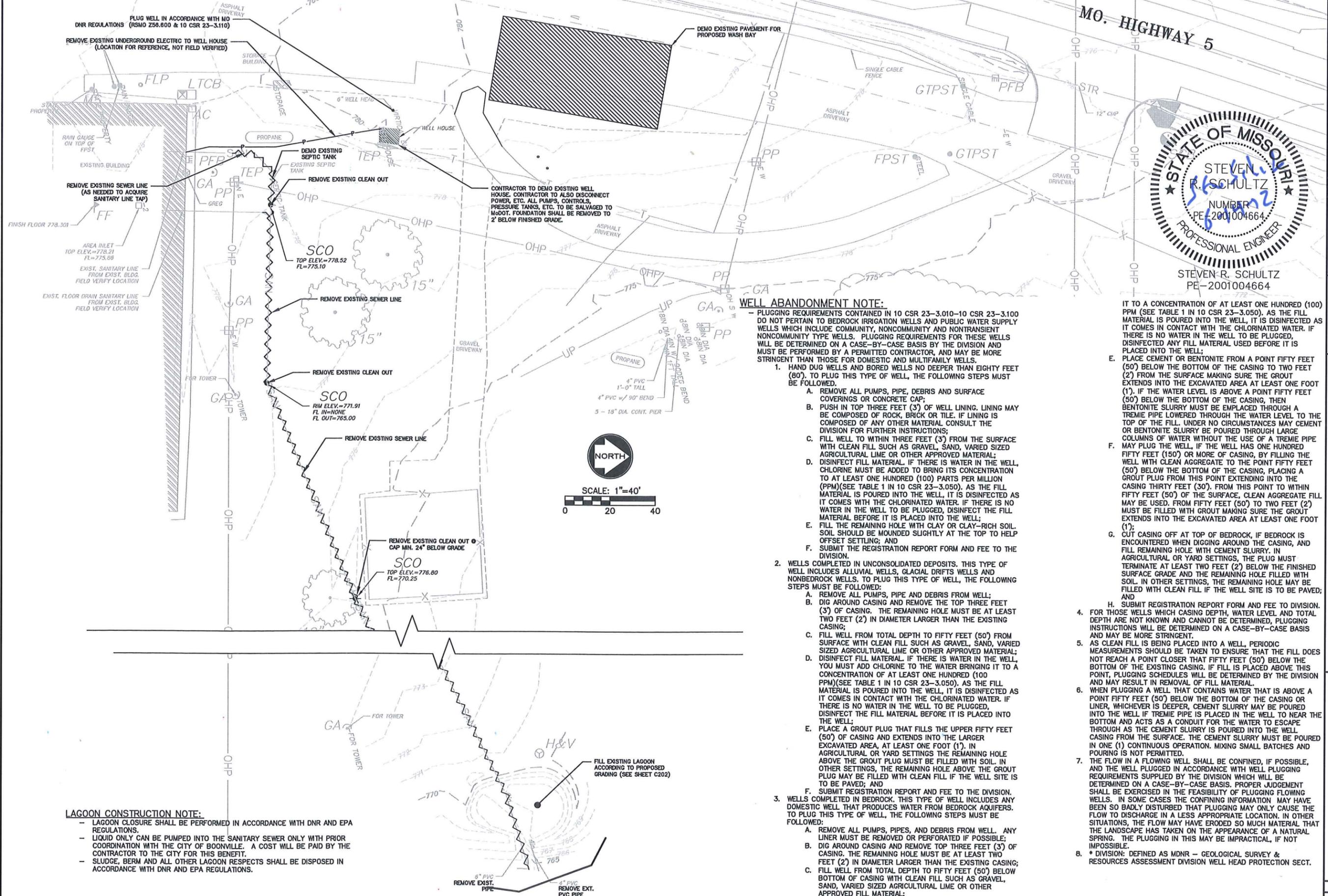


VIS SATELLITE DISH, 100'± N/O
MAIN ENT. TO MDOOT SHED
5'± W/O EDGE OF ASP. PARKING LOT
ELEV.=778.10



STEVEN R. SCHULTZ
PE-2001004664

WELL ABANDONMENT NOTE:

