

ALLEGAN COUNTY ROAD COMMISSION

28TH STREET RECONSTRUCTION PROJECT

146TH AVENUE TO 0.5 MILES SOUTH

SALEM TOWNSHIP

EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED THEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2012 MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION.

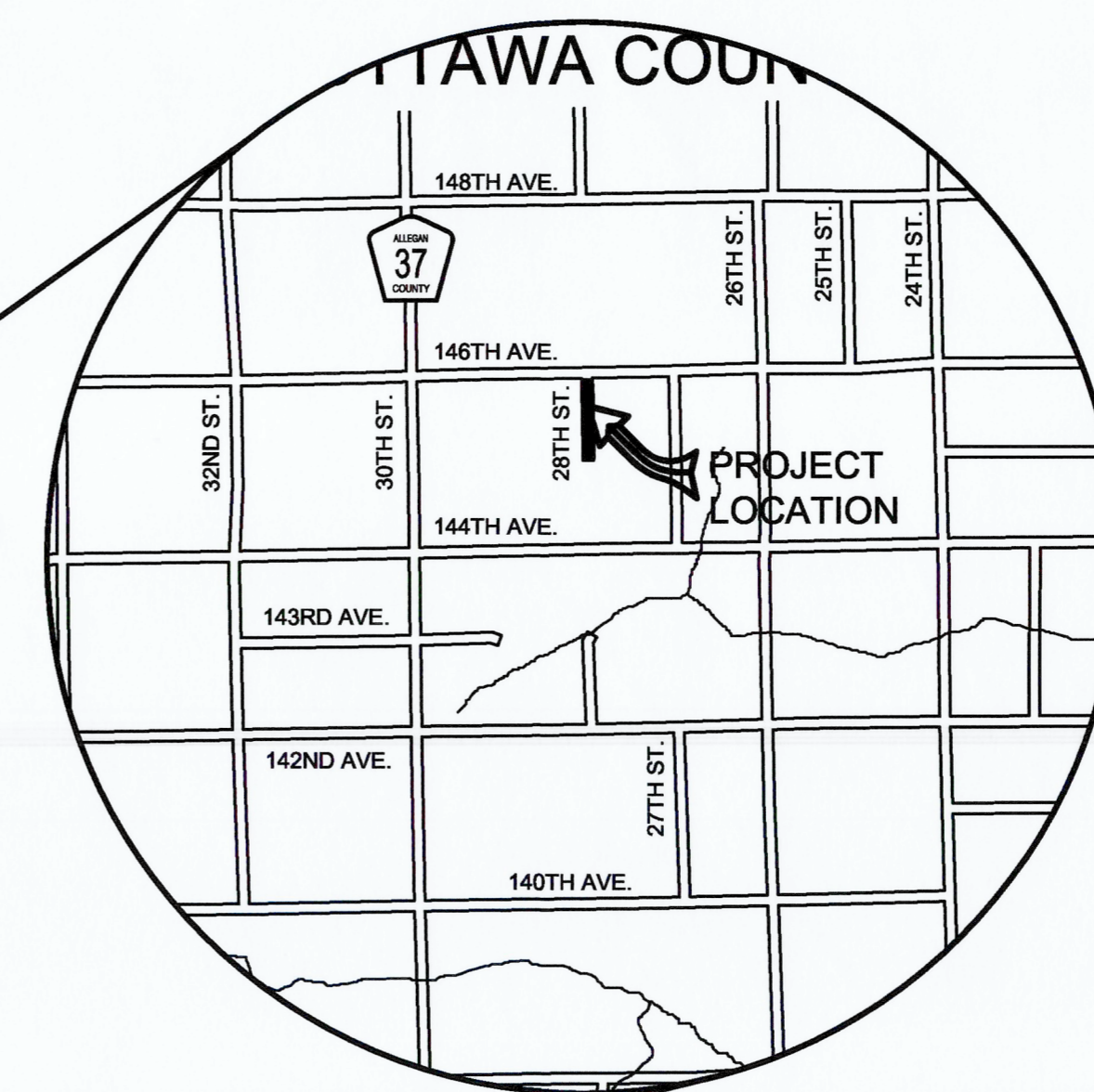
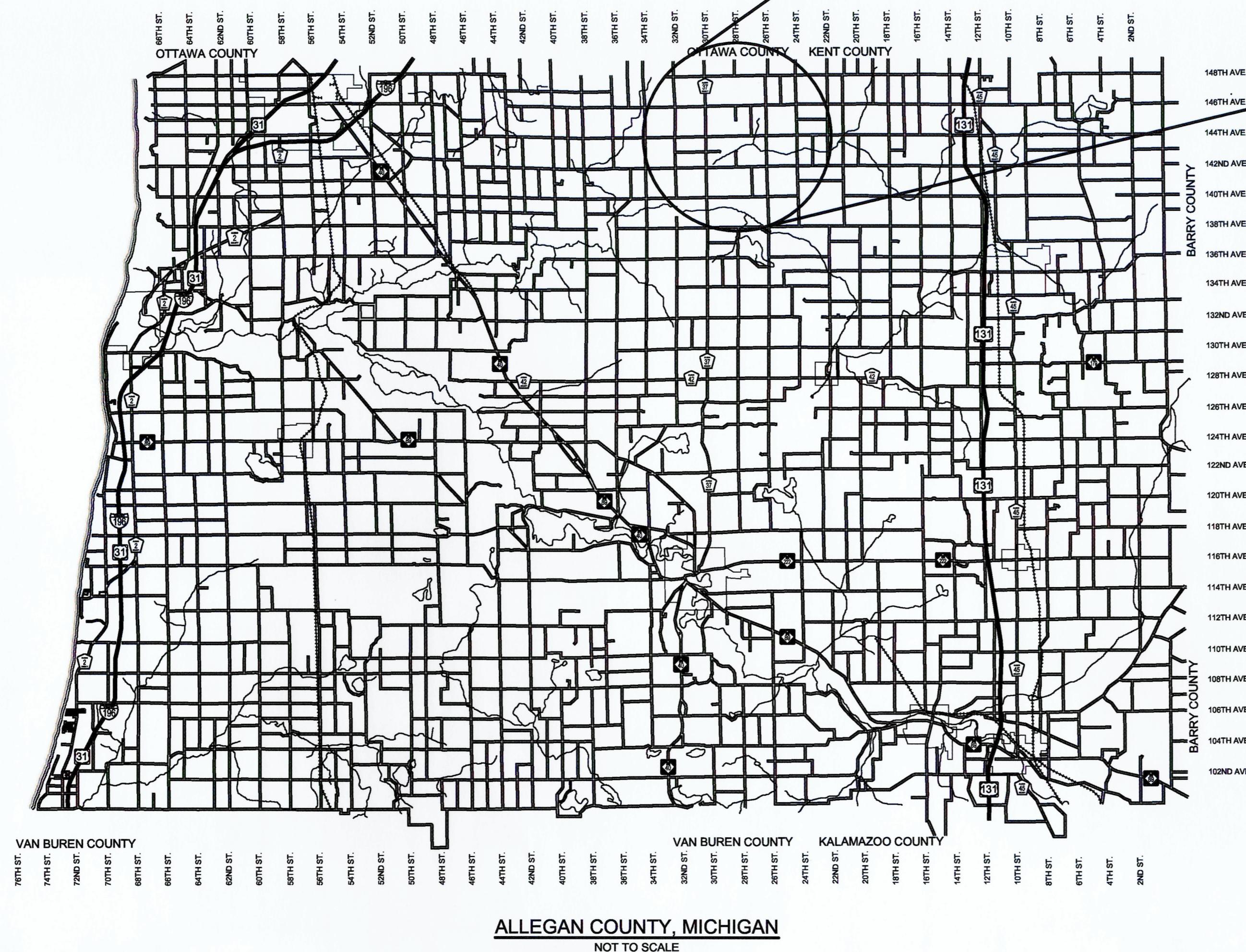
THE PLACING OF PAVEMENT MARKINGS AND TRAFFIC CONTROL SIGNS SHALL BE DONE IN ACCORDANCE WITH THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS AMENDED.

THE IMPROVEMENTS COVERED BY THESE PLANS ARE IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2011 EDITION; A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS.

THE CONTRACTOR SHALL DIAL MISS DIG @ 811 FOR PROTECTION OF UNDER GROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

INDEX OF PLANS

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- 5 - PLAN & PROFILE STA. 30+00 TO P.O.E.
- 6 - PLAN & PROFILE CUL-DE-SAC
- 7 - CROSS SECTIONS STA. 11+34.81 TO STA. 19+00
- 8 - CROSS SECTIONS STA. 20+00 TO STA. 27+00
- 9 - CROSS SECTIONS STA. 28+00 TO STA. 33+04.63
- 10 - CROSS SECTIONS STA. 34+00 TO P.O.E. & CUL-DE-SAC
- 11 - SOIL EROSION & SEDIMENTATION CONTROL PLAN



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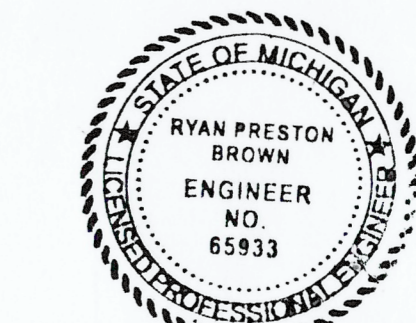
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 MR. KYLE OAK
 kyle.oak@cmsenergy.com

MISS DIG 811

REVISIONS	NO.	DATE	DESCRIPTION
1			
2			
3			
4			
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CONTRACT FOR ROAD IMPROVEMENTS
 0.5 MILES OF ROADWAY RECONSTRUCTION INCLUDING CLEARING, GRADE ESTABLISHMENT, SAND SUBBASE, AGGREGATE BASE, CULVERT REPLACEMENTS, AND RESTORATION ON 28TH STREET FROM 146TH AVENUE TO 0.5 MILES SOUTH IN SALEM TOWNSHIP, ALLEGAN COUNTY.

PREPARED UNDER THE SUPERVISION OF:



Ryan P. Brown

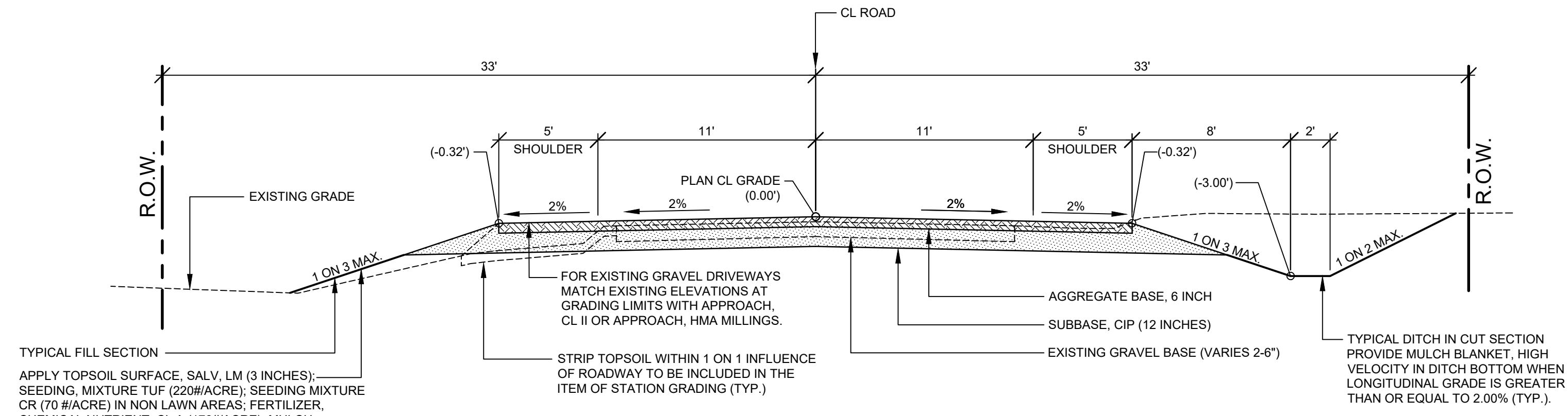
RYAN P. BROWN
 REGISTERED PROFESSIONAL ENGINEER No. 65933

