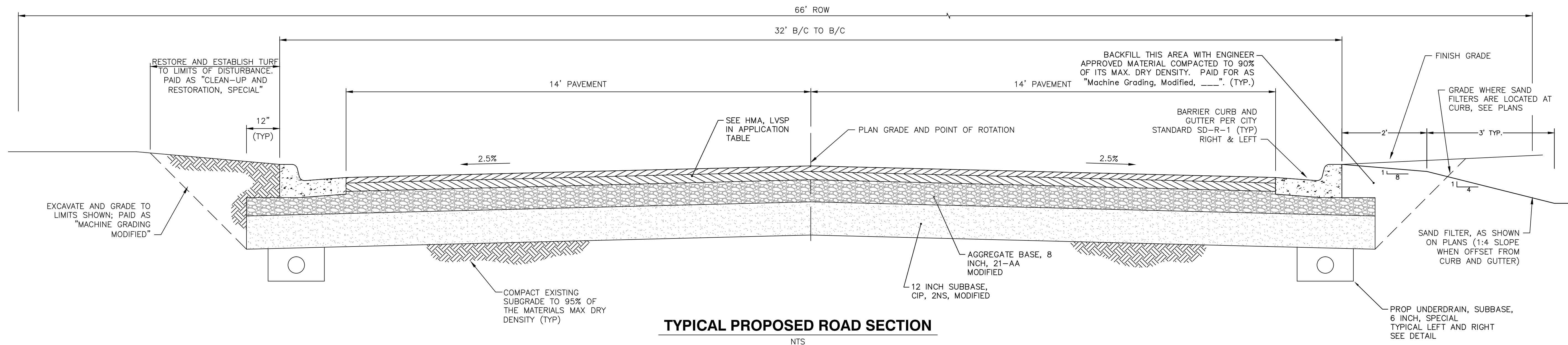






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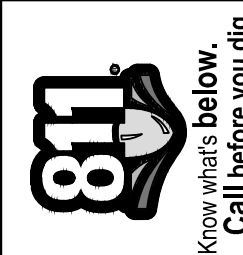
**TYPICAL PROPOSED ROAD SECTION**  
NTS

**CONSTRUCTION NOTES:**

1. DRIVEWAYS AND ENTRANCES TO BUILDINGS, REAL PROPERTY, AND THE LIKE SHALL NOT BE BLOCKED EXCEPT FOR SHORT DURATIONS AND ONLY WHEN APPROVED BY THE ENGINEER. VEHICULAR AND PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL NECESSARY DRIVEWAY CLOSURES WITH THE PROPERTY OWNER(S) AND RESIDENT(S) IN THE AREAS OF CONSTRUCTION.
2. THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES AND SERVICE LEADS ARE TO BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
3. LOCATION AND DEPTH OF UTILITIES AS DEPICTED ON THE PLANS IS APPROXIMATE AND SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXCAVATE AHEAD AND ADJUST DEPTH OF CONFLICT UTILITIES ACCORDINGLY. ANY DAMAGE TO UTILITIES IS THE CONTRACTOR'S RESPONSIBILITY TO AVOID AND/OR REPAIR AS NECESSARY.
4. THE CONTRACTOR IS TO TAKE SPECIAL CARE TO PROTECT THE EXISTING WATER MAIN AND BE RESPONSIBLE FOR MAINTAINING CONSISTENT WATER SERVICE.
5. DURING NON-WORKING HOURS NO MORE THAN TEN (10) FEET OF TRENCH SHALL REMAIN OPEN; ANY OPEN TRENCH SHALL BE PROPERLY SECURED WITH PROTECTIVE FENCING. THIS WORK SHALL BE INCLUDED IN THE ITEM OF WORK "GENERAL CONDITIONS".
6. CITY OF ANN ARBOR FIELD OPERATIONS SERVICE WILL INSTALL THE CORPORATION AND COPPER SERVICE LEAD(S) TO TRANSFER THE CONNECTION(S). IF AN EXISTING WATER SERVICE IS FOUND TO BE FAILING OR IS NOT COPPER, THE LEAD WILL BE REPLACED TO THE CURB BOX BY FIELD OPERATIONS SERVICE.
7. FOR THE INSTALLATION OF CORPORATIONS, OR ANY OTHER RELATED ACTIVITIES, THE CONTRACTOR SHALL NOT RECEIVE ADDITIONAL COMPENSATION FOR DELAYS DUE TO THE SCHEDULING OF OR COORDINATION WITH THE CITY OF ANN ARBOR FIELD OPERATIONS SERVICE.
8. TRENCHES FOR NEW WATER SERVICES SHALL BE EXCAVATED TO MIOSHA AND CITY OF ANN ARBOR FIELD OPERATIONS SERVICE REQUIREMENTS.
9. THE CONTRACTOR SHALL BACKFILL TRENCHES IN ACCORDANCE WITH TRENCH DETAIL SPECIFIED ON PLANS. THIS WORK SHALL BE INCLUDED IN THE ITEM OF WORK "EXCAVATE AND BACKFILL FOR WATER SERVICE TAP AND LEAD". ALL CONCRETE REMOVALS AND REPLACEMENTS REQUIRED FOR THIS WORK WILL BE PAID FOR SEPARATELY.
10. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE POLYETHYLENE WRAPPED PER ANSI/AWWA C105/A21.5.
11. COR-BLU BOLTS TO BE USED AT ALL MECHANICAL WATER MAIN JOINTS AT HYDRANTS AND MEGALUG FITTINGS
12. THE CONTRACTOR SHALL CONSTRUCT, FLUSH, AND BACTERIOLOGICALLY TEST THE WATER MAIN PER DETAILED SPECIFICATION "WATER MAIN INSTALLATION AND TESTING" AND AS APPROVED BY THE ENGINEER. ALL CHLORINATED WATER SHALL BE DISCHARGED DIRECTLY INTO AN APPROVED SANITARY SEWER. THE CONTRACTOR SHALL SUPPLY ALL NECESSARY HOSES, FITTINGS AND THE LIKE TO ACCOMPLISH THIS WORK.
13. WATER MAIN FITTINGS, OTHER THAN THOSE SPECIFICALLY LISTED AS SEPARATE PAY ITEMS, WHICH ARE REQUIRED TO COMPLETE THE WORK, SUCH AS BLOW-OFF ASSEMBLIES, CONCRETE THRUST BLOCKS, SOLID SLEEVES AND MECHANICAL PLUGS, SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE PIPE PAY ITEMS.
14. "NO PARKING" SIGNS SHALL BE INSTALLED BY THE CONTRACTOR AT LOCATIONS AS APPROVED OR DIRECTED BY THE ENGINEER. ALL SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILED SPECIFICATIONS.
15. POSTAL DELIVERY AND REFUSE PICKUP SERVICE SHALL BE MAINTAINED AT ALL TIMES BY THE CONTRACTOR.
16. ALL FITTINGS, HYDRANTS, VALVES AND CASTINGS REMOVED DURING CONSTRUCTION ARE THE PROPERTY OF THE CITY OF ANN ARBOR. THE CONTRACTOR WITHIN 48 HOURS SHALL DELIVER TO CITY OF ANN ARBOR FIELD OPERATIONS AND MAINTENANCE FACILITY AT THE W.R. WHEELER SERVICE CENTER LOCATED AT 4251 STONE SCHOOL ROAD.
17. WHERE STREET CURBS ARE UNDERMINED DUE TO CONSTRUCTION ACTIVITIES, THEY SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ENGINEER.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUOUS MAINTENANCE OF THE TEMPORARY ROAD SURFACE AND SOIL EROSION CONTROL MEASURES WITHIN THE CONSTRUCTION AREA UNTIL THE FULL COMPLETION OF THE PROJECT. THIS WORK SHALL BE INCLUDED IN THE ITEM OF WORK "GENERAL CONDITIONS".
19. ALL CURB, SIDEWALK, DRIVEWAY APPROACH REMOVALS SHALL BE APPROVED BY ENGINEER BEFORE THE WORK IS DONE.
20. SAWED SEWER PIPE CONNECTIONS SHALL BE COUPLED WITH A FERNCO FLEXIBLE COUPLING AND A STAINLESS STEEL SHEAR RING.
21. THE LOCATION OF MATERIAL STOCK PILES AND ON-SITE STAGING AREAS TO BE APPROVED BY THE ENGINEER.
22. FOR MAINLINE PAVING, THE WIDTH OF THE MAT FOR EACH PASS OF THE PAVER SHALL BE NOT LESS THAN 10.5' OR GREATER THAN 15', AS DIRECTED BY THE ENGINEER. THE ENGINEER WILL DIRECT THE LAYOUT OF THE LONGITUDINAL JOINTS DURING CONSTRUCTION.
23. ALL STRUCTURES SHALL RECEIVE NEW CASTINGS AS DIRECTED BY THE ENGINEER, AS SPECIFIED ON THE STANDARD CASTING SCHEDULE. THE EXISTING CASTINGS ARE THE PROPERTY OF THE CITY OF ANN ARBOR. THE CONTRACTOR SHALL DELIVER TO CITY OF ANN ARBOR FIELD OPERATIONS AND MAINTENANCE FACILITY AT THE W.R. WHEELER SERVICE CENTER LOCATED AT 4251 STONE SCHOOL ROAD.
24. PAYMENT FOR DRAINAGE STRUCTURE SUMPS, WHERE SPECIFIED, SHALL BE INCLUDED IN THE PAYMENT FOR THE VARIOUS DRAINAGE STRUCTURE SIZES AND OR TYPES.
25. WHERE SEWER PIPES OF DIFFERENT MATERIALS ARE JOINED, FERNCO FLEXIBLE COUPLINGS WITH STAINLESS STEEL SHEAR RINGS SHALL BE USED. THE CONTRACTOR'S PURCHASE PRICE FOR THESE DEVICES, INCLUDING SHIPPING, SHALL BE PAID AS AN EXTRA. PRIOR TO PAYMENT FOR THIS ITEM, THE CONTRACTOR SHALL SUBMIT RECEIPTS FOR THE ENGINEER'S REVIEW AND APPROVAL. ALL OTHER COSTS ASSOCIATED WITH THE INSTALLATION OF THESE DEVICES SHALL BE INCLUDED IN THE PAYMENT FOR THE SEWER.
26. WHERE SEWER AND WATER MAIN ARE TO BE REMOVED & REPLACED OR ADDED, ALL PIPE SHALL BE INSTALLED USING TRENCH DETAIL DETAILED IN THE SPECIFICATIONS OR SHOWN ON PLANS. BACKFILL FOR SEWER AND WATER CONSTRUCTION SHALL BE MDOT GRANULAR MATERIAL, CLASS II, MODIFIED.
27. EXISTING STREET NAME, GUIDE, AND REGULATORY SIGNS, AND MAILBOXES WHICH CONFLICT WITH THE PROPOSED CONSTRUCTION SHALL BE REMOVED PRIOR TO CONSTRUCTION, STORED IN A MANNER WHICH WILL PREVENT DAMAGE, AND RE-SET IN LOCATIONS AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN "MINOR TRAFFIC CONTROL".
28. IN AREAS WHERE EDGE DRAIN CANNOT BE INSTALLED IN ACCORDANCE WITH CITY OF ANN ARBOR DETAIL SD-TD-11, THE EDGE DRAIN SHALL BE INSTALLED AT THE DEPTH AS INDICATED ON THE PLANS, OR AS DIRECTED BY ENGINEER. IN NO CASE SHALL THE EDGE DRAIN BE INSTALLED AT A GRADE LESS THAN 0.50% OR AT A DEPTH OF LESS THAN 2' BELOW TOP OF PROPOSED PAVEMENT.