- PLUGGING REQUIREMENTS CONTAINED IN 10 CSR 23-3.010-10 CSR 23-3.100 DO NOT PERTAIN TO BEDROCK IRRIGATION WELLS AND PUBLIC WATER SUPPLY WELLS WHICH INCLUDE COMMUNITY, NONCOMMUNITY AND NONTRANSIENT NONCOMMUNITY TYPE WELLS. PLUGGING REQUIREMENTS FOR THESE WELLS WILL BE DETERMINED ON A CASE-BY-CASE BASIS BY THE DIVISION AND MUST BE PERFORMED BY A PERMITTED CONTRACTOR, AND MAY BE MORE STRINGENT THAN THOSE FOR DOMESTIC AND MULTIFAMILY WELLS.
- HAND DUG WELLS AND BORED WELLS NO DEEPER THAN EIGHTY FEET (80'), TO PLUG THIS TYPE OF WELL, THE FOLLOWING STEPS MUST BE FOLLOWED:
 - REMOVE ALL PUMPS, PIPE, DEBRIS AND SURFACE COVERINGS OR CONCRETE CAP;
 - PUSH IN TOP THREE FEET (3') OF WELL LINING. LINING MAY BE COMPOSED OF ROCK, BRICK OR TILE. IF LINING IS COMPOSED OF ANY OTHER MATERIAL CONSULT THE DIVISION FOR FURTHER INSTRUCTIONS;
 - FILL WELL TO WITHIN THREE FEET (3') FROM THE SURFACE WITH CLEAN FILL SUCH AS GRAVEL, SAND, VARIOUS SIZED AGRICULTURAL LIME OR OTHER APPROVED MATERIAL;
 - DISINFECT FILL MATERIAL. IF THERE IS WATER IN THE WELL, CHLORINE MUST BE ADDED TO BRING ITS CONCENTRATION TO AT LEAST ONE HUNDRED (100) PARTS PER MILLION (PPM)(SEE TABLE 1 IN 10 CSR 23-3.050). AS THE FILL MATERIAL IS POURED INTO THE WELL, IT IS DISINFECTED AS IT COMES WITH THE CHLORINATED WATER. IF THERE IS NO WATER IN THE WELL TO BE PLUGGED, DISINFECT THE FILL MATERIAL BEFORE IT IS PLACED INTO THE WELL;
 - FILL THE REMAINING HOLE WITH CLAY OR CLAY-RICH SOIL. SOIL SHOULD BE MOUNDING SLIGHTLY AT THE TOP TO HELP OFFSET SETTLING; AND
 - SUBMIT THE REGISTRATION REPORT FORM AND FEE TO THE DIVISION.
 - WELLS COMPLETED IN UNCONSOLIDATED DEPOSITS. THIS TYPE OF WELL INCLUDES ALLUVIAL WELLS, GLACIAL DRIFTS WELLS AND NONBEDROCK WELLS. TO PLUG THIS TYPE OF WELL, THE FOLLOWING STEPS MUST BE FOLLOWED:
 - REMOVE ALL PUMPS, PIPE AND DEBRIS FROM WELL;