28TH STREET RECONSTRUCTION PROJECT
 SALEM TOWNSHIP - 146TH AVENUE TO 0.5 MILES SOUTH
 COVER SHEET

DRAWN BY: MLC
REVIEWED BY: RPB
DATE: SEPTEMBER, 2019
SCALE: NONE

LH 4009 1

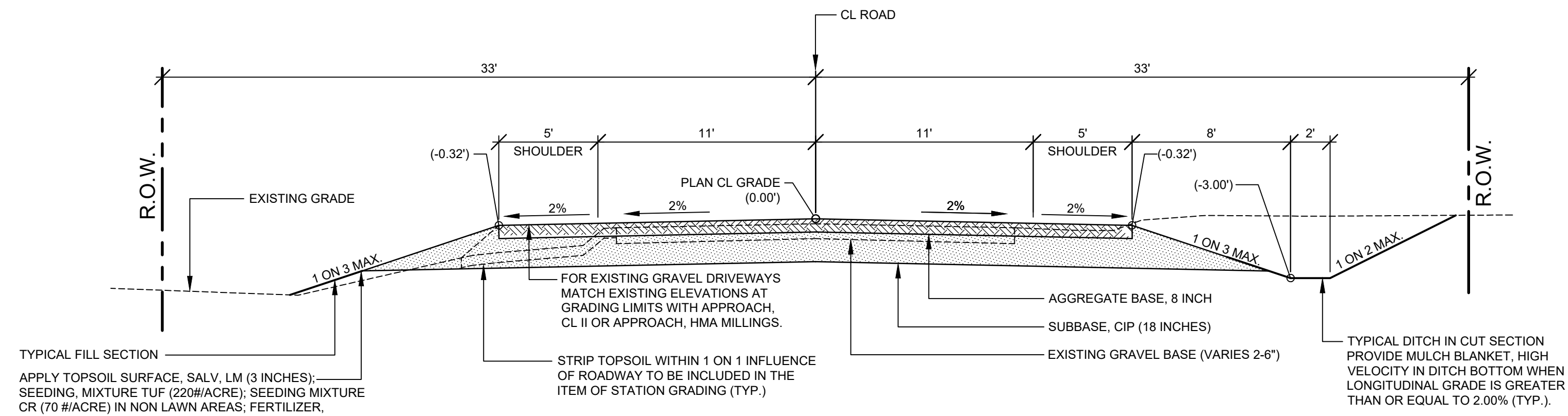
Board of County Road Commissioners
Of Allegan County
 1308 LINCOLN ROAD
 ALLEGAN, MICHIGAN 49010-9762
 TELEPHONE (269) 673-2184 www.alleganroads.org FAX (269) 673-5922



TYPICAL FILL SECTION
 APPLY TOPSOIL SURFACE, SALV. LM (3 INCHES); SEEDING, MIXTURE TUF (220#/ACRE); SEEDING MIXTURE CR (70 #/ACRE) IN NON LAWN AREAS; FERTILIZER, CHEMICAL NUTRIENT, CL A (176#/ACRE); MULCH (2 TONS/ACRE); AND MULCH ANCHORING TO ALL DISTURBED AREAS (TYP.) TO BE PAID AS SLOPE RESTORATION TYPE A. INSTALL MULCH BLANKETS ON ALL FORESLOPES GREATER THAN 1 ON 3 OR AS DIRECTED BY THE ENGINEER IN THE FIELD TO BE PAID AS SLOPE RESTORATION TYPE C.

TYPICAL SECTION - 28TH STREET

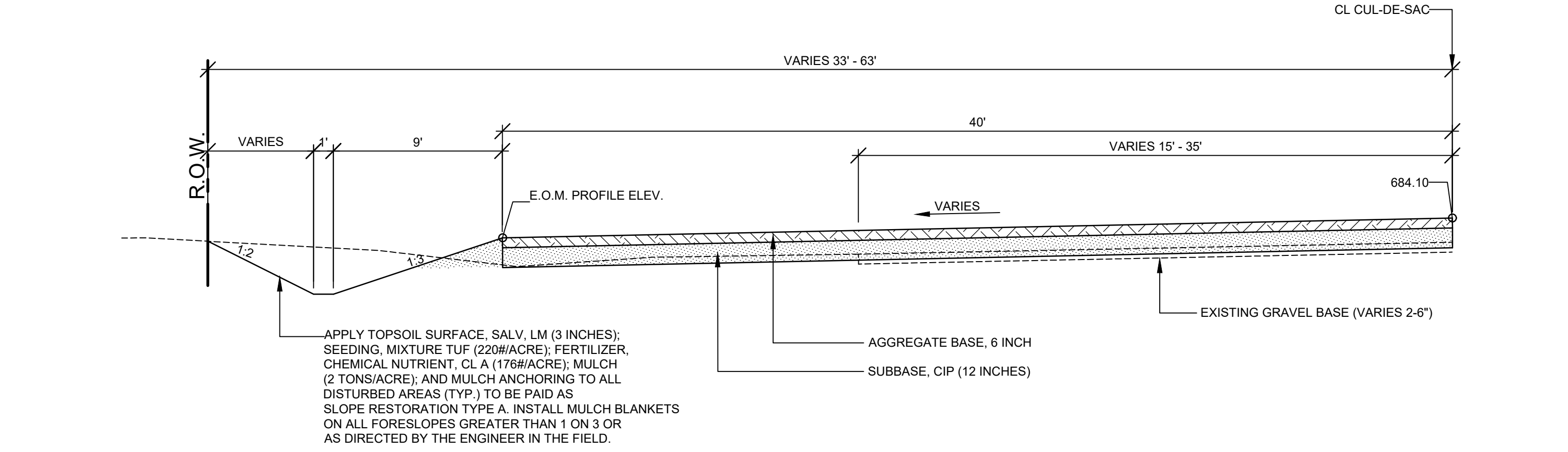
SCALE: 1" = 5'
 THIS SECTION APPLIES TO:
 P.O.B. TO STA. 22+95.00



TYPICAL FILL SECTION
 APPLY TOPSOIL SURFACE, SALV. LM (3 INCHES); SEEDING, MIXTURE TUF (220#/ACRE); SEEDING MIXTURE CR (70 #/ACRE) IN NON LAWN AREAS; FERTILIZER, CHEMICAL NUTRIENT, CL A (176#/ACRE); MULCH (2 TONS/ACRE); AND MULCH ANCHORING TO ALL DISTURBED AREAS (TYP.) TO BE PAID AS SLOPE RESTORATION TYPE A. INSTALL MULCH BLANKETS ON ALL FORESLOPES GREATER THAN 1 ON 3 OR AS DIRECTED BY THE ENGINEER IN THE FIELD TO BE PAID AS SLOPE RESTORATION TYPE C.

TYPICAL SECTION - 28TH STREET

SCALE: 1" = 5'
 THIS SECTION APPLIES TO:
 STA. 22+95.00 TO P.O.E.



TYPICAL FILL SECTION
 APPLY TOPSOIL SURFACE, SALV. LM (3 INCHES); SEEDING, MIXTURE TUF (220#/ACRE); FERTILIZER, CHEMICAL NUTRIENT, CL A (176#/ACRE); MULCH (2 TONS/ACRE); AND MULCH ANCHORING TO ALL DISTURBED AREAS (TYP.) TO BE PAID AS SLOPE RESTORATION TYPE A. INSTALL MULCH BLANKETS ON ALL FORESLOPES GREATER THAN 1 ON 3 OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

TYPICAL SECTION - CUL-DE-SAC

SCALE: 1" = 5'
 THIS SECTION APPLIES TO:
 CUL-DE-SAC

PROJECT NOTES

THE "2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION" AND "STANDARD PLANS" BY THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) ARE HEREBY INCORPORATED INTO THESE CONTRACT DOCUMENTS. COPIES OF THESE STANDARDS ARE AVAILABLE FOR INSPECTION AT THE OFFICE OF THE ENGINEER.

THE CONTRACTOR WILL BE RESPONSIBLE FOR CONTACTING THE ALLEGAN COUNTY ROAD COMMISSION TO NOTIFY THEM THAT WORK IS COMMENCING.

THE CONTRACTOR SHOULD NOTE THAT STATION GRADING WILL INCLUDE THE REMOVAL OF FENCES, CULVERTS, BRUSH, TREES SMALLER THAN 6". CONCRETE FOUNDATIONS, AND MISCELLANEOUS ITEMS AS REQUIRED AND WILL ALSO INCLUDE ALL EARTH EXCAVATION, EMBANKMENT, AND ALL OTHER OPERATIONS NECESSARY TO DEVELOP THE DESIRED CROSS SECTION. ALL TOPSOIL AND OTHER UNSUITABLE MATERIAL LOCATED BENEATH THE PROPOSED PAVEMENT SECTION WILL BE REMOVED TO THE SUBGRADE ELEVATION AS PART OF STATION GRADING. ALL TOPSOIL REMOVED MAY BE STOCKPILED AND REUSED AS TOPSOIL SURFACE, SALV. LM.

ALL FILL FOR THIS PROJECT MUST BE OBTAINED AND FURNISHED BY THE CONTRACTOR. ALL REQUIRED FILL SHALL BE SELECTED EXCAVATED MATERIAL FROM THE SITE APPROVED BY THE ENGINEER. OR MDOT CLASS II GRANULAR MATERIAL FROM BORROW. EXCESS FILL WILL BE REMOVED FROM SITE BY THE CONTRACTOR. NO BORROW OR SOIL REMOVAL ARRANGEMENTS HAVE BEEN PREARRANGED FOR THIS PROJECT AND WILL BE THE TOTAL RESPONSIBILITY OF THE CONTRACTOR.

THE SOIL BORINGS WERE TAKEN BY GREAT LAKES DRILLING COMPANY, P.O. BOX 51, ALLEGAN, MI 49010 ON APRIL 5, 2019. THE TEST BORINGS REPRESENT POINT INFORMATION AND MAY NOT HAVE ENCOUNTERED ALL THE TYPES AND MATERIALS WHICH ARE PRESENT AT THE SITE. THESE BORING LOGS DO NOT CONSTITUTE A GUARANTEE OF THE SOIL OR GROUNDWATER CONDITIONS, OR THAT THE TEST BORINGS ARE AN EXACT REPRESENTATION OF THE SOIL OR GROUNDWATER CONDITIONS AT ALL POINTS ON THE SITE.

SEE PLAN AND PROFILE SHEETS FOR SOIL BORING DATA.

DRIVE REPLACEMENT WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

THE ITEM OF SUBBASE, CIP WILL BE PAID FOR AT PLAN QUANTITY EXCEPT IN THE CASE OF A DESIGN CHANGE OR DEMONSTRATED ERROR.

AS PART OF THIS PROJECT THE CONTRACTOR WILL COORDINATE WITH THE ALLEGAN COUNTY ROAD COMMISSION TO PRESERVE AND RESET ALL GOVERNMENT CORNERS WITHIN THE PROJECT LIMITS.

CONTRACTOR WILL RELOCATE ALL MAILBOXES TO A TEMPORARY CENTRAL LOCATION APPROVED BY THE POSTAL SERVICE PRIOR TO CONSTRUCTION. CONTRACTOR SHALL INSTALL A 1" x 3" STAKE WITH THE RESPECTIVE PROPERTY ADDRESS WRITTEN ON IT IN THE FRONT YARD OF EACH RESIDENCE TO ASSIST WITH IDENTIFICATION FOR EMERGENCY VEHICLES. PAYMENT FOR RELOCATION WILL BE INCLUDED IN THE ITEM OF PROJECT CLEANUP. AT THE COMPLETION OF THE PROJECT SAID MAILBOXES SHALL BE RESET AT THEIR APPROPRIATE LOCATIONS.

ALL DISTURBED AREAS NOT TO BE PAVED WILL BE RESTORED WITH TOPSOIL SURFACE, SALV. LM (3 INCHES), MDT SEED MIXTURE TUF (220#/ACRE); SEEDING MIXTURE CR (70 #/ACRE) IN NON LAWN AREAS; FERTILIZER, CHEMICAL NUTRIENT, CL A (176#/ACRE); AND MULCH AND MULCH ANCHORING (2 TON/ACRE). TO BE PAID AS SLOPE RESTORATION, TYPE A. SEE SESC PLAN FOR AREAS TO USE HIGH VELOCITY MULCH BLANKET, TO BE PAID AS SLOPE RESTORATION TYPE C.