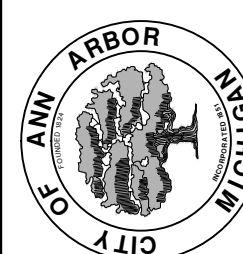
HMA APPLICATION ESTIMATE					
HMA MIX	RATE OF APPLICATION	THICKNESS (INCHES)	AW (MIN.)	BINDER	LOCATION/NOTES
LVSP	170 LB/SYD	1.5	260	PG-58-28	TOP COURSE
LVSP	170 LB/SYD	1.5	-	PG-58-28	LEVELING COURSE
LVSP	283 LB/SYD	2.5	-	PG-58-28	BASE COURSE
Bond Coat SS-1h	0.05 GAL/SYD	-	-	-	INCLUDE IN COST OF HMA ITEM

BM #	ELEV	DESCRIPTION
1	820.397	BENCHTIE IN SOUTHWEST FACE OF UTILITY POLE AT THE SOUTHWEST CORNER OF BUTTERNUT STREET AND McCOMB STREET.
2	818.947	BENCHTIE IN SOUTHWEST FACE OF UTILITY POLE AT THE NORTHEAST CORNER OF REDWOOD AVENUE AND CARDINAL AVENUE.
3	830.489	GEAR PIN IN WEST FACE OF LIGHT POLE AT THE NORTHEAST CORNER OF CARDINAL AVENUE AND SHARON DRIVE.
4	825.336	BENCHTIE IN SOUTHWEST FACE OF LIGHT POLE AT THE NORTHEAST CORNER OF SHARON DRIVE AND ROSEDALE STREET.
5	826.929	BENCHTIE IN SOUTH FACE OF UTILITY POLE AT THE NORTHWEST CORNER OF ROSEDALE STREET AND REDWOOD AVENUE.
6	820.460	BENCHTIE IN SOUTH FACE OF LIGHT POLE AT THE NORTHWEST CORNER OF ST. AUBIN AVENUE AND SPRINGBROOK AVENUE.
7	827.227	NAIL IN NORTH FACE OF UTILITY POLE AT THE NORTHEAST CORNER OF NORDMAN ROAD AND REDWOOD AVENUE.
8	820.434	NAIL IN SOUTHWEST FACE OF UTILITY POLE ON THE EAST SIDE OF ROSEDALE AVENUE +/- 150 FEET SOUTH OF ST. AUBIN AVENUE.
9	821.800	GEAR PIN IN WEST FACE OF UTILITY POLE ON THE EAST SIDE OF CARDINAL AVENUE +/- 200 FEET SOUTH OF REDWOOD AVENUE.