 - DIG AROUND CASING AND REMOVE THE TOP THREE FEET (3') OF CASING. THE REMAINING HOLE MUST BE AT LEAST TWO FEET (2') IN DIAMETER LARGER THAN THE EXISTING CASING;
 - FILL WELL FROM TOTAL DEPTH TO FIFTY FEET (50') FROM SURFACE WITH CLEAN FILL SUCH AS GRAVEL, SAND, VARIOUS SIZED AGRICULTURAL LIME OR OTHER APPROVED MATERIAL;
 - DISINFECT FILL MATERIAL. IF THERE IS WATER IN THE WELL, YOU MUST ADD CHLORINE TO THE WATER BRINGING IT TO A CONCENTRATION OF AT LEAST ONE HUNDRED (100) PPM)(SEE TABLE 1 IN 10 CSR 23-3.050). AS THE FILL MATERIAL IS POURED INTO THE WELL, IT IS DISINFECTED AS IT COMES IN CONTACT WITH THE CHLORINATED WATER. IF THERE IS NO WATER IN THE WELL TO BE PLUGGED, DISINFECT THE FILL MATERIAL BEFORE IT IS PLACED INTO THE WELL;
 - PLACE A GROUT PLUG THAT FILLS THE UPPER FIFTY FEET (50') OF CASING AND EXTENDS INTO THE LARGER EXCAVATED AREA, AT LEAST ONE FOOT (1'). IN AGRICULTURAL OR YARD SETTINGS THE REMAINING HOLE ABOVE THE GROUT PLUG MUST BE FILLED WITH SOIL. IN OTHER SETTINGS, THE REMAINING HOLE ABOVE THE GROUT PLUG MAY BE FILLED WITH CLEAN FILL IF THE WELL SITE IS TO BE PAVED; AND
 - SUBMIT REGISTRATION REPORT AND FEE TO THE DIVISION.
 - WELLS COMPLETED IN BEDROCK. THIS TYPE OF WELL INCLUDES ANY DOMESTIC WELL THAT PRODUCES WATER FROM BEDROCK AQUIFERS. TO PLUG THIS TYPE OF WELL, THE FOLLOWING STEPS MUST BE FOLLOWED:
 - REMOVE ALL PUMPS, PIPES, AND DEBRIS FROM WELL. ANY LINER MUST BE REMOVED OR PERFORATED IF POSSIBLE;
 - DIG AROUND CASING AND REMOVE TOP THREE FEET (3') OF CASING. THE REMAINING HOLE MUST BE AT LEAST TWO FEET (2') IN DIAMETER LARGER THAN THE EXISTING CASING;
 - FILL WELL FROM TOTAL DEPTH TO FIFTY FEET (50') BELOW BOTTOM OF CASING WITH CLEAN FILL SUCH AS GRAVEL, SAND, VARIOUS SIZED AGRICULTURAL LIME OR OTHER APPROVED FILL MATERIAL;
 - DISINFECT FILL MATERIAL. IF THERE IS WATER IN THE WELL, YOU MUST ADD CHLORINE TO THE WATER BRINGING