ADEQUATE DUST CONTROL MEASURES WILL BE MAINTAINED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER IN THE FIELD, TO BE INCLUDED IN THE VARIOUS ITEMS OF WORK.

MULCH BLANKET, HIGH VELOCITY WILL BE PLACED ON THE BOTTOM OF ALL DITCHES WHEN THE LONGITUDINAL GRADE IS GREATER THAN OR EQUAL TO 2.00% UNLESS OTHERWISE NOTED, OR AS DIRECTED BY THE ENGINEER IN THE FIELD TO BE PAID AS SLOPE RESTORATION TYPE C.

WHEN FIELD DRAIN TILES ARE ENCOUNTERED IN THE EXISTING DITCHES, THE CONTRACTOR WILL EXTEND THEM AS REQUIRED WITH UNDERDRAIN, SUBGRADE 4" OR 6" AND ADJUST THE DITCH GRADES AS NECESSARY TO PROVIDE POSITIVE DRAINAGE AS DIRECTED BY THE ENGINEER IN THE FIELD. THE COST OF THE CONNECTION WILL BE INCLUDED IN THE NEW PIPE ITEM. IF THE ENGINEER DETERMINES THAT AN EXISTING TILE IS TOO LONG THE CONTRACTOR WILL REMOVE THE TILE AS NECESSARY, TO BE INCLUDED IN THE ITEM OF STATION GRADING.

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING EXISTING DRAINAGE PATTERNS, AND WILL RESOLVE ANY DRAINAGE PROBLEMS ON ADJACENT PROPERTIES WHICH MAY RESULT FROM THE CONTRACTOR'S ACTIVITIES.

DATUM REFERS TO NAVD88 DATUM.

DIMENSIONS TAKE PRECEDENCE OVER SCALE. CONTRACTOR TO VERIFY ALL DIMENSIONS IN FIELD.

UTILITY NOTES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR WILL CONTACT "MISS DIG" AT 811, A MINIMUM OF 72 HOURS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THIS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE CONTRACTOR WILL LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK AND WILL CONDUCT HIS OPERATIONS IN A MANNER AS TO ENSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.

MISCELLANEOUS QUANTITIES

DESCRIPTION	QUANTITY	UNIT
SUBGRADE UNDERCUTTING, TYPE II	500	CYD
AGGREGATE, 6A	50	TON
GEOTEXTILE, STABILIZATION	1,000	SYD
RIPRAP, PLAIN	25	SYD

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REVISIONS	1	2	3	4	5	6	7

28TH STREET RECONSTRUCTION PROJECT
 SALEM TOWNSHIP - 146TH AVENUE TO 0.5 MILES SOUTH

TYPICAL SECTIONS, DETAILS, & NOTES

DRAWN BY: MLC
 REVIEWED BY: RPB
 DATE: SEPTEMBER, 2019
 SCALE: AS NOTED

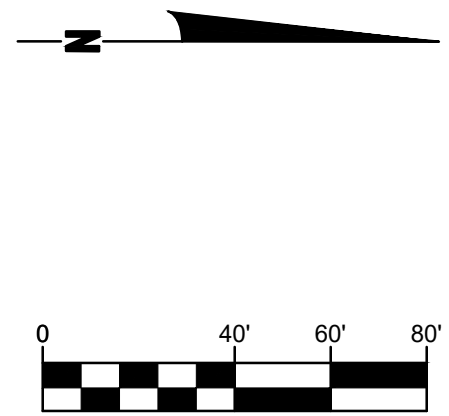
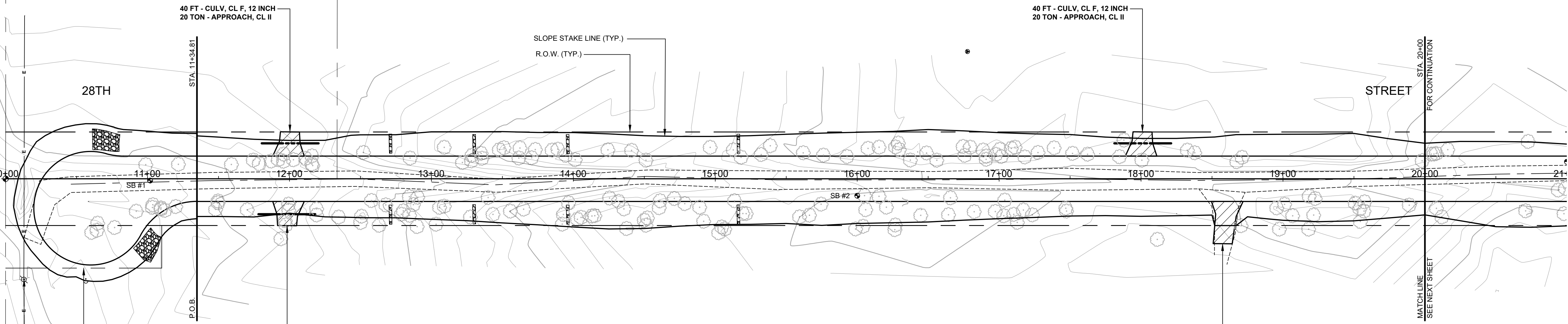
SOIL BORINGS

- SB #1**
 0 - 24" DARK BROWN FINE SAND
 TR CLAY
 24" - 60" BROWN MOSTLY FINE SAND
 60" END OF BORING
- SB #2**
 0 - 4" DARK BROWN FINE SAND,
 TR CLAY
 4" - 30" BROWN MOSTLY FINE SAND
 30" - 60" BROWN FINE TO MEDIUM FINE SAND
 60" END OF BORING

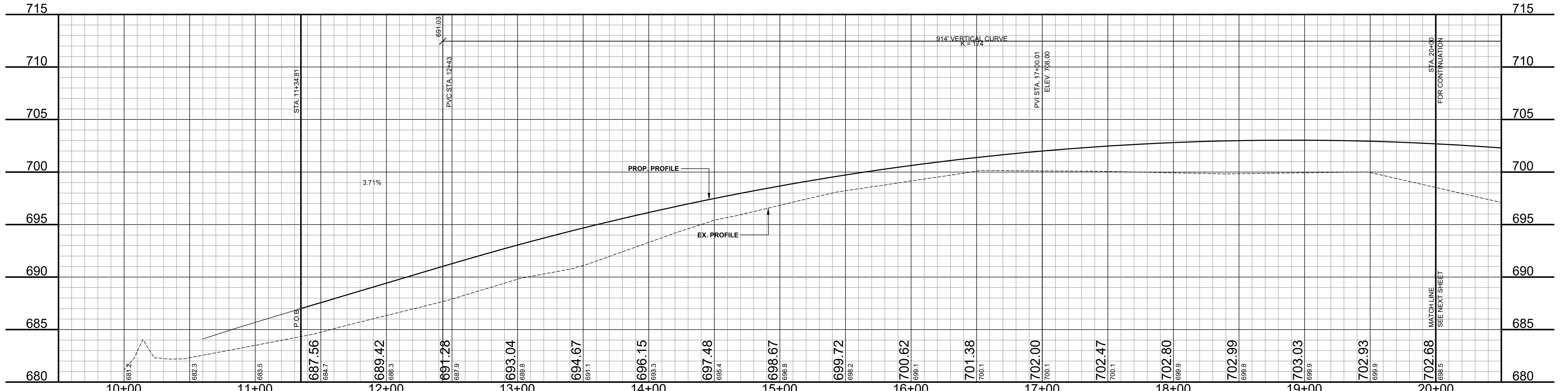
19-010-001-81
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19-010-001-80
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 P. O. BOX 32
 HAMILTON, MI 49419

19-011-005-00
 DAVID & MARY GAUSS
 2577 MASON STREET
 HUDSONVILLE, MI 49426



- 10+01 GP GATE 71.8'
- 10+13 POWER POLE 71.0'
- 10+14 POWER POLE 70.9'
- 10+16 GP GATE 69.7'
- 10+57 6" NY WIRE 70.7'
- 10+58 GP STEEL 16.0' - REMOVE
- 10+61 5" CHERRY 37.9' - REMOVE
- 10+62 5" CHERRY 37.9' - REMOVE
- 10+65 5" CHERRY 34.4' - REMOVE
- 10+77 5" CHERRY 34.4' - REMOVE
- 10+92 52" OAK 22.9' - REMOVE
- 11+03 15" WIRE 30.2' - REMOVE
- 11+04 15" WIRE 30.2' - REMOVE
- 11+08 5" OAK 21.4' - REMOVE
- 11+09 5" CHERRY 20.0' - REMOVE
- 11+10 5" CHERRY 20.0' - REMOVE
- 11+20 48" OAK 18.6' - REMOVE
- 11+48 17" MAPLE 21.6' - REMOVE
- 11+50 5" MAPLE 15.7' - REMOVE
- 11+50 5" MAPLE 16.9' - REMOVE
- 11+70 32" DEAD TREE 21.9' - REMOVE
- 11+54 5" MAPLE 15.4' - REMOVE
- 11+57 15" OAK 23.6' - REMOVE
- 11+57 15" MAPLE 32.6' - REMOVE
- 11+59 5" CHERRY 17.9' - REMOVE
- 12+19 15" OAK 25.6' - REMOVE
- 12+19 9" OAK 21.3' - REMOVE
- 12+35 15" CHERRY 27.0' - REMOVE
- 12+50 15" CHERRY 30.9' - REMOVE
- 12+51 9" OAK 26.5' - REMOVE
- 12+53 18" CHERRY 32.9' - REMOVE
- 12+68 15" OAK 18.5' - REMOVE
- 12+79 5" OAK 25.0' - REMOVE
- 12+84 15" OAK 12.6' - REMOVE
- 12+85 5" OAK 26.8' - REMOVE
- 12+87 5" OAK 13.7' - REMOVE
- 12+88 15" OAK 13.0' - REMOVE
- 13+03 9" OAK 32.1' - REMOVE
- 13+09 9" OAK 19.4' - REMOVE
- 13+27 36" MAPLE 27.0' - REMOVE
- 13+40 9" OAK 13.2' - REMOVE
- 13+43 6" TW 25.1' - REMOVE
- 13+56 27" TW 22.9' - REMOVE
- 13+65 18" OAK 21.5' - REMOVE
- 13+82 15" OAK 32.0' - REMOVE
- 13+87 15" OAK 17.0' - REMOVE
- 14+03 12" OAK 28.6' - REMOVE
- 14+03 12" OAK 26.3' - REMOVE
- 14+15 5" OAK 26.1' - REMOVE
- 14+25 5" OAK 13.6' - REMOVE
- 14+36 15" OAK 21.3' - REMOVE
- 14+37 24" POPLAR 35.1' - REMOVE
- 14+51 15" OAK 32.8' - REMOVE
- 14+52 12" CHERRY 27.7' - REMOVE
- 14+60 15" OAK 20.4' - REMOVE
- 14+71 6" TW 14.0' - REMOVE
- 14+78 9" OAK 17.6' - REMOVE
- 14+82 12" DEAD TREE 36.9' - REMOVE
- 15+02 18" OAK 38.1'
- 15+04 15" OAK 34.1'
- 15+07 6" OAK 35.5'
- 15+18 42" OAK 24.5' - REMOVE
- 15+22 12" OAK 24.6' - REMOVE
- 15+59 24" DEAD TREE 26.9' - REMOVE
- 15+66 35" OAK 25.7' - REMOVE
- 15+75 18" CHERRY 17.9' - REMOVE
- 15+89 9" DEAD TREE 35.4' - REMOVE
- 16+04 18" CHERRY 33.6' - REMOVE
- 16+08 12" OAK 21.9' - REMOVE
- 16+15 6" DEAD TREE 12.4' - REMOVE
- 16+26 15" OAK 35.9' - REMOVE
- 16+27 15" CHERRY 32.7' - REMOVE
- 16+44 5" STUMP 16.4' - REMOVE
- 16+45 18" OAK 23.8' - REMOVE
- 16+64 50" OAK 25.4' - REMOVE
- 16+66 18" OAK 18.4' - REMOVE
- 16+82 9" MAPLE 23.2' - REMOVE
- 16+97 30" DEAD TREE 23.1' - REMOVE
- 17+03 9" MAPLE 26.1' - REMOVE
- 17+06 6" MAPLE 25.1' - REMOVE
- 17+13 15" CHERRY 30.8' - REMOVE
- 17+23 36" CHERRY 22.2' - REMOVE
- 17+26 9" MAPLE 25.9' - REMOVE
- 17+42 9" TW 29.6' - REMOVE
- 17+49 6" MAPLE 22.8' - REMOVE
- 18+11 35" CHERRY 42.8'
- 18+70 24" MAPLE 33.1' - REMOVE
- 18+96 6" MAPLE 20.6' - REMOVE
- 18+97 6" TW 35.5' - REMOVE
- 19+04 15" MAPLE 26.1' - REMOVE
- 19+18 15" MAPLE 35.5'
- 19+18 18" TR 12.2' - REMOVE
- 19+23 12" DEAD TREE 14.9' - REMOVE
- 19+41 24" DEAD TREE 17.7' - REMOVE
- 19+54 12" ELM 21.2' - REMOVE
- 19+54 12" OAK 30.2' - REMOVE
- 19+57 15" TW 16.3' - REMOVE
- 19+57 15" TW 16.3' - REMOVE
- 19+99 15" OAK 18.6' - REMOVE
- 20+08 36" CHERRY 20.9' - REMOVE
- 20+12 60" OAK 28.9' - REMOVE