00	DATE	DESCRIPTION	REV.
	12/04/2015	JKA	DRAWN
		AMW	CHECKED

CITY OF ANN ARBOR  
PUBLIC SERVICE  
301 EAST HURON STREET  
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ANN ARBOR MI 48107-0867  
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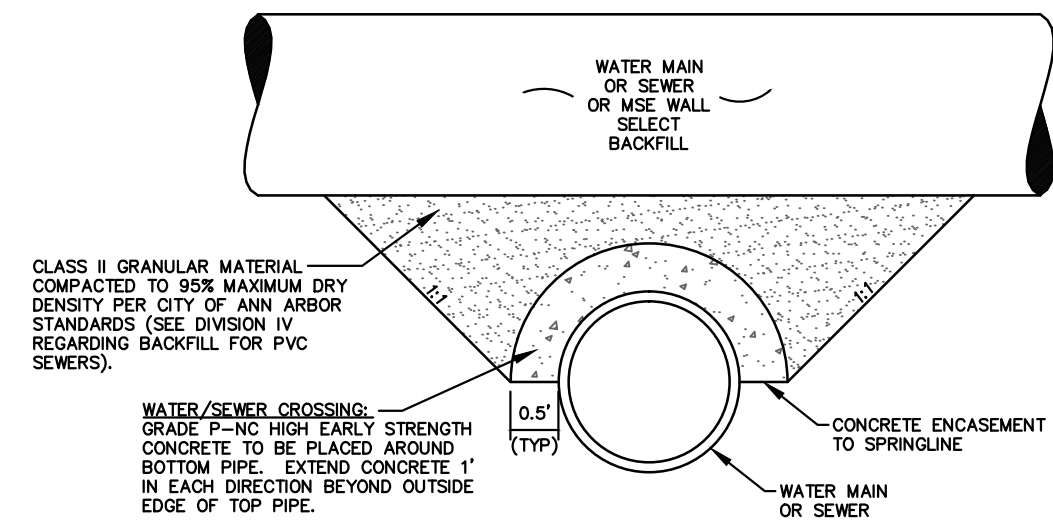


**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**  
**NOTES AND TYPICAL ROAD CROSS SECTION**

SCALE: N/A  
DRAWING No. 2015018-3

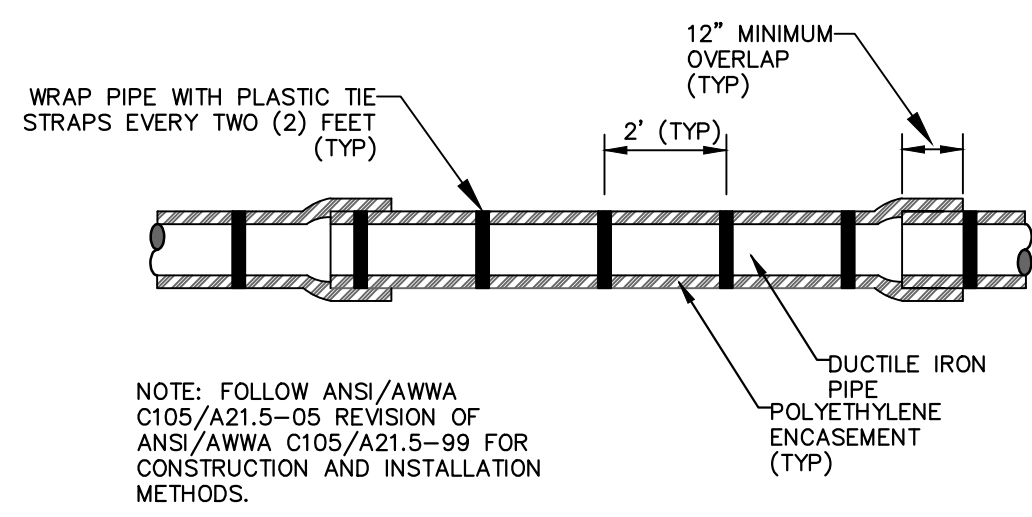


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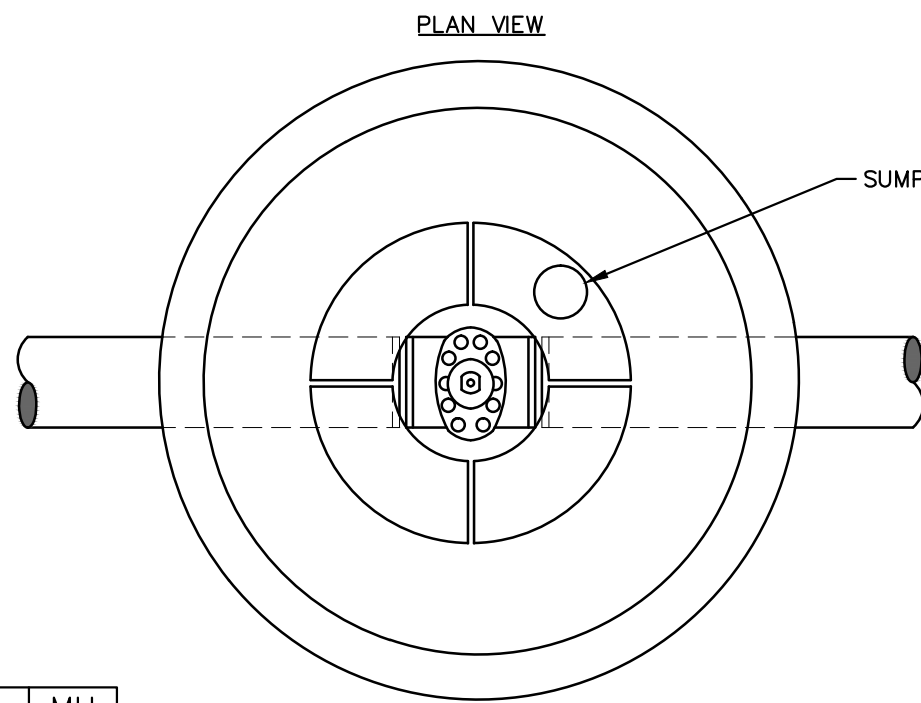


