470			
460	460			

Station	Flow Rate (c.f.s.)	Slope	Notes
EP 1	TQ-97.34	0.00344	22 1/2" BEND
AI 1A	TQ-96.36	0.00344	
MH 2	TQ-93.15	0.0015	
MH 3	TQ-90.53	0.0036	
AI 4	TQ-89.70	0.00344	
MH 5	TQ-89.70	0.00344	
MH 3	TQ-2.62	0.0206	DROP MANHOLE
EX C1	TQ-2.62	0.0206	



OFF-SITE STORM SEWER  
 PLAN & PROFILE

Design By: C.W.C.  
 Drawn By: J.L.F.  
 Checked By: D.A.L.

B-5500-30

REV. MAY 23, 2000  
 REV. MAY 8, 2000  
 SEWER AS-BUILTS