- IT TO A CONCENTRATION OF AT LEAST ONE HUNDRED (100) PPM (SEE TABLE 1 IN 10 CSR 23-3.050). AS THE FILL MATERIAL IS POURED INTO THE WELL, IT IS DISINFECTED AS IT COMES IN CONTACT WITH THE CHLORINATED WATER. IF THERE IS NO WATER IN THE WELL TO BE PLUGGED, DISINFECT ANY FILL MATERIAL USED BEFORE IT IS PLACED INTO THE WELL;
- PLACE CEMENT OR BENTONITE FROM A POINT FIFTY FEET (50') BELOW THE BOTTOM OF THE CASING TO TWO FEET (2') FROM THE SURFACE MAKING SURE THE GROUT EXTENDS INTO THE EXCAVATED AREA AT LEAST ONE FOOT (1'). IF THE WATER LEVEL IS ABOVE A POINT FIFTY FEET (50') BELOW THE BOTTOM OF THE CASING, THEN BENTONITE SLURRY MUST BE EMPLACED THROUGH A TREMIE PIPE LOWERED THROUGH THE WATER LEVEL TO THE TOP OF THE FILL. UNDER NO CIRCUMSTANCES MAY CEMENT OR BENTONITE SLURRY BE POURED THROUGH LARGE COLUMNS OF WATER WITHOUT THE USE OF A TREMIE PIPE MAY PLUG THE WELL. IF THE WELL HAS ONE HUNDRED FIFTY FEET (150') OR MORE OF CASING, BY FILLING THE WELL WITH CLEAN AGGREGATE TO THE POINT FIFTY FEET (50') BELOW THE BOTTOM OF THE CASING, PLACING A GROUT PLUG FROM THIS POINT EXTENDING INTO THE CASING THIRTY FEET (30'). FROM THIS POINT TO WITHIN FIFTY FEET (50') OF THE SURFACE, CLEAN AGGREGATE FILL MAY BE USED. FROM FIFTY FEET (50') TO TWO FEET (2') MUST BE FILLED WITH GROUT MAKING SURE THE GROUT EXTENDS INTO THE EXCAVATED AREA AT LEAST ONE FOOT (1');
 - CUT CASING OFF AT TOP OF BEDROCK, IF BEDROCK IS ENCOUNTERED WHEN DIGGING AROUND THE CASING, AND FILL REMAINING HOLE WITH CEMENT SLURRY. IN AGRICULTURAL OR YARD SETTINGS, THE PLUG MUST TERMINATE AT LEAST TWO FEET (2') BELOW THE FINISHED SURFACE GRADE AND THE REMAINING HOLE FILLED WITH SOIL. IN OTHER SETTINGS, THE REMAINING HOLE MAY BE FILLED WITH CLEAN FILL IF THE WELL SITE IS TO BE PAVED; AND
 - SUBMIT REGISTRATION REPORT FORM AND FEE TO DIVISION.
- FOR THOSE WELLS WHICH CASING DEPTH, WATER LEVEL AND TOTAL DEPTH ARE NOT KNOWN AND CANNOT BE DETERMINED, PLUGGING INSTRUCTIONS WILL BE DETERMINED ON A CASE-BY-CASE BASIS AND MAY BE MORE STRINGENT.
 - AS CLEAN FILL IS BEING PLACED INTO A WELL, PERIODIC MEASUREMENTS SHOULD BE TAKEN TO ENSURE THAT THE FILL DOES NOT REACH A POINT CLOSER THAN FIFTY FEET (50') BELOW THE BOTTOM OF THE EXISTING CASING. IF FILL IS PLACED ABOVE THIS POINT, PLUGGING SCHEDULES WILL BE DETERMINED BY THE DIVISION AND MAY RESULT IN REMOVAL OF FILL MATERIAL.
 - WHEN PLUGGING A WELL THAT CONTAINS WATER THAT IS ABOVE A POINT FIFTY FEET (50') BELOW THE BOTTOM OF THE CASING OR LINER, WHICHEVER IS DEEPER, CEMENT SLURRY MAY BE POURED INTO THE WELL IF TREMIE PIPE IS PLACED IN THE WELL TO NEAR THE BOTTOM AND ACTS AS A CONDUIT FOR THE WATER TO ESCAPE THROUGH AS THE CEMENT SLURRY IS POURED INTO THE WELL CASING FROM THE SURFACE. THE CEMENT SLURRY MUST BE POURED IN ONE (1) CONTINUOUS OPERATION. MIXING SMALL BATCHES AND POURING IS NOT PERMITTED.
 - THE FLOW IN A FLOWING WELL SHALL BE CONFINED, IF POSSIBLE, AND THE WELL PLUGGED IN ACCORDANCE WITH WELL PLUGGING REQUIREMENTS SUPPLIED BY THE DIVISION WHICH WILL BE DETERMINED ON A CASE-BY-CASE BASIS. PROPER JUDGEMENT SHALL BE EXERCISED IN THE FEASIBILITY OF PLUGGING FLOWING WELLS. IN SOME CASES THE CONFINING INFORMATION MAY HAVE BEEN SO BADLY DISTURBED THAT PLUGGING MAY ONLY CAUSE THE FLOW TO DISCHARGE IN A LESS APPROPRIATE LOCATION. IN OTHER SITUATIONS, THE FLOW MAY HAVE ERODED SO MUCH MATERIAL THAT THE LANDSCAPE HAS TAKEN ON THE APPEARANCE OF A NATURAL SPRING. THE PLUGGING IN THIS MAY BE IMPRACTICAL, IF NOT IMPOSSIBLE.
 - * DIVISION: DEFINED AS MDNR - GEOLOGICAL SURVEY & RESOURCES ASSESSMENT DIVISION WELL HEAD PROTECTION SECT.