APPLIES TO WATER AND/OR SEWER CROSSINGS WITH LESS THAN 1.5' OF VERTICAL CLEARANCE - SEE PLANS FOR LOCATIONS

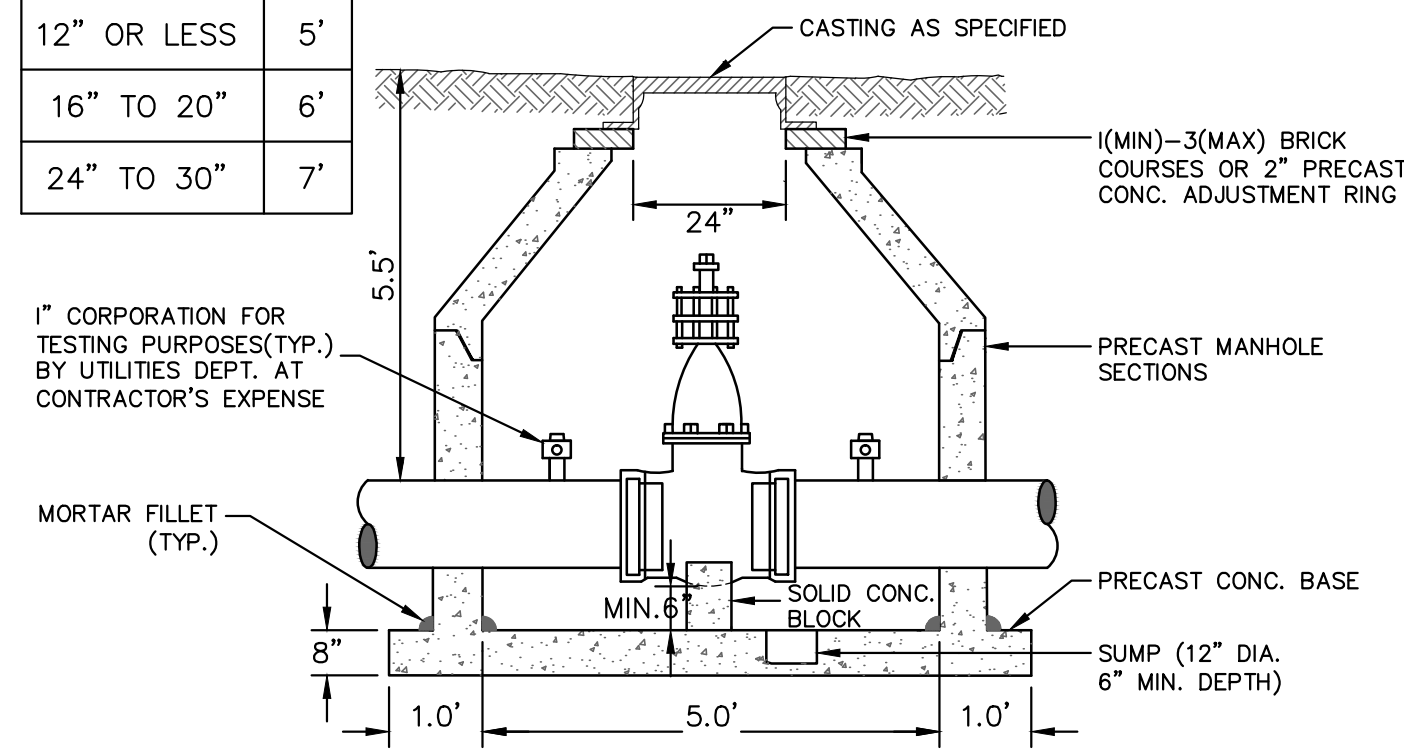
**CONCRETE UTILITY SADDLE**



**POLYETHYLENE ENCASEMENT**



PIPE SIZE	MH DIA.
12" OR LESS	5'
16" TO 20"	6'
24" TO 30"	7'



- NOTES:
1. ALL LIFT HOLES AND JOINTS SHALL BE MORTARED BOTH INSIDE AND OUTSIDE.
  2. ALL JOINTS MADE WATER TIGHT WITH RUBBER GASKET JOINTS.
  3. NO STEPS PERMITTED

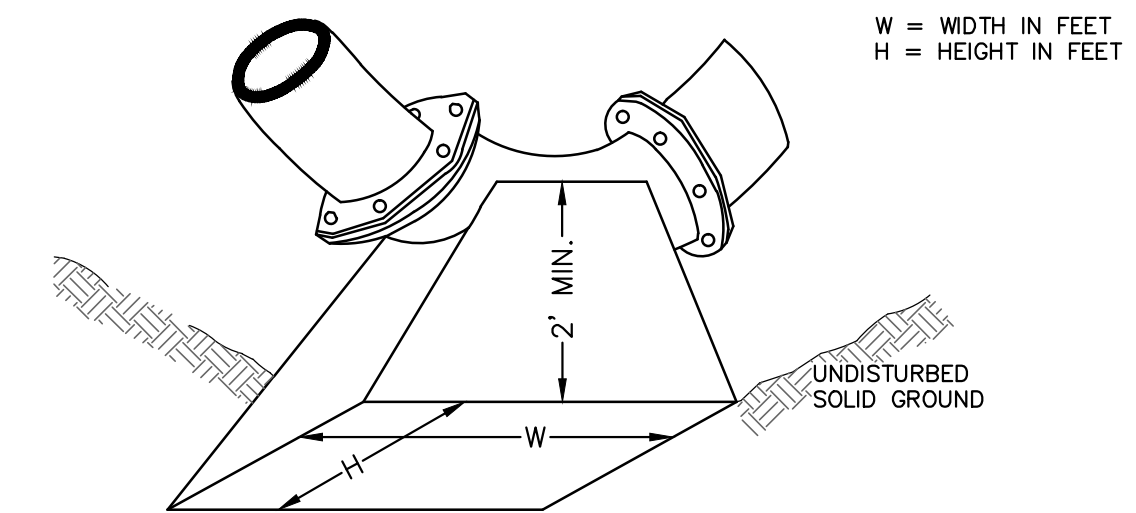
CITY OF ANN ARBOR STANDARD SD-W-3  
APPLIES TO: SEE PLANS FOR LOCATIONS

**GATE WELL FOR MAIN 16" & SMALLER**

MINIMUM STANDARDS

REACTION BACKING: The Class "A" concrete at the Fitting face shall extend to within (2) inches of the bell and shall extend from the fitting face a minimum of (2) feet to the UNDISTURBED SOLID GROUND. The dimensions of the reaction backing (thrust block) at the face of the undisturbed solid ground shall be as shown in the Table below. If there isn't sufficient space for the installation of the "thrust block" without interference with other services, another arrangement satisfactory to the engineer shall be used, i.e. encasement.