- LEGEND**
- REGRADE EXISTING DRIVE AS REQUIRED AND SURFACE WITH APPROACH, CLASS II TO A DEPTH OF 6" AS DIRECTED BY THE ENGINEER IN THE FIELD, PAID FOR AS APPROACH, CL II BY THE TON.
 - SAW-CUT AND REMOVE EXISTING HMA PAVEMENT. REGRADE EXISTING DRIVE OR APPROACH AS REQUIRED AND SURFACE WITH APPROACH, CL II; 165#/SYD HMA, 13A (LEVELING); AND 165#/SYD HMA, 13A (TOP) (PAVING UNDER SEPARATE CONTRACT IN THE FUTURE).
 - SAW-CUT AND REMOVE EXISTING CONCRETE PAVEMENT. REGRADE EXISTING DRIVE AS REQUIRED AND SURFACE WITH APPROACH, CL II; 165#/SYD HMA, 13A (LEVELING); AND 165#/SYD HMA, 13A (TOP) (PAVING UNDER SEPARATE CONTRACT IN THE FUTURE).

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REVISIONS	
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28TH STREET RECONSTRUCTION PROJECT
 SALEM TOWNSHIP - 146TH AVENUE TO 0.5 MILES SOUTH
 PLAN & PROFILE - STA. 10+00 TO STA. 20+00

DRAWN BY: RPB
 REVIEWED BY: JSE
 DATE: SEPTEMBER, 2019
 SCALE: 1"= 40'H, 5V

SOIL BORINGS

- SB #3**
 - 0' - 30" DARK BROWN SILTY TOPSOIL, TR CLAY
 - 30" - 54" BROWN SANDY, SILTY, CLAY
 - 54" - 60" BROWN FINE TO MEDIUM FINE SAND
 - 60" END OF BORING
- SB #4**
 - 0' - 11" BROWN FINE TO MEDIUM SAND AND GRAVEL
 - 11" - 30" DARK BROWN FINE TO MEDIUM SAND, TR FINE TO COARSE GRAVEL AND CLAY
 - 30" - 48" BROWN SANDY CLAY, TR FINE GRAVEL
 - 48" - 60" BROWN MEDIUM SAND
 - 60" END OF BORING
- SB #5**
 - 0' - 22" BROWN FINE TO MEDIUM SAND AND GRAVEL
 - 22" - 30" DARK BROWN FINE TO MEDIUM SAND, TR CLAY
 - 30" - 42" BROWN SILTY, CLAYE FINE SAND TR FINE GRAVEL
 - 42" - 60" BROWN MEDIUM SAND, TR CLAY AND FINE GRAVEL
 - 60" END OF BORING

19-010-001-80
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19-010-001-60
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988 20TH AVENUE
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19-010-001-70
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4580 28TH STREET
BYRON CENTER, MI 49315

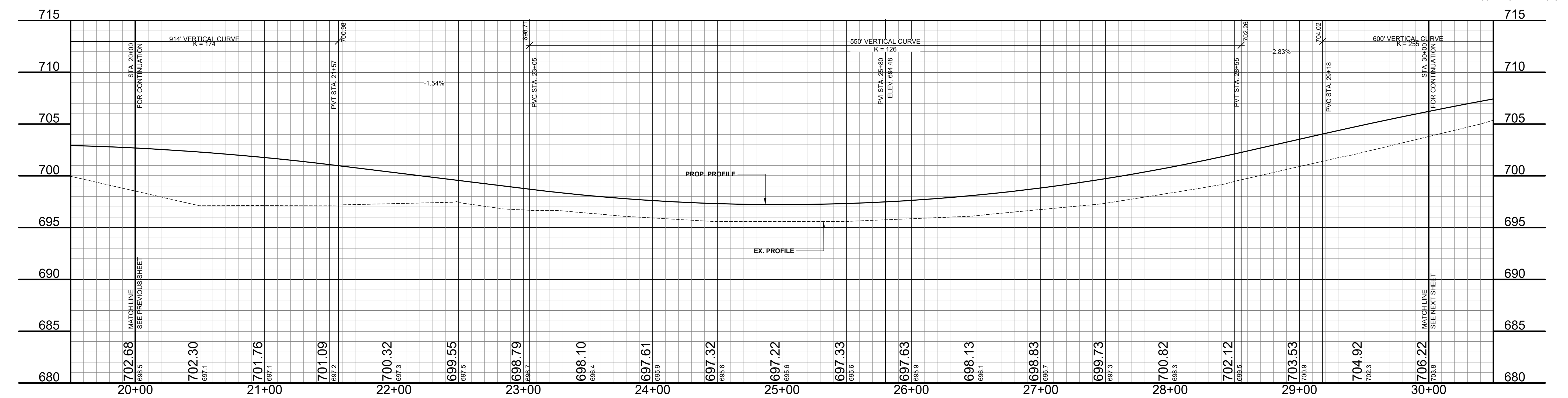
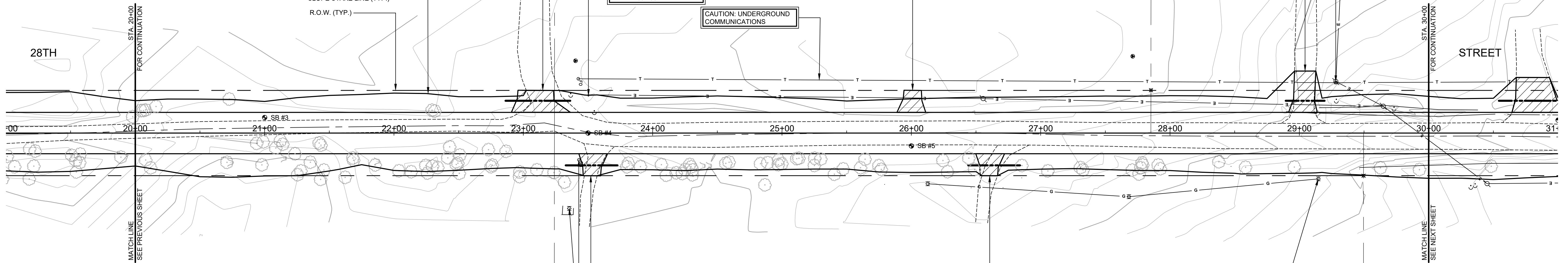
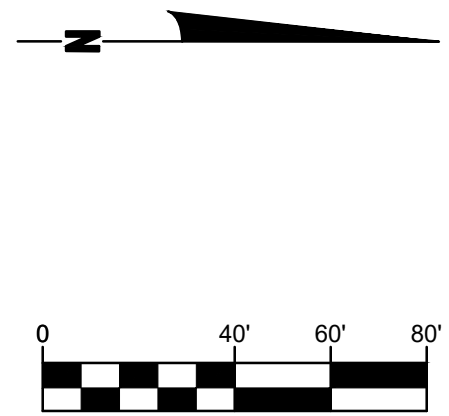
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MATTHEW WESTMAAS
4578 28TH STREET
BYRON CENTER, MI 49315

LEGEND

- REGRADE EXISTING DRIVE AS REQUIRED AND SURFACE WITH APPROACH, CLASS II TO A DEPTH OF 6" AS DIRECTED BY THE ENGINEER IN THE FIELD, PAID FOR AS APPROACH, CL II BY THE TON.
- SAWCUT AND REMOVE EXISTING HMA PAVEMENT. REGRADE EXISTING DRIVE OR APPROACH AS REQUIRED AND SURFACE WITH APPROACH, CL II; 165#/SYD HMA, 13A (LEVELING); AND 165#/SYD HMA, 13A (TOP) (PAVING UNDER SEPARATE CONTRACT IN THE FUTURE)
- SAWCUT AND REMOVE EXISTING CONCRETE PAVEMENT. REGRADE EXISTING DRIVE AS REQUIRED AND SURFACE WITH APPROACH, CL II; 165#/SYD HMA, 13A (LEVELING); AND 165#/SYD HMA, 13A (TOP) (PAVING UNDER SEPARATE CONTRACT IN THE FUTURE)