LAGOON CONSTRUCTION NOTE:

- LAGOON CLOSURE SHALL BE PERFORMED IN ACCORDANCE WITH DNR AND EPA REGULATIONS.
- LIQUID ONLY CAN BE PUMPED INTO THE SANITARY SEWER ONLY WITH PRIOR COORDINATION WITH THE CITY OF BOONVILLE. A COST WILL BE PAID BY THE CONTRACTOR TO THE CITY FOR THIS BENEFIT.
- SLUDGE, BERM AND ALL OTHER LAGOON RESPECTS SHALL BE DISPOSED IN ACCORDANCE WITH DNR AND EPA REGULATIONS.

L:\10195-010_CAD\CIVIL\10195-C-SAP-01.DWG	DATE: 6/14/2012
BY: JERRYAN	XREF DWG2: NONE
LAYOUT: C100 DEMOLITION PLAN	XREF DWG3: NONE
XREF DWG1: NONE	XREF DWG4: NONE

MODOT - BOONVILLE MAINTENANCE FACILITY TRUCK WASH IMPROVEMENTS	DEMOLITION PLAN
110195-010 SHEET NO. C100	

DESIGNED BY: SRS	4.25.2012	NEW SET
DRAWN BY: JMB	11.08.2011	CITY COMMENTS
CHECKED BY: JMB	9.21.2011	MODOT COMMENTS
ISSUE DATE: 10.3.2011	9.01.2011	MODOT COMMENTS
NO. DATE	REVISIONS	BY
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2		JMB
3		JMB
4		JMB
5		JMB