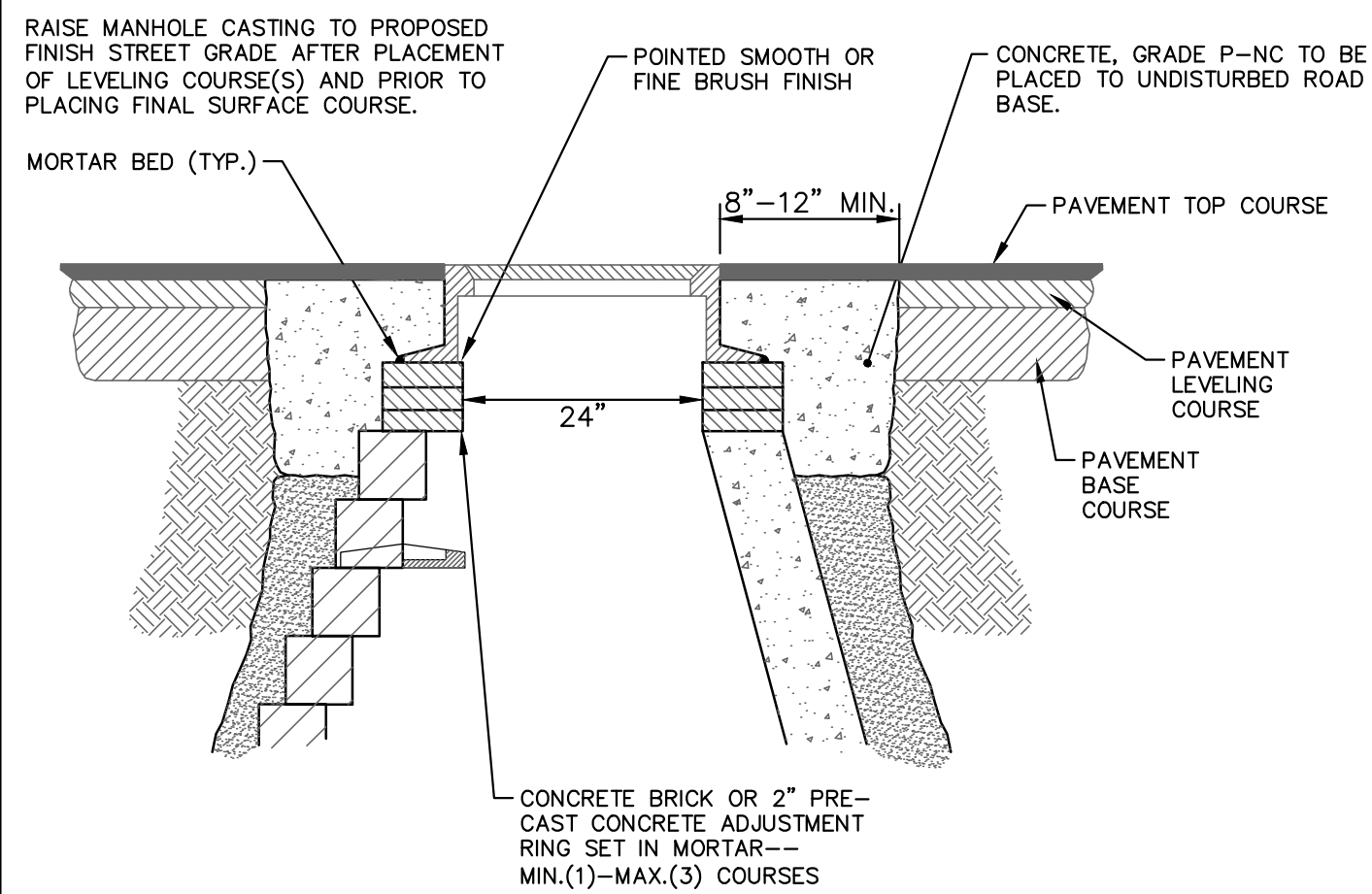
Fittings I.D.	Plug Tee Cross	Bends				Hydrant	
		90°	45°	22½°	11¼°	W	H
2.5	1 1	1 1	1 1	1 1			
4	1 1	1 1	1 1				
6	2 1.5	2 2	2 1	1 1	1 1	2 1.5	
8	2.5 2	3.5 2	2 2	2 1	1 1	2.5 2	
12	3.5 3	5.5 3	3.5 2.5	2 2	2 1		
16	6 3.5	6 4	5 3	3.5 2.5	2 2		
20	8 4	12 4	6 4	4 3	3 2		
24	11 4	17 4	9 4	6 4	3.5 2		
30	11 4	17 4	9 4	6 4	3.5 2		



NOTE:  
THESE ARE MINIMUM STANDARDS. WHERE SOIL CONDITIONS DICTATE, ADJUSTMENTS IN SIZE SHALL BE MADE BY THE PUBLIC SERVICES DIRECTOR.