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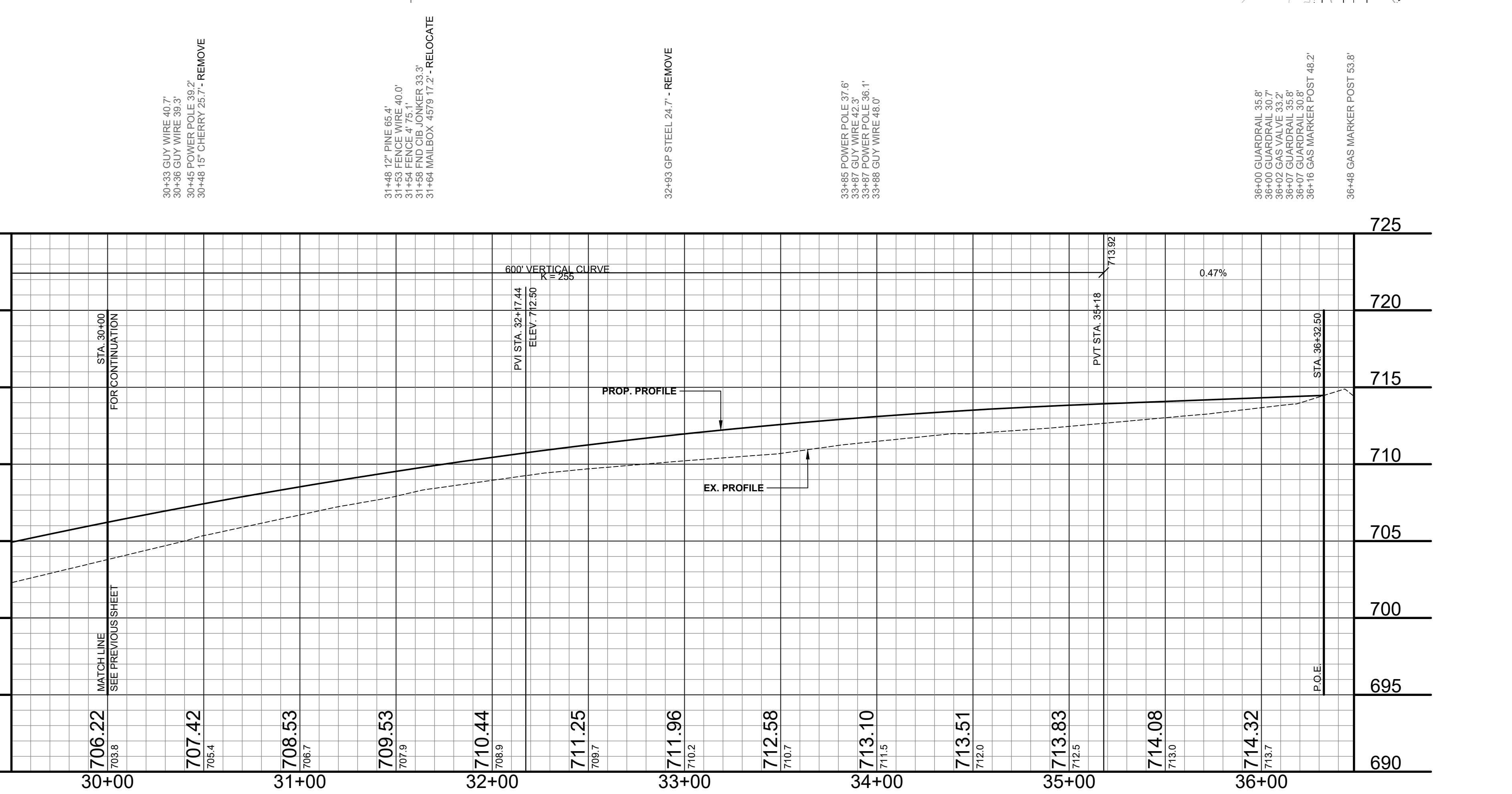
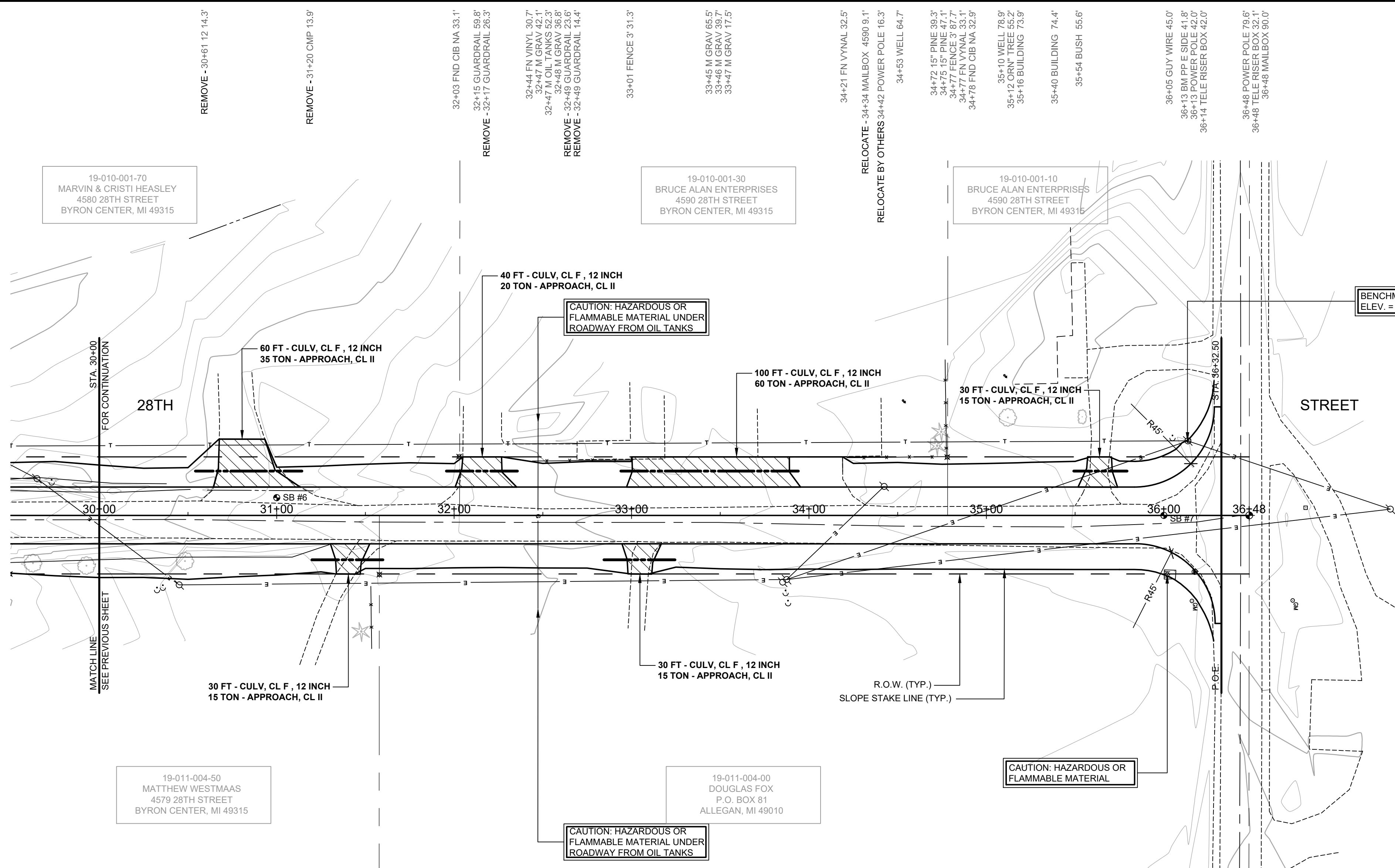
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28TH STREET RECONSTRUCTION PROJECT
SALEM TOWNSHIP - 146TH AVENUE TO 0.5 MILES SOUTH
PLAN & PROFILE - STA. 20+00 TO STA. 30+00

DRAWN BY: RPB
REVIEWED BY: JSE
DATE: SEPTEMBER, 2019
SCALE: 1"= 40'H, 5'V

SOIL BORINGS

SB #6	0" - 4"	BROWN MEDIUM SAND & FINE TO COARSE GRAVEL
	4" - 30"	DARK BROWN MEDIUM SAND, FINE TO COARSE GRAVEL
	30" - 42"	BROWN MEDIUM FINE SAND, TR CLAY
	42" - 60"	BROWN FINE TO MEDIUM SAND
	60"	END OF BORING
SB #7	0" - 4"	BROWN MEDIUM SAND AND FINE TO COARSE GRAVEL
	4" - 20"	DARK BROWN FINE TO MEDIUM SAND, TR FINE GRAVEL
	20" - 30"	BROWN MEDIUM FINE SAND
	30" - 48"	BROWN FINE TO MEDIUM SAND
	48" - 60"	BROWN MEDIUM SAND, TR CLAY AND FINE GRAVEL
	60"	END OF BORING



LEGEND

	REGRADE EXISTING DRIVE AS REQUIRED AND SURFACE WITH APPROACH, CLASS II TO A DEPTH OF 6" AS DIRECTED BY THE ENGINEER IN THE FIELD, PAID FOR AS APPROACH, CL II BY THE TON.
	SAWCUT AND REMOVE EXISTING HMA PAVEMENT. REGRADE EXISTING DRIVE OR APPROACH AS REQUIRED AND SURFACE WITH APPROACH, CL II; 165#/SYD HMA, 13A (LEVELING); AND 165#/SYD HMA, 13A (TOP) (PAVING UNDER SEPARATE CONTRACT IN THE FUTURE)
	SAWCUT AND REMOVE EXISTING CONCRETE PAVEMENT. REGRADE EXISTING DRIVE AS REQUIRED AND SURFACE WITH APPROACH, CL II; 165#/SYD HMA, 13A (LEVELING); AND 165#/SYD HMA, 13A (TOP) (PAVING UNDER SEPARATE CONTRACT IN THE FUTURE)

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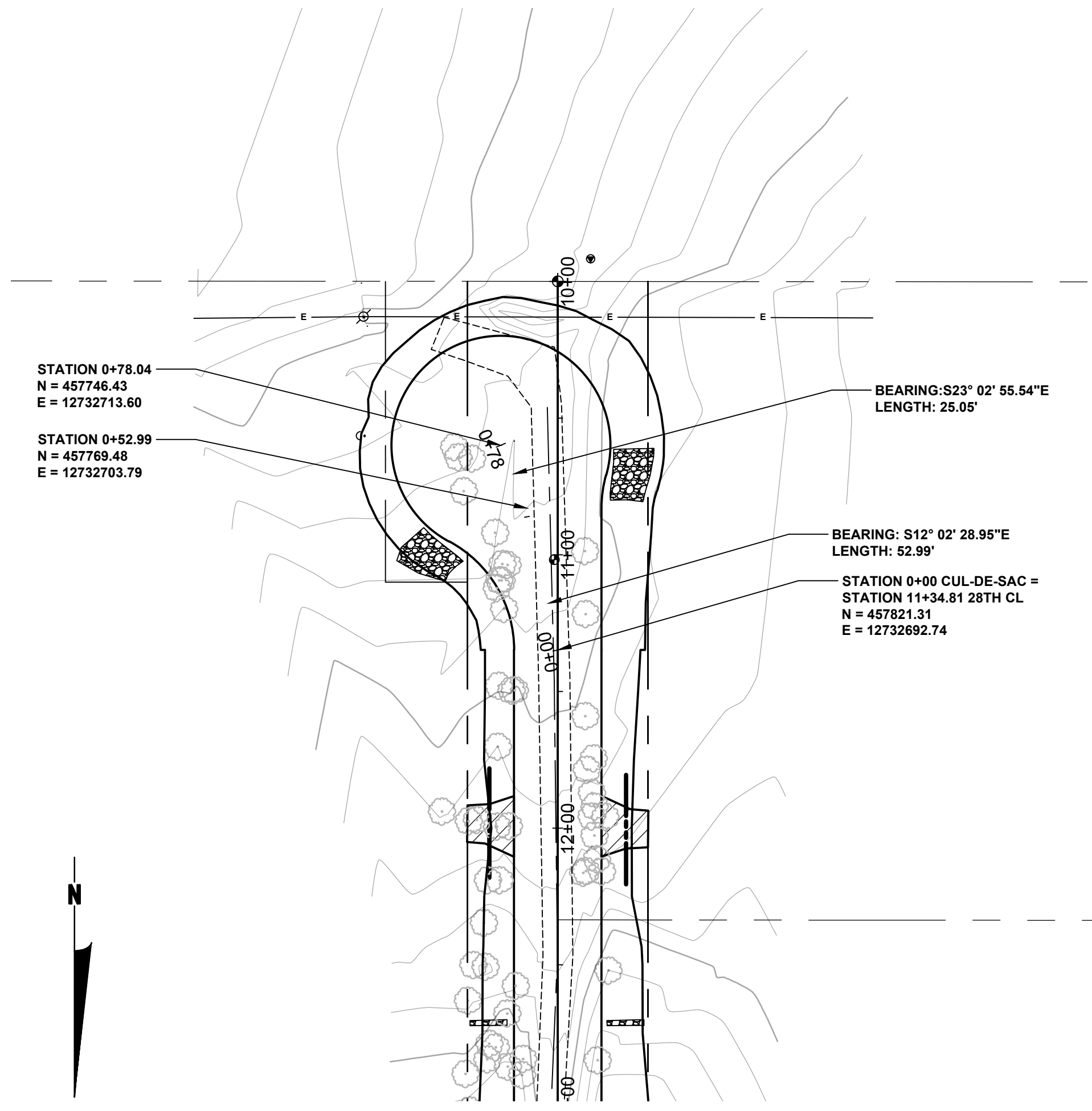
28TH STREET RECONSTRUCTION PROJECT
SALEM TOWNSHIP - 146TH AVENUE TO 0.5 MILES SOUTH
PLAN & PROFILE - STA. 30+00 TO P.O.E.