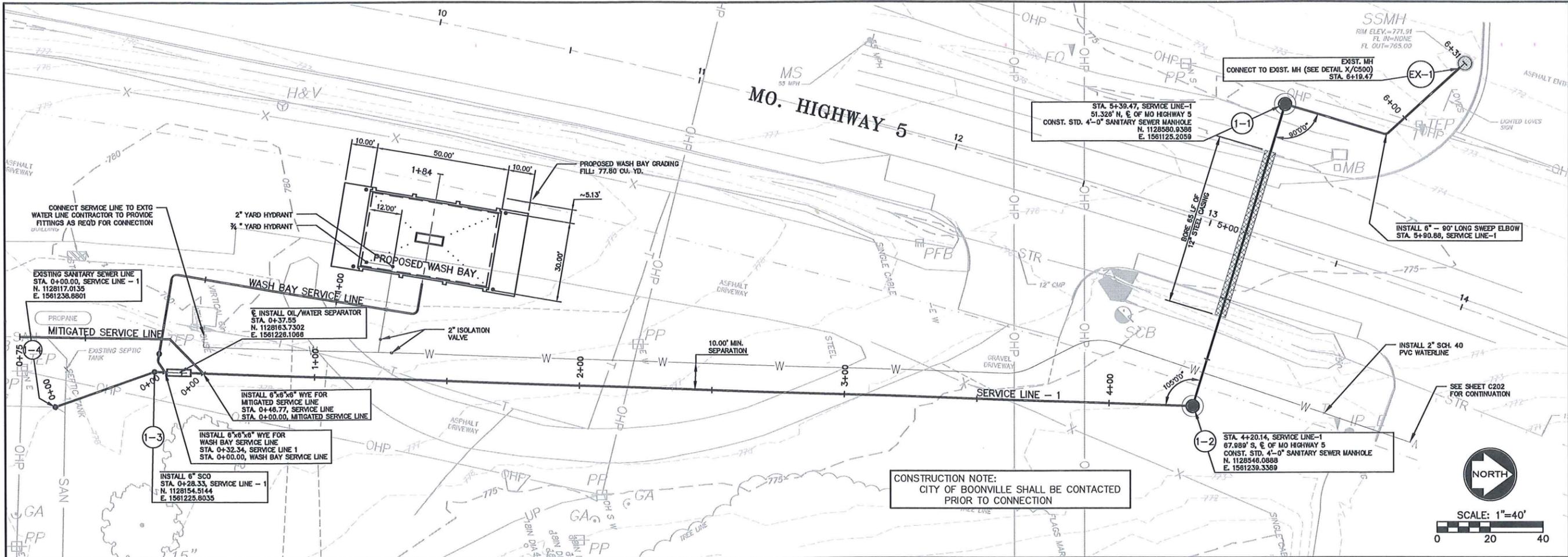
STEVEN R. SCHULTZ
PE-2001004664

SHAHER, KLINE & WARREN, INC.
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Houston, TX
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North Kansas City, MO
Tulsa, OK

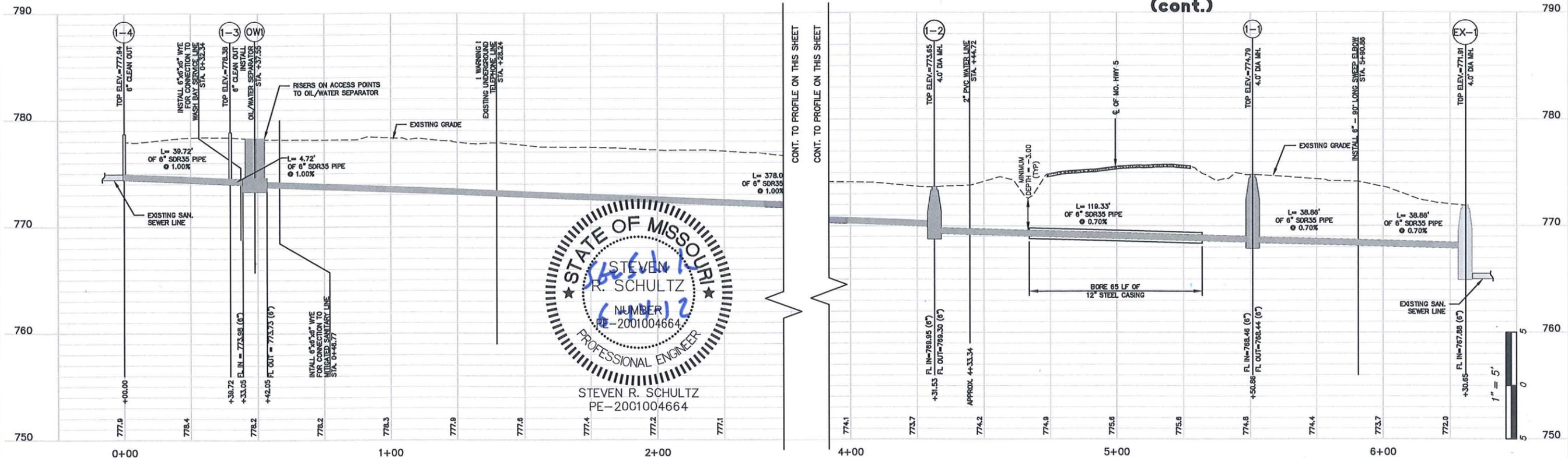
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SANITARY SEWER SERVICE LINE - 1

SANITARY SEWER SERVICE LINE - 1 (cont.)