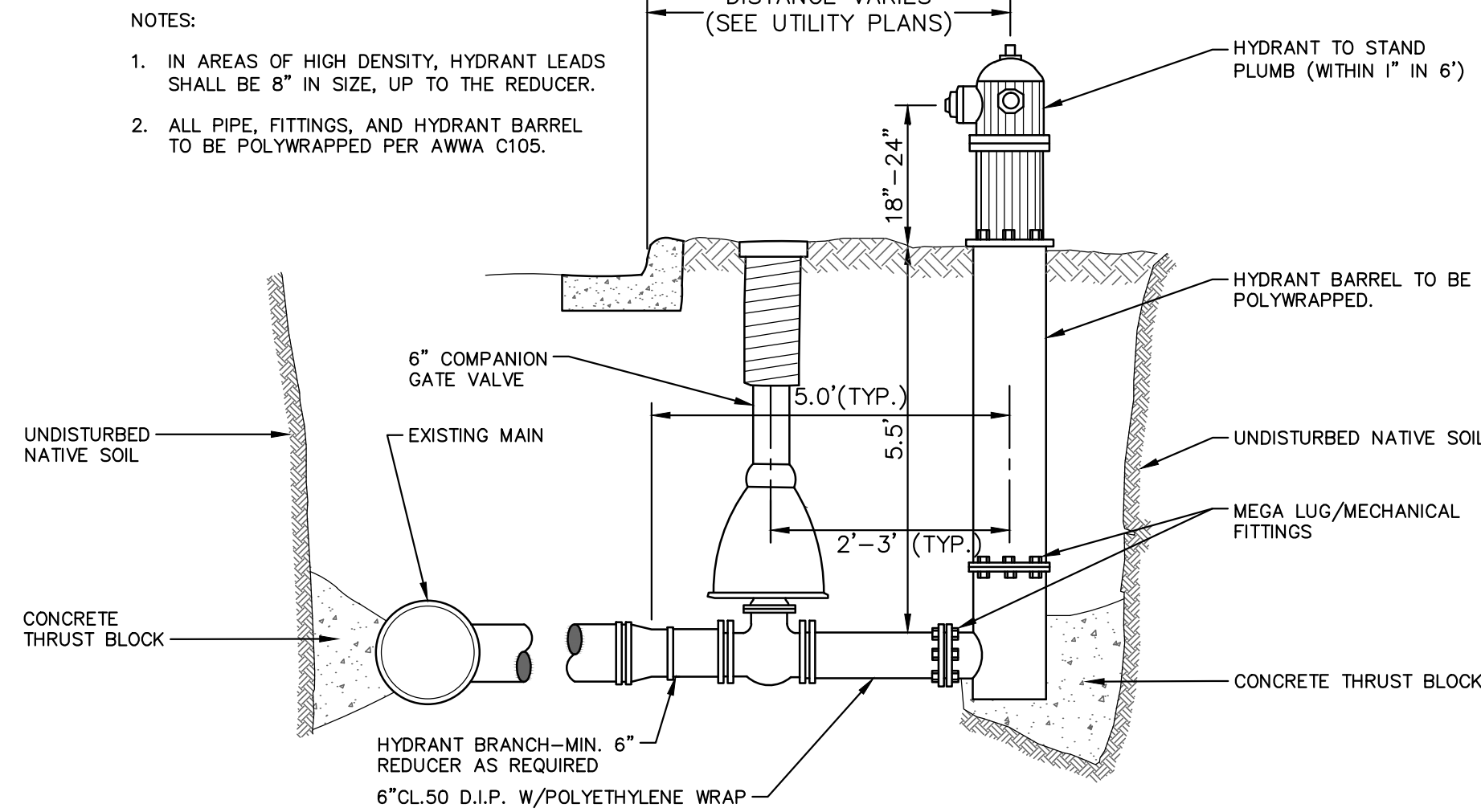
CITY OF ANN ARBOR STANDARD SD-W-2  
APPLIES TO: SEE PLANS FOR LOCATIONS

**THRUST BLOCK**



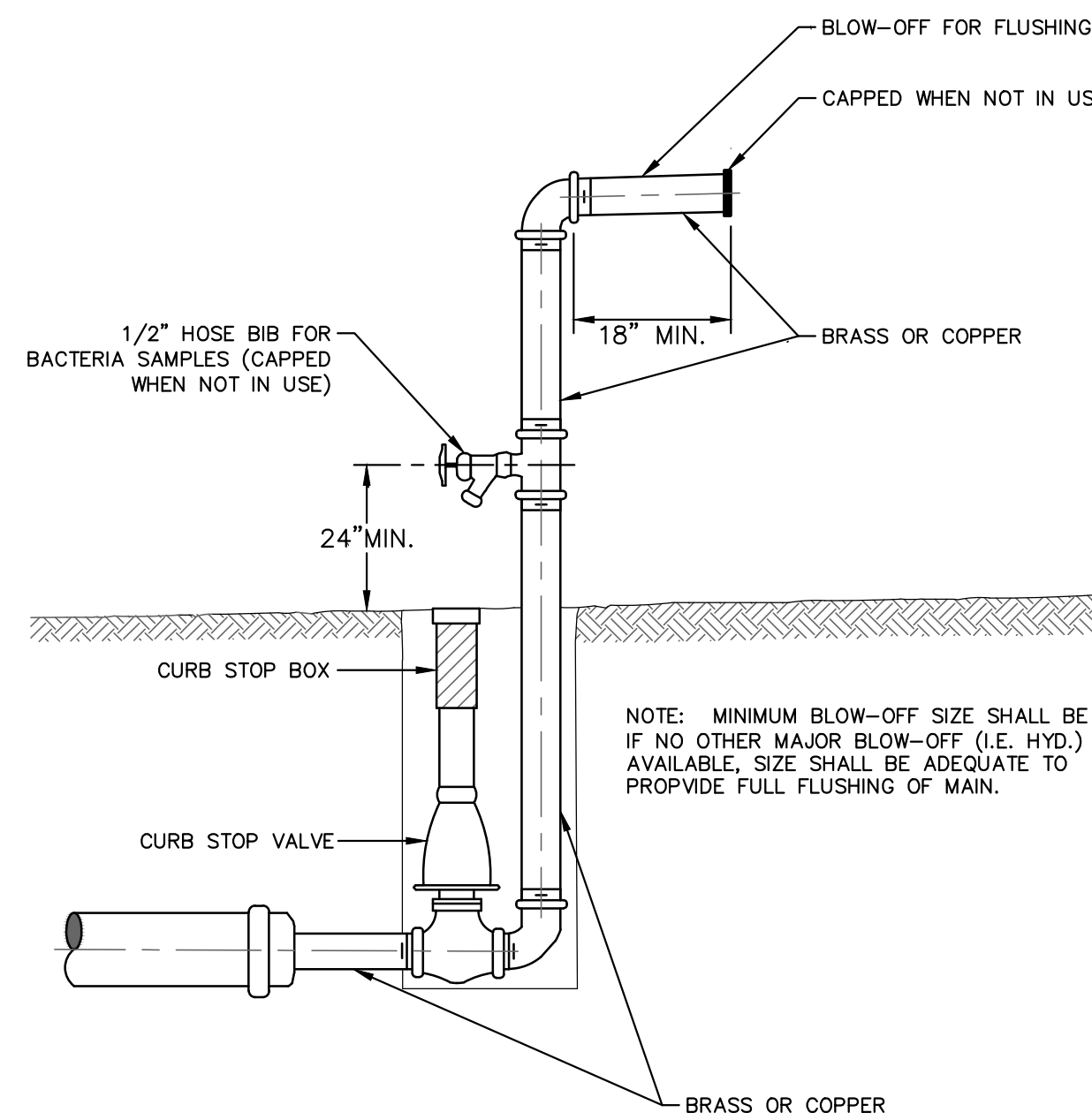
NOTE:  
IF MANHOLE WILL BE PLACED IN GRAVEL ROAD, CASTING TO BE SET 6" TO 8" BELOW ROADWAY GRADE. ALL CONSTRUCTION METHODS SHALL REMAIN AS SHOWN ABOVE.

**MANHOLE CASTING ADJUSTMENT SD-GU-6**



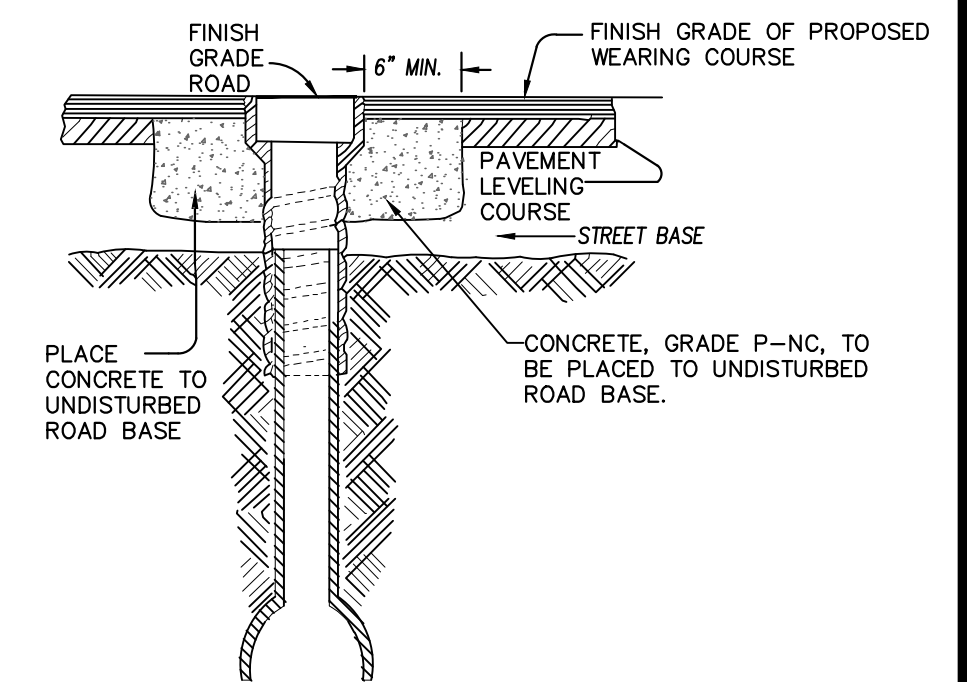
- NOTES:
1. IN AREAS OF HIGH DENSITY, HYDRANT LEADS SHALL BE 8" IN SIZE, UP TO THE REDUCER.
  2. ALL PIPE, FITTINGS, AND HYDRANT BARREL TO BE POLYWRAPPED PER AWWA C105.