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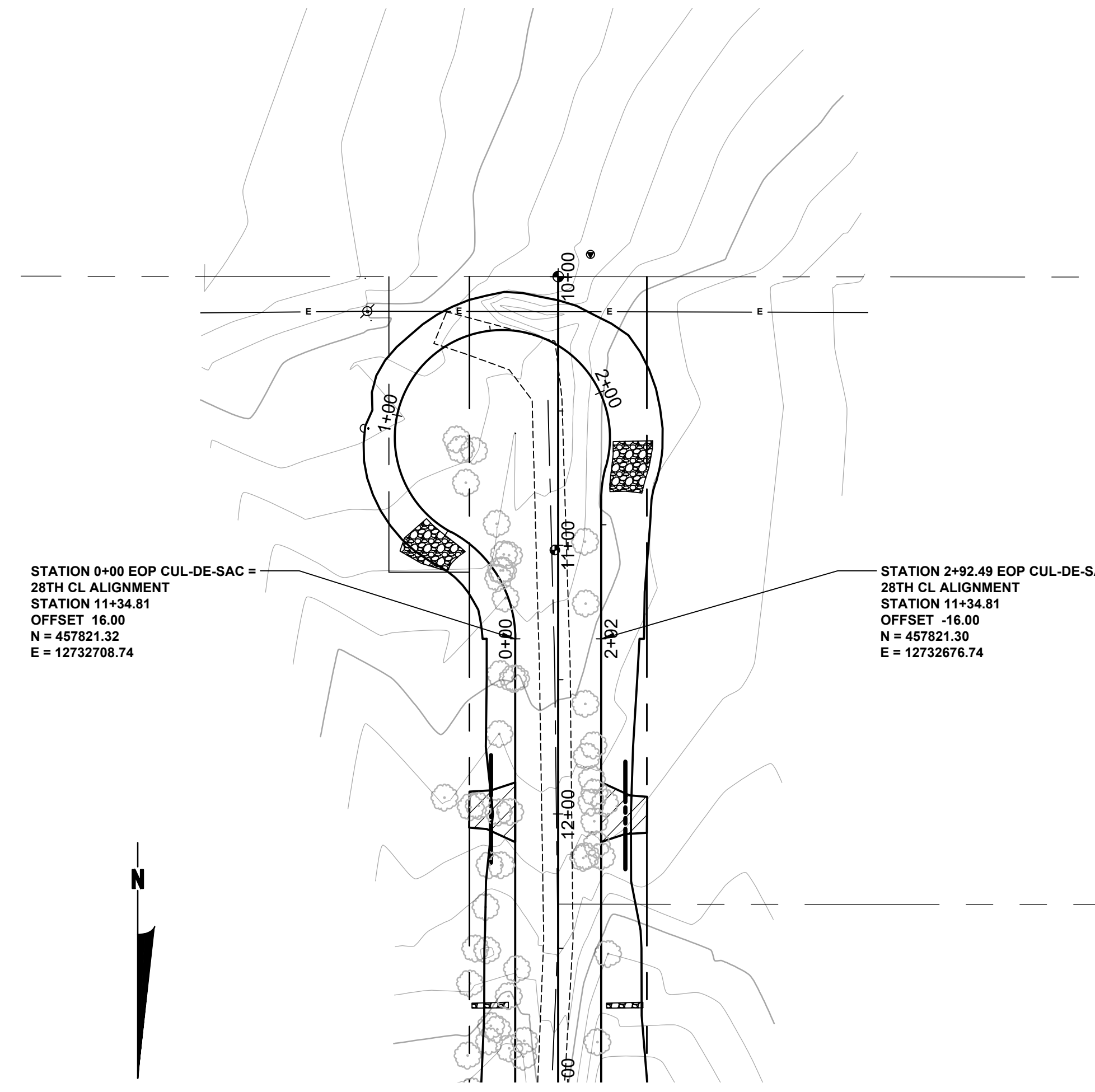
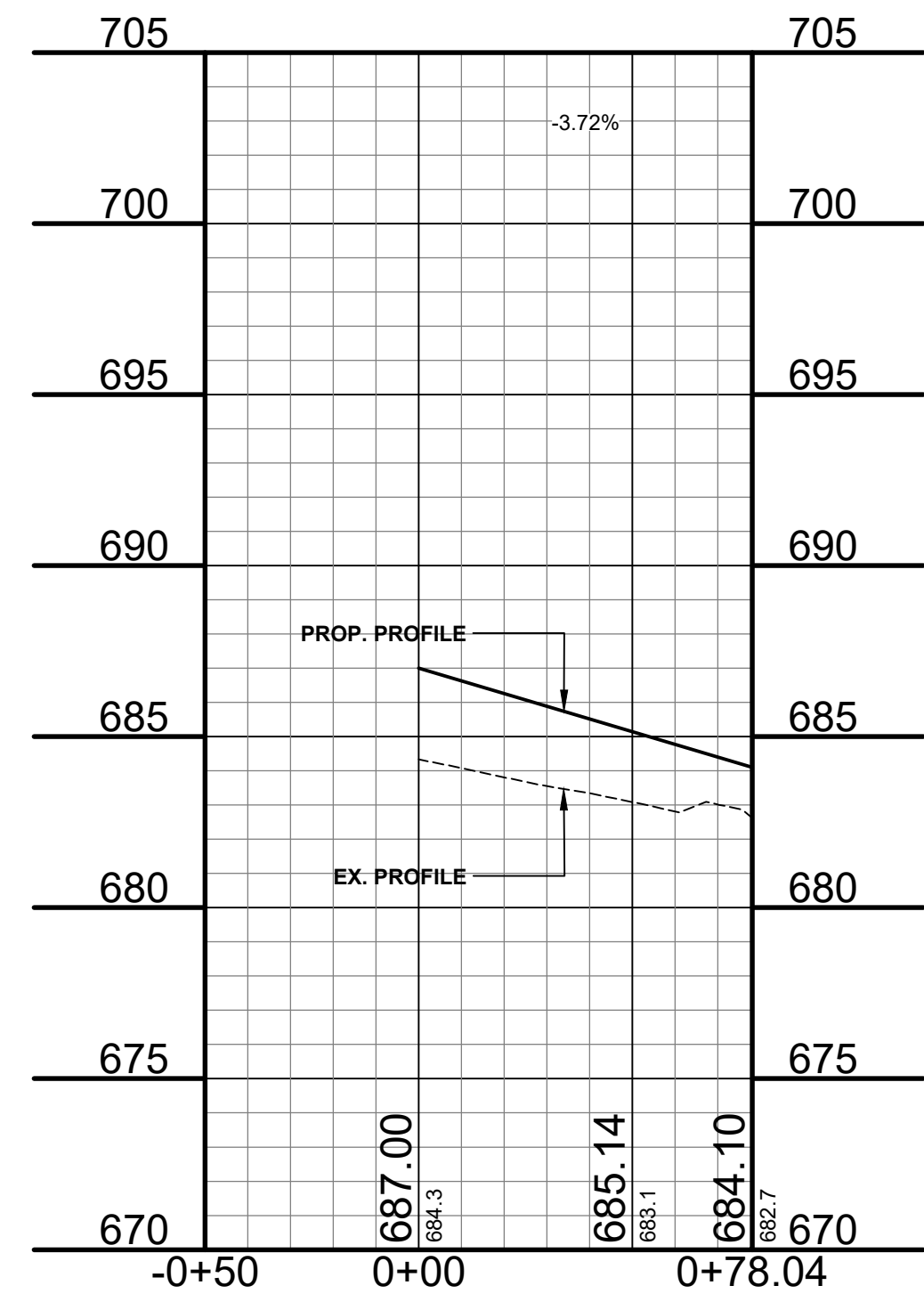
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28TH STREET RECONSTRUCTION PROJECT
SALEM TOWNSHIP - 146TH AVENUE TO 0.5 MILES SOUTH
PLAN & PROFILE - CUL-DE-SAC

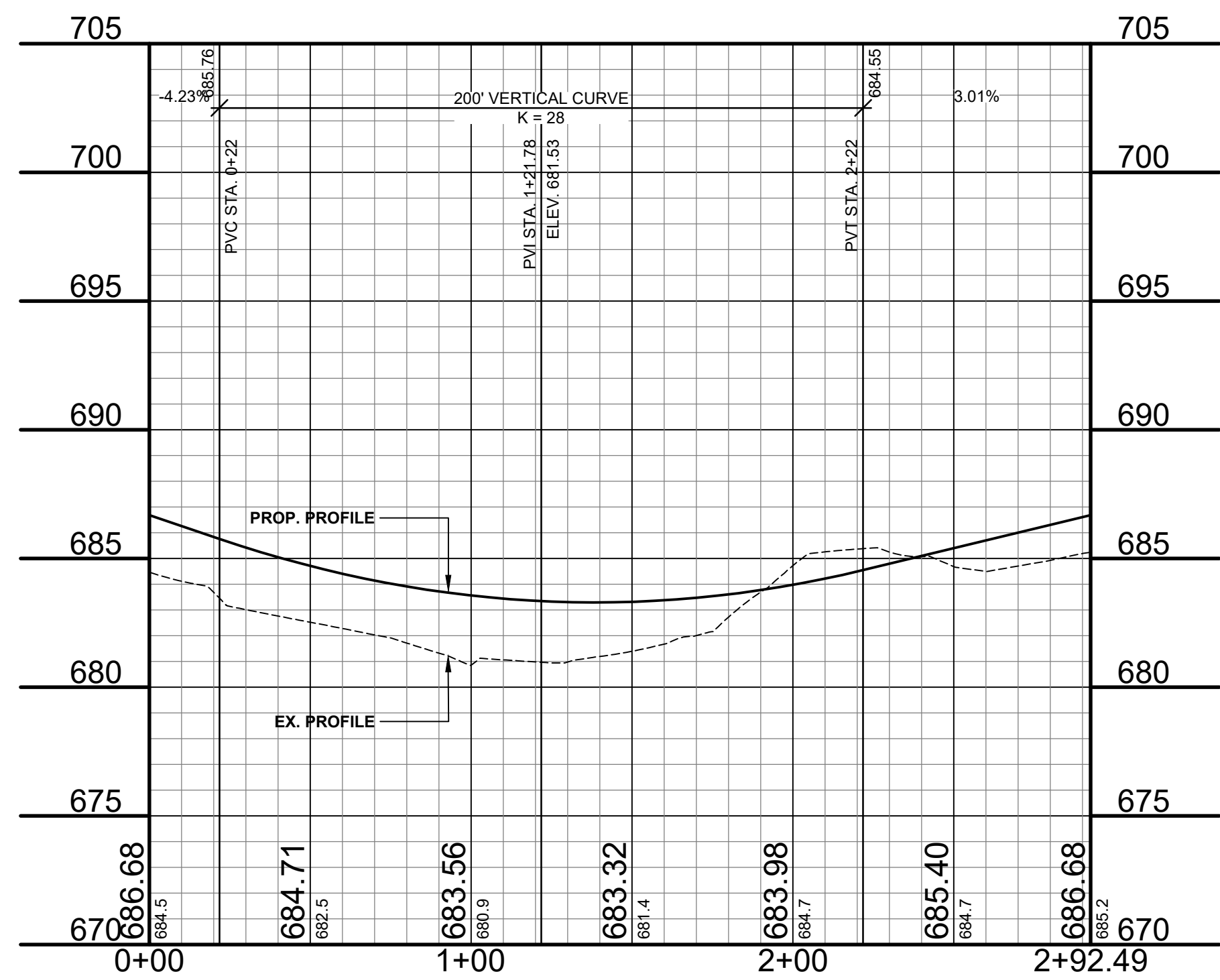
DRAWN BY: RPB
REVIEWED BY: JSE
DATE: SEPTEMBER, 2019
SCALE: 1"= 40'H, 5V



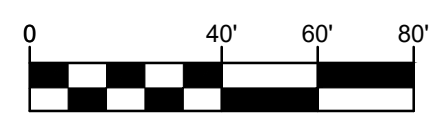
**CUL-DE-SAC
CENTERLINE PLAN
AND PROFILE**