STEVEN R. SCHULTZ
PE-2001004664

L:\110195-010_CAD\CAD\110195-C-SAP-01.DWG
DATE: 6/14/2012
BY: JBRYAN
XREF DWG1: NONE
XREF DWG2: NONE
XREF DWG3: NONE
XREF DWG4: NONE

Designed By: SRS	4.25.2012	NEW SET
Drawn By: JMB	11.08.2011	CITY COMMENTS
Checked By: PFB	9.21.2011	MODOT COMMENTS
Issue Date: 10.3.2011	9.01.2011	MODOT COMMENTS
	NO.	DATE
	NO.	REVISIONS
	NO.	BY
	NO.	APPD

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STRUCTURAL ENGINEERS LANDSCAPE ARCHITECTS AND SURVEYORS LAND PLANNERS

MODOT - BOONVILLE MAINTENANCE FACILITY TRUCK WASH IMPROVEMENTS

SANITARY SEWER PLAN & PROFILE

110195-010
SHEET NO.
C200

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 LAYOUT: C202 UTILITY AND GRADING PLAN
 XREF DWG1: NONE
 XREF DWG2: NONE
 XREF DWG3: NONE
 XREF DWG4: NONE
 BY: JBRYAN
 DATE: 6/14/2012



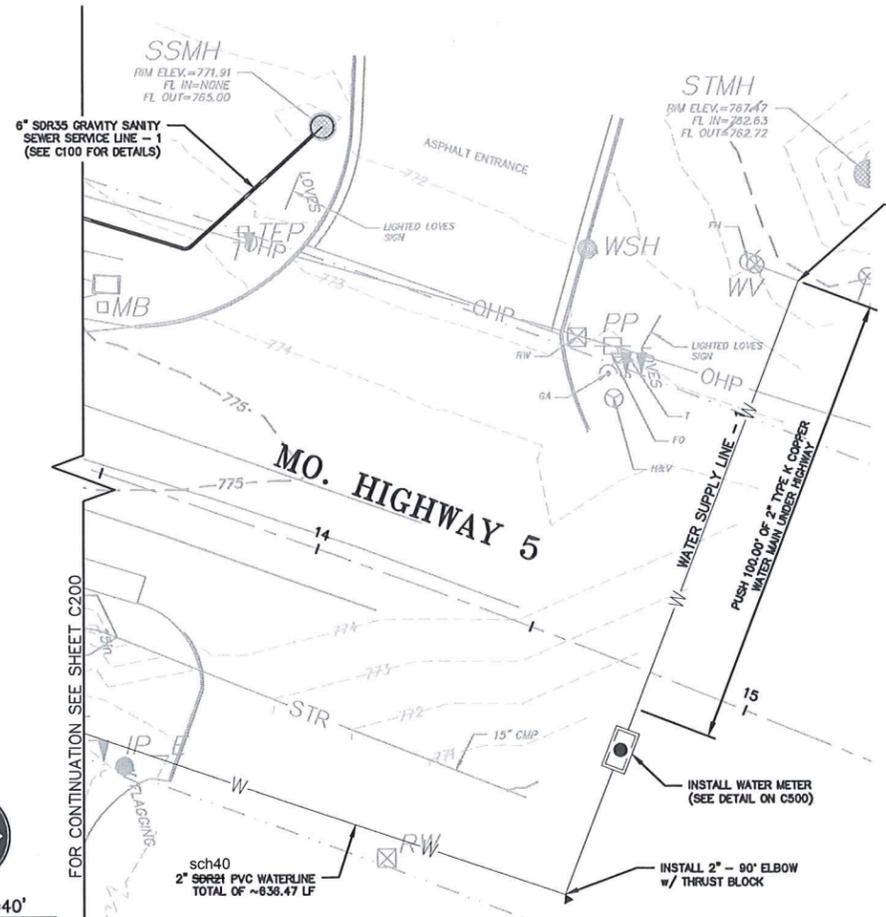