**FIRE HYDRANT ASSEMBLY SD-W-1**



NOTE: MINIMUM BLOW-OFF SIZE SHALL BE 2". IF NO OTHER MAJOR BLOW-OFF (I.E. HYD.) IS AVAILABLE, SIZE SHALL BE ADEQUATE TO PROVIDE FULL FLUSHING OF MAIN.

**TEMPORARY TESTING BLOW OFF SD-W-7**



NOTE: RAISE CASTING TO PROPOSED FINISH STREET GRADE AFTER PLACEMENT OF LEVELING COURSE(S) AND PRIOR TO PLACING FINAL SURFACE COURSE

**WATER VALVE BOX ADJUSTMENT**

PROJECT MANAGEMENT - CITY OF ANN ARBOR  
PUBLIC SERVICES - CITY OF ANN ARBOR  
SPRINGWATER SUBDIVISION - PHASE II

CITY OF ANN ARBOR  
PUBLIC SERVICES  
301 EAST HURON STREET  
PO BOX 8647  
ANN ARBOR MI 48107-8647  
www.a2gov.org

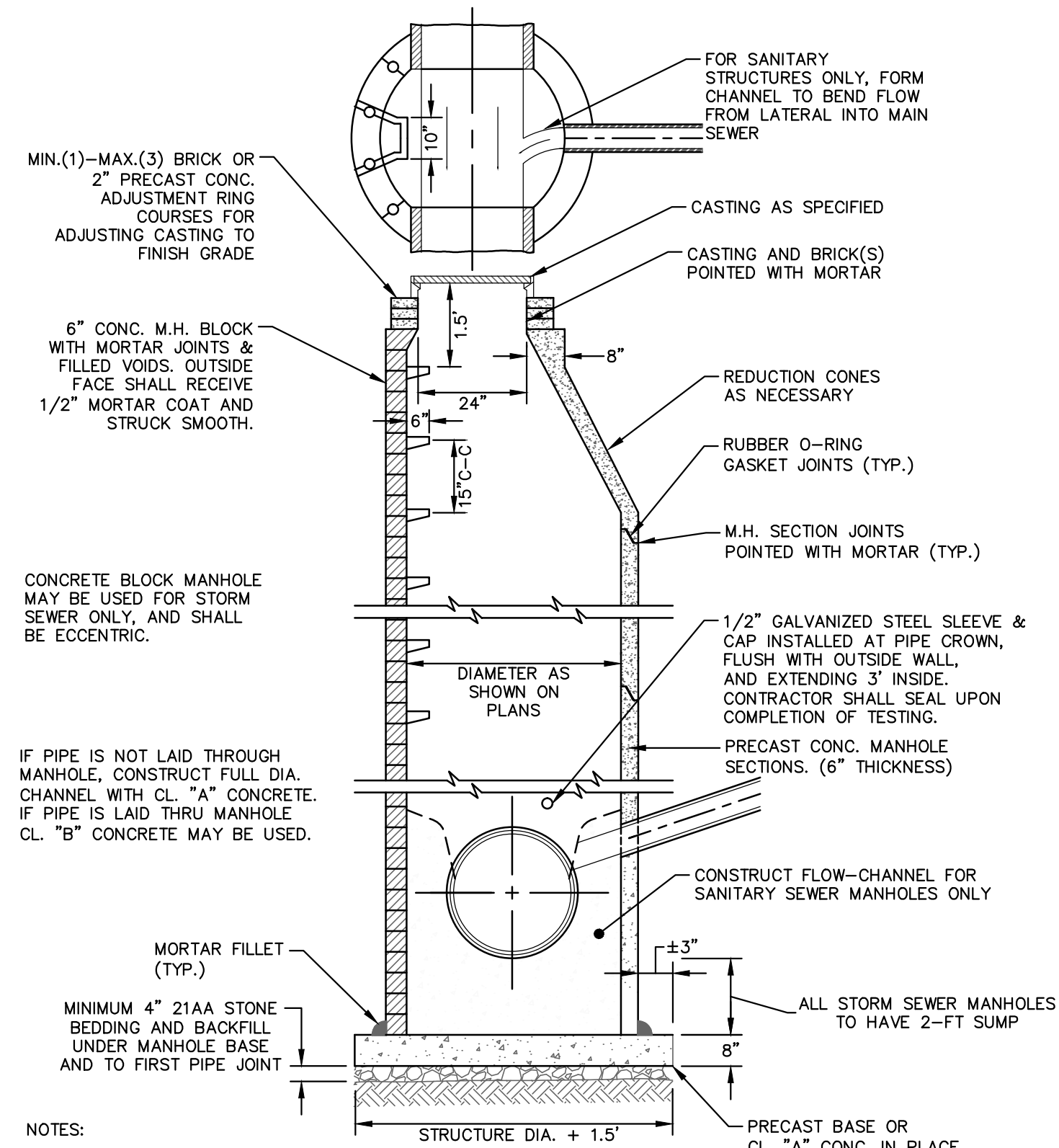


00 MFCO SUBMITTAL DATE 12/04/2015  
JKA DRAWN  
AMW CHECKED



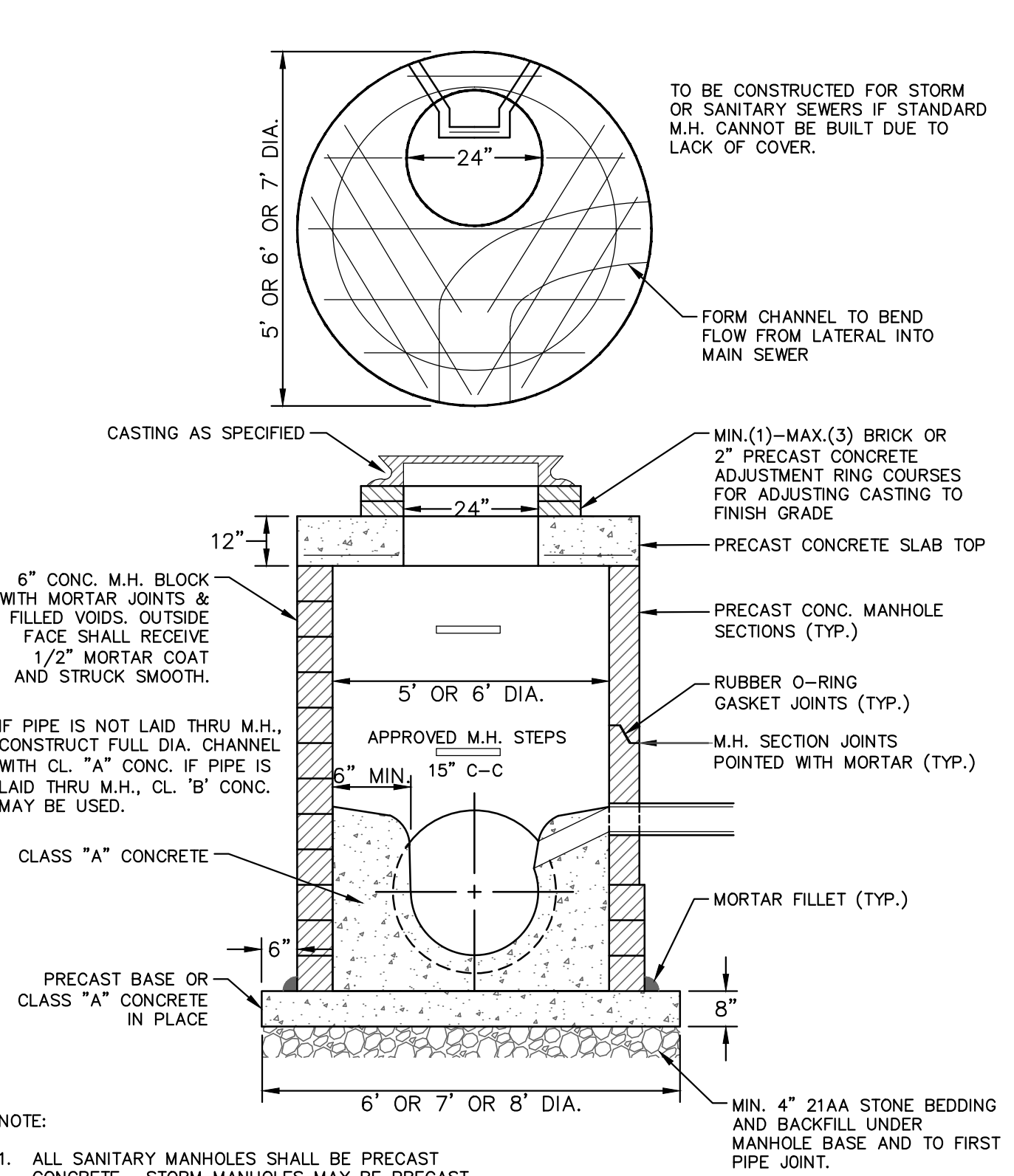


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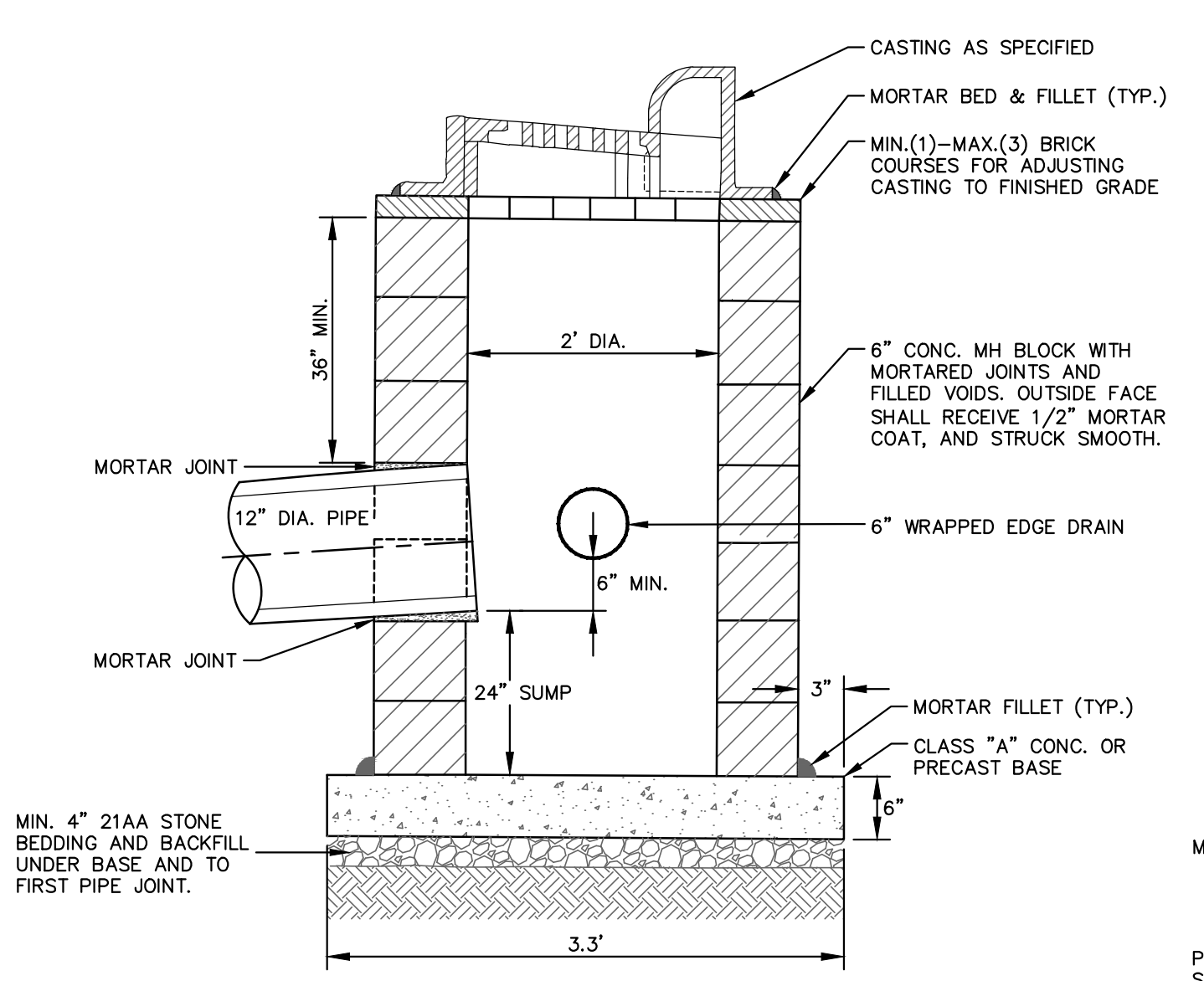
**STANDARD MANHOLE (TYPE I)**

- NOTES:
1. ALL SANITARY MANHOLES SHALL BE PRECAST CONCRETE.
  2. ALL MANHOLES MUST HAVE ECCENTRIC CONES - BOTH STORM AND SANITARY
  3. ALL SANITARY SEWER OPENINGS SHALL BE PRECAST WITH RUBBER BOOT CONNECTIONS.
  4. 2' SUMP REQUIRED ON ALL DRAINAGE STRUCTURES.