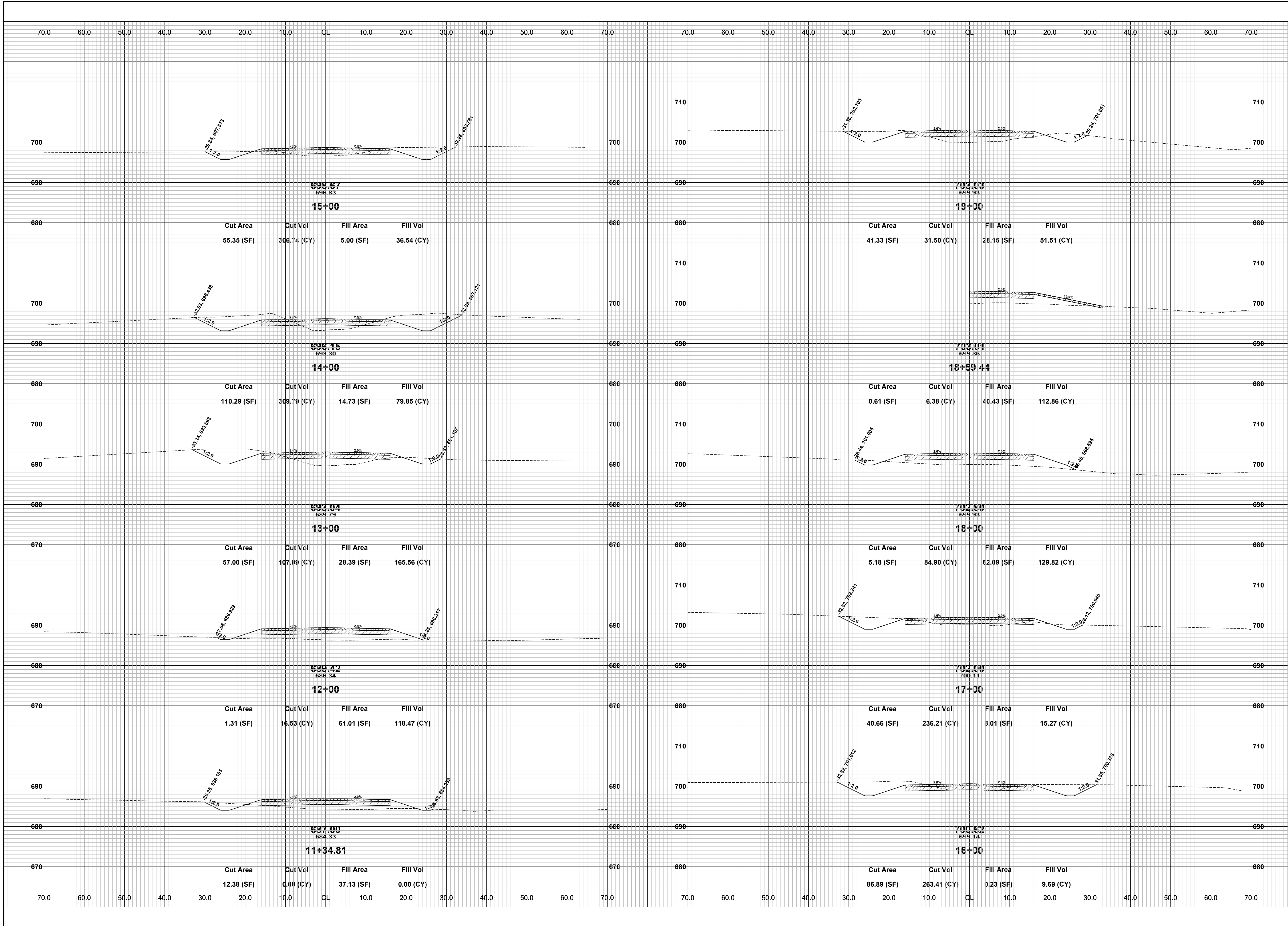


**CUL-DE-SAC
OUTER EDGE PLAN
AND PROFILE**



- LEGEND**
- REGRADE EXISTING DRIVE AS REQUIRED AND SURFACE WITH APPROACH, CLASS II TO A DEPTH OF 6\"/>
 - SAWCUT AND REMOVE EXISTING HMA PAVEMENT. REGRADE EXISTING DRIVE OR APPROACH AS REQUIRED AND SURFACE WITH APPROACH, CL II; 165#/SYD HMA, 13A (LEVELING); AND 165#/SYD HMA, 13A (TOP). (PAVING UNDER SEPARATE CONTRACT IN THE FUTURE)
 - SAWCUT AND REMOVE EXISTING CONCRETE PAVEMENT. REGRADE EXISTING DRIVE AS REQUIRED AND SURFACE WITH APPROACH, CL II; 165#/SYD HMA, 13A (LEVELING); AND 165#/SYD HMA, 13A (TOP). (PAVING UNDER SEPARATE CONTRACT IN THE FUTURE)





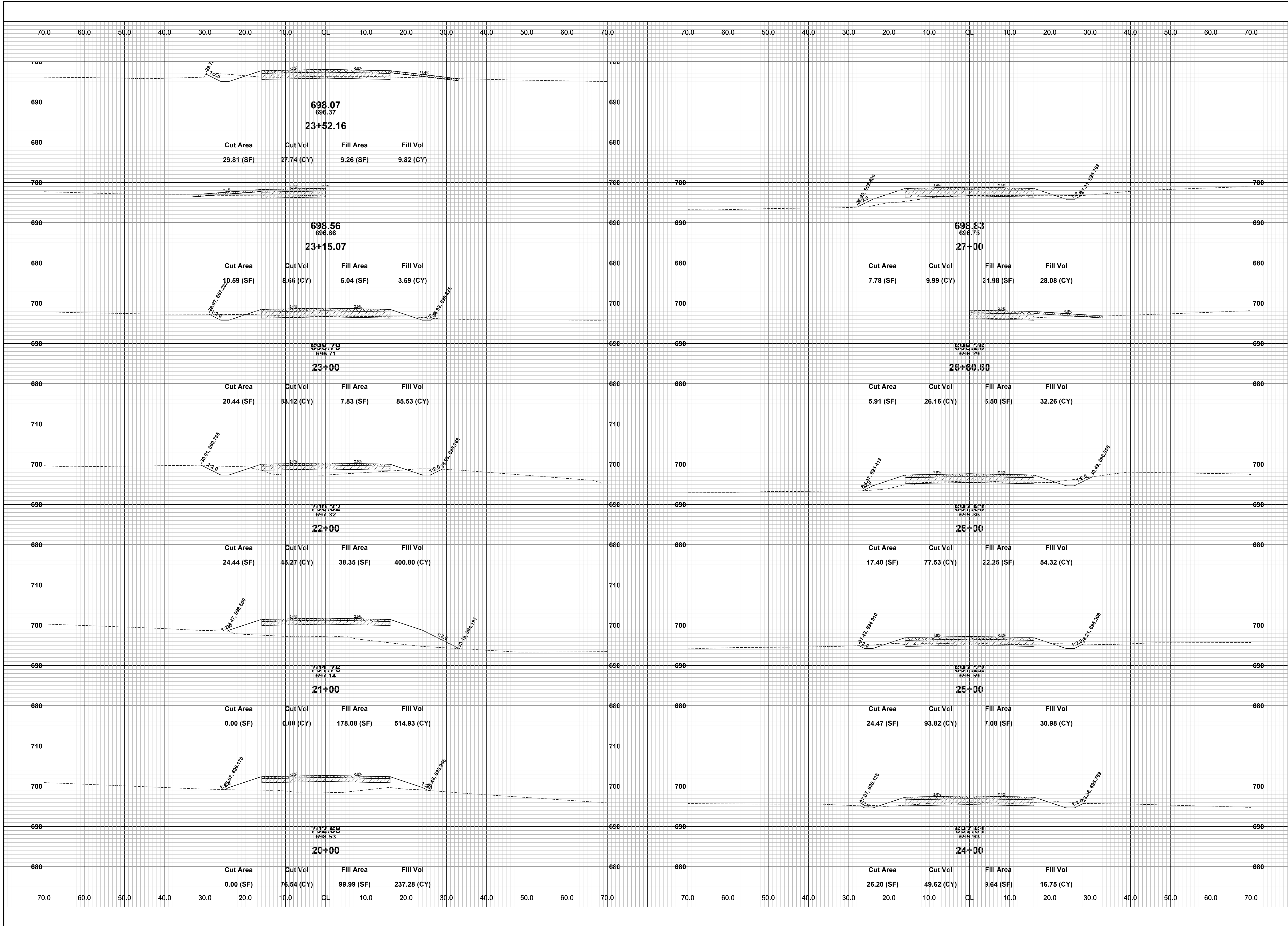
**Board of County Road Commissioners
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1308 LINCOLN ROAD
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28TH STREET RECONSTRUCTION PROJECT
SALEM TOWNSHIP - 146TH AVENUE TO 0.5 MILES SOUTH
CROSS SECTIONS - STA. 11+34.81 TO STA. 19+00

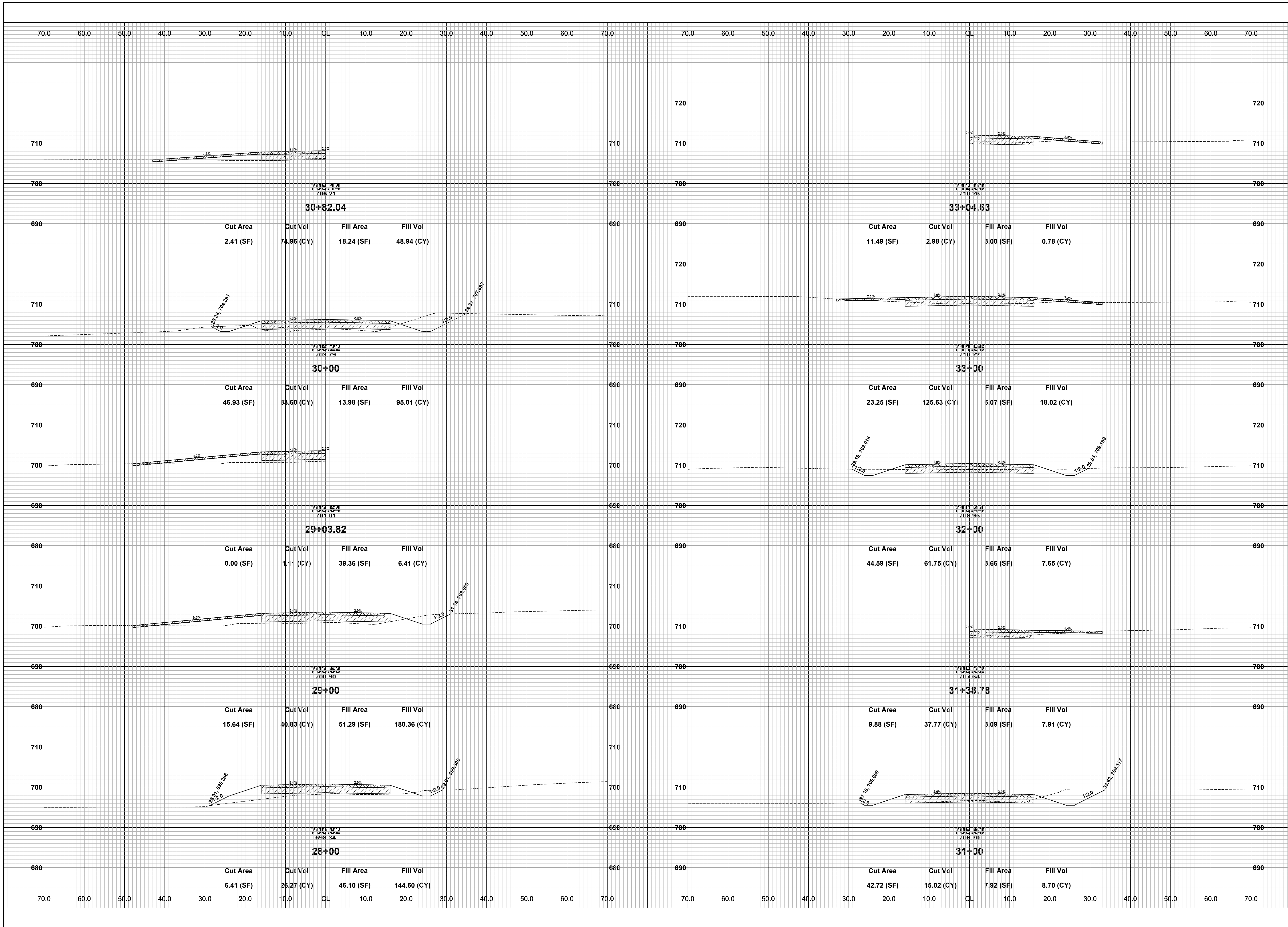
DRAWN BY: RPB
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SCALE: 1"= 10'



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28TH STREET RECONSTRUCTION PROJECT
SALEM TOWNSHIP - 146TH AVENUE TO 0.5 MILES SOUTH
CROSS SECTIONS - STA. 20+00 TO STA. 27+00