STEVEN R. SCHULTZ
 PE-2001004664

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3	CHECKED BY: PFB	9.21.2011	MODOT COMMENTS
2	ISSUE DATE: 10.3.2011	9.01.2011	MODOT COMMENTS
1			REVISIONS
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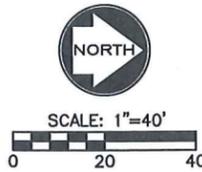
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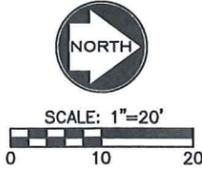
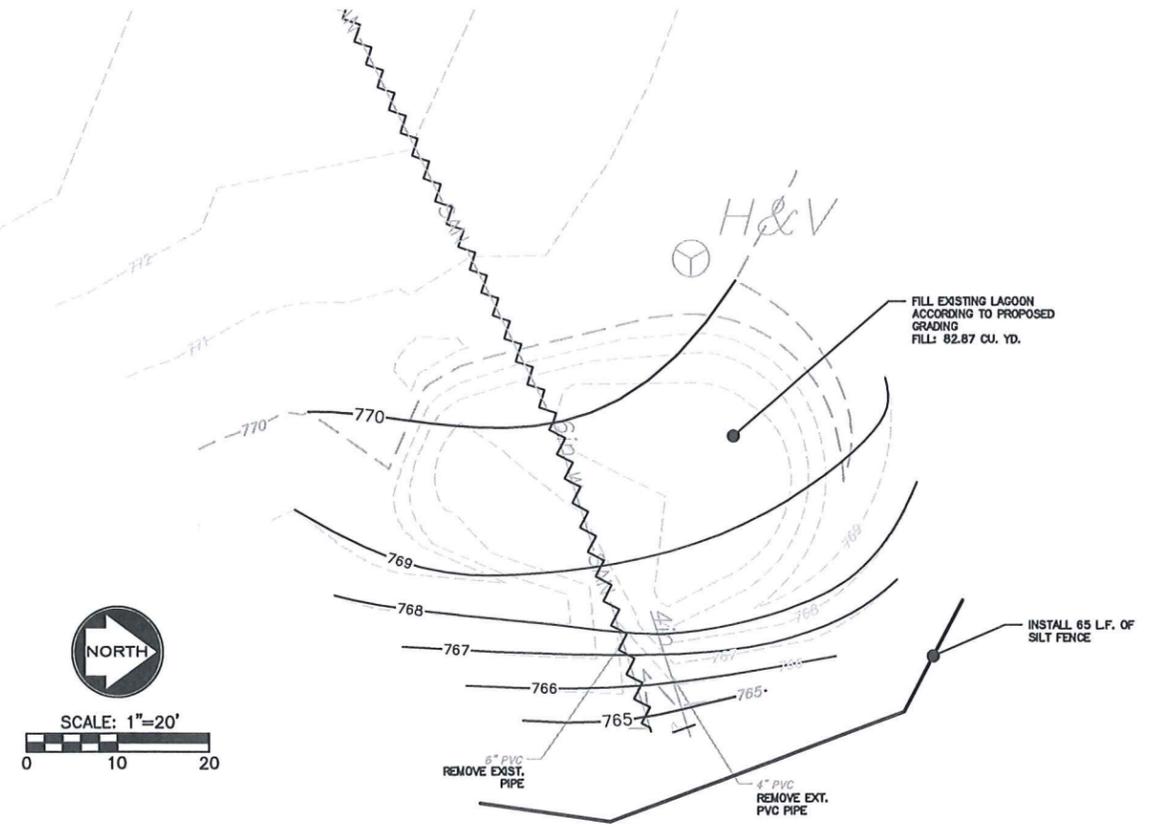
MoDOT - BOONEVILLE MAINTENANCE FACILITY
 TRUCK WASH IMPROVEMENTS
 UTILITY & GRADING PLAN
 110195-010
 SHEET NO.
C202



CONNECT TO EXIST. WATER MAIN WITH TAPPING SADDLE w/ 2" CORP STOP
CONSTRUCTION NOTE:
 CITY OF BOONVILLE SHALL MAKE THE TAP TO THE MAIN & PROVIDE THE WATER METER TO THE CONTRACTOR



WATER SUPPLY LINE PLAN



EXISTING LAGOON GRADING PLAN

LAGOON CONSTRUCTION NOTE:
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