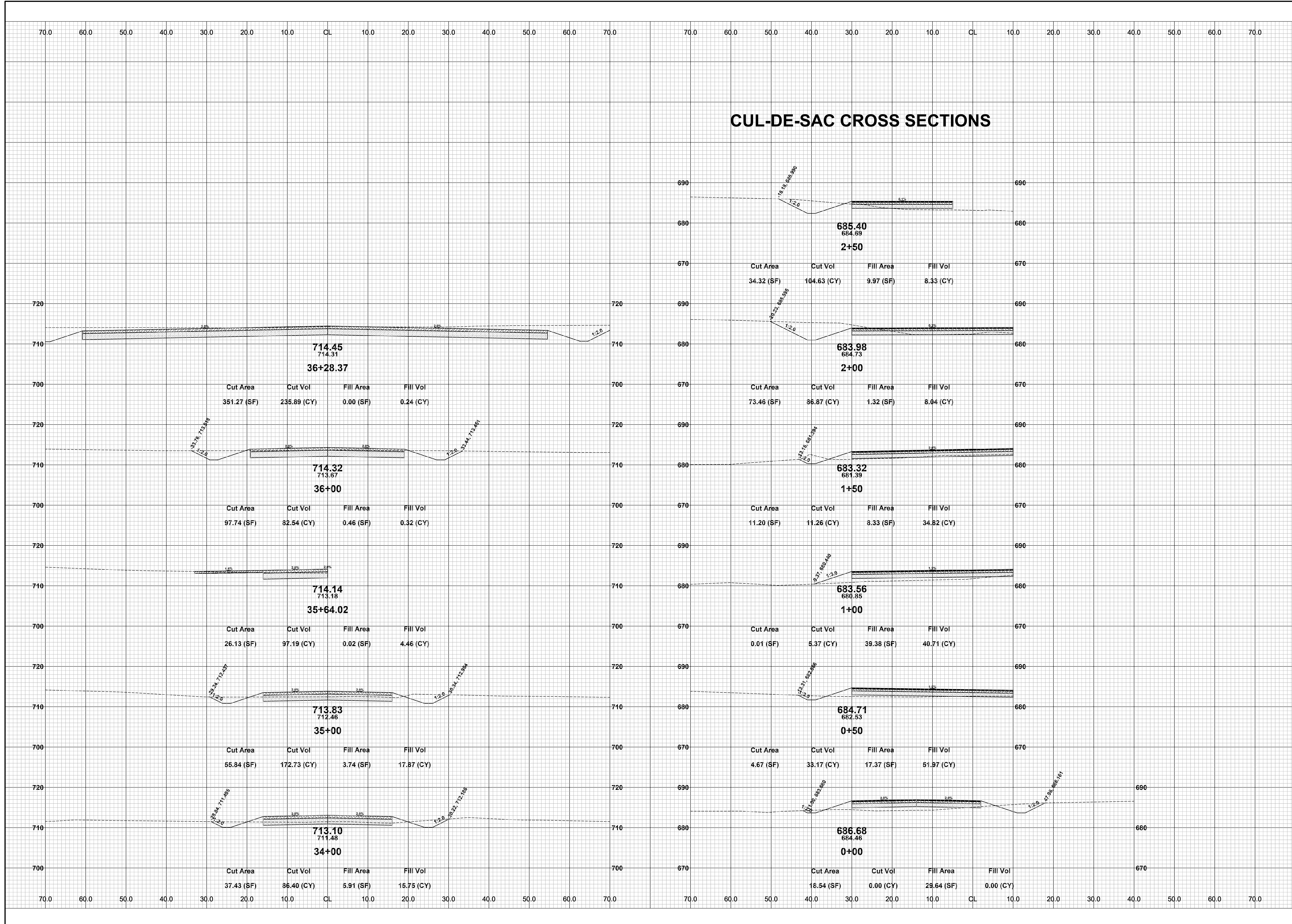
DRAWN BY: RPB
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28TH STREET RECONSTRUCTION PROJECT
SALEM TOWNSHIP - 146TH AVENUE TO 0.5 MILES SOUTH
CROSS SECTIONS - STA. 28+00 TO STA. 33+04.63

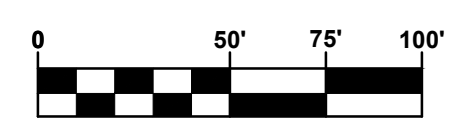
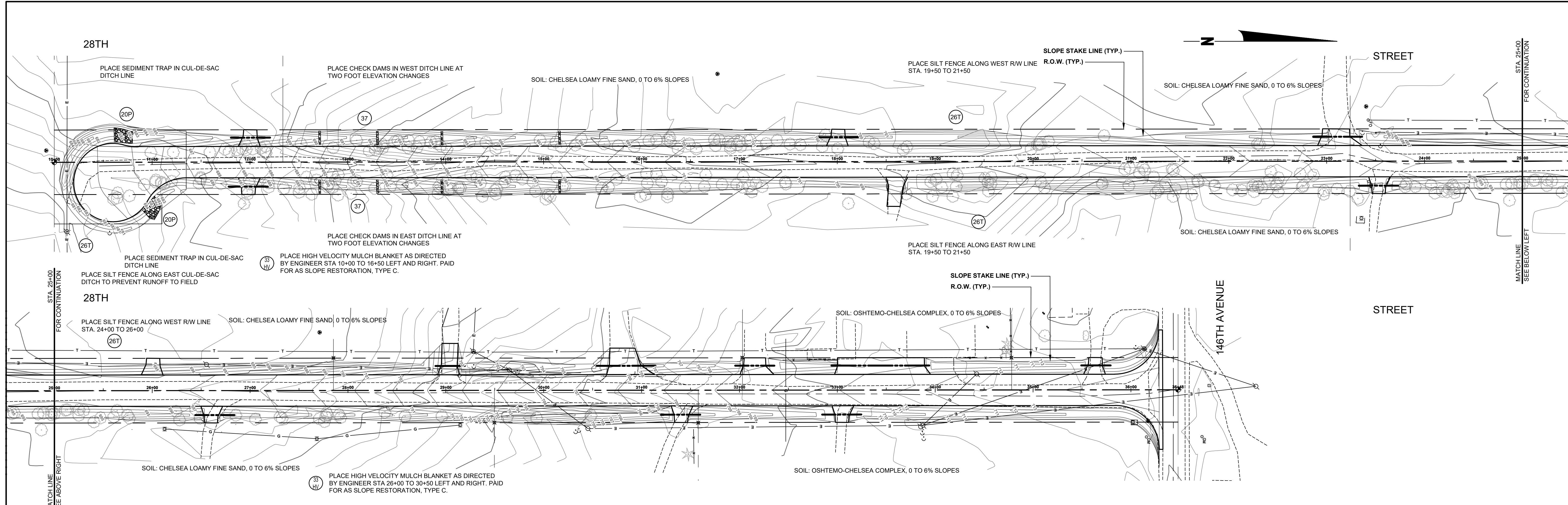
DRAWN BY: RPB
REVIEWED BY: JSE
DATE: SEPTEMBER, 2019
SCALE: 1"= 10'



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28TH STREET RECONSTRUCTION PROJECT
 SALEM TOWNSHIP - 146TH AVENUE TO 0.5 MILES SOUTH
 CROSS SECTIONS - STA. 34+00 TO P.O.E. & CUL-DE-SAC

DRAWN BY: RPB
 REVIEWED BY: JSE
 DATE: SEPTEMBER, 2019
 SCALE: 1"= 10'



SOIL EROSION & SEDIMENTATION CONTROL NOTES

- ALL CONSTRUCTION METHODS WILL BE DONE IN COMPLIANCE WITH THE MICHIGAN SOIL EROSION AND SEDIMENTATION CONTROL ACT. THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING A "SOIL EROSION PERMIT" FROM THE COUNTY AND/OR A "PERMIT BY RULE/NOTICE OF COVERAGE" FROM THE MDEQ PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR COMPLYING WITH ALL REQUIREMENTS OF THE COUNTY "SOIL EROSION PERMIT" AND FOR ALL CERTIFIED STORM WATER INSPECTION SERVICE REQUIRED BY THE "PERMIT BY RULE." EROSION CONTROL MEASURES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS AND WILL NOT RELIEVE THE CONTRACTOR'S RESPONSIBILITY FOR PROVIDING ALL REQUIRED EROSION CONTROL MEASURES.
 - AVOID UNNECESSARY DISTURBING OR REMOVING OF EXISTING VEGETATED TOPSOIL OR EARTH COVER, THESE COVER AREAS ACT AS SEDIMENT FILTERS.
 - ALL TEMPORARY SOIL EROSION PROTECTION WILL REMAIN IN PLACE UNTIL REMOVAL IS REQUIRED FOR FINAL CLEAN UP AND APPROVAL.
 - GEOTEXTILE SILT FENCE WILL BE INSTALLED AS REQUIRED WHEN CROSSING CREEKS OR WHEN ADJACENT TO WETLANDS OR SURFACE WATER BODIES TO PREVENT SILTATION AND ELSEWHERE AS DIRECTED BY THE ENGINEER. SEEDING AND/OR SODDING WILL BE INSTALLED ON CREEK BANKS IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EROSION.
 - MAINTENANCE, CLEANING, AND REMOVAL OF THE VARIOUS SEDIMENT CONTROL MEASURES WILL BE INCLUDED IN THE VARIOUS EROSION CONTROL ITEMS.
 - SOIL TYPE LOCATIONS ARE APPROXIMATED FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE'S WEB SOIL SURVEY MAPS. DETAILED PROPERTIES FOR EACH SOIL TYPE CAN BE FOUND ON THEIR WEBSITE: WEBSOILSURVEY.NRCS.USDA.GOV
 - TEMPORARY EROSION CONTROL MEASURES WILL NOT BE MANDATORY IF STORMWATER IS DETERMINED TO BE TOPOGRAPHICALLY INCAPABLE OF LEAVING SITE.
- (3P) ALL DISTURBED AREAS NOT PAVED OR GRAVELED SHALL BE RESTORED UNDER THE PAY ITEM SLOPE RESTORATION TYPE A. THIS PAY ITEM INCLUDES PLACING MDTOT SEEDING, MIXTURE TUF APPLIED AT A RATE OF 220 LB/ACRE, FERTILIZER, CHEMICAL NUTRIENT, CL A APPLIED AT A RATE OF 176 LB/ACRE; MULCH AT A RATE OF 2 TON/ACRE AND MULCH ANCHORING.
 - (3T) TEMPORARY SEEDING WILL BE PLACED AT LOCATIONS DETERMINED BY THE ENGINEER IN THE FIELD AND WILL INCLUDE SEEDING MIXTURE, CR APPLIED AT A RATE OF 70 LB/ACRE AND MULCH INCLUDED IN SLOPE RESTORATION TYPE A.
 - (4T) DUST CONTROL MAY BE REQUIRED ON THE SUBGRADE CONSTRUCTION AND WILL INCLUDE APPLYING FRESH WATER TO BE INCLUDED IN THE ITEM OF STATION GRADING. DUST CONTROL ON THE AGGREGATE BASE COURSE WILL BE ACCOMPLISHED BY APPLYING FRESH WATER (INCLUDED IN THE ITEM OF AGGREGATE BASE, 6 INCH) AS DIRECTED BY THE PROJECT ENGINEER.
 - (7P) INSTALL RIPRAP, PLAIN OR RIPRAP, HEAVY AS DIRECTED BY THE ENGINEER IN THE FIELD. THE RIPRAP, PLAIN AND RIPRAP, HEAVY PAY ITEMS WILL INCLUDE A GEOTEXTILE UNDERLAYMENT.
 - (20P) SEDIMENT TRAPS WILL BE INSTALLED AT THE LOCATIONS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD.
 - (26T) SILT FENCE WILL BE INSTALLED AT CREEK CROSSINGS, ADJACENT TO ALL WETLANDS AND SURFACE WATERS, AND OTHER LOCATIONS AS DIRECTED BY THE ENGINEER. EACH SILT FENCE WILL BE INSTALLED GENERALLY ALONG THE SAME CONTOUR ELEVATION.
 - (32) CONTRACTOR WILL PROVIDE DOZER TRACKING PERPENDICULAR TO THE SLOPE TO REDUCE WATER AND WIND EROSION. THIS WILL BE PERFORMED AT LOCATIONS SHOWN OR AS DIRECTED BY THE ENGINEER IN THE FIELD, TO BE INCLUDED IN THE ITEM OF EMBANKMENT.
 - (3H) HIGH VELOCITY MULCH BLANKETS WILL BE USED ON STEEP BANKS, PROVIDE MULCH BLANKET, HIGH VELOCITY CENTERED ON ALL DITCH BOTTOMS WITH A LONGITUDINAL GRADE OF 2.00% OR GREATER AND AT OTHER LOCATIONS AS DIRECTED BY THE ENGINEER IN THE FIELD, PAID AS SLOPE RESTORATION TYPE C.
 - (37) CHECK DAMS WILL BE INSTALLED AT THE LOCATIONS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

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28TH STREET RECONSTRUCTION PROJECT
SALEM TOWNSHIP - 146TH AVENUE TO 0.5 MILES SOUTH

SOIL EROSION & SEDIMENTATION CONTROL PLAN

DRAWN BY: RPB
REVIEWED BY: JSE
DATE: SEPTEMBER, 2019
SCALE: 1" = 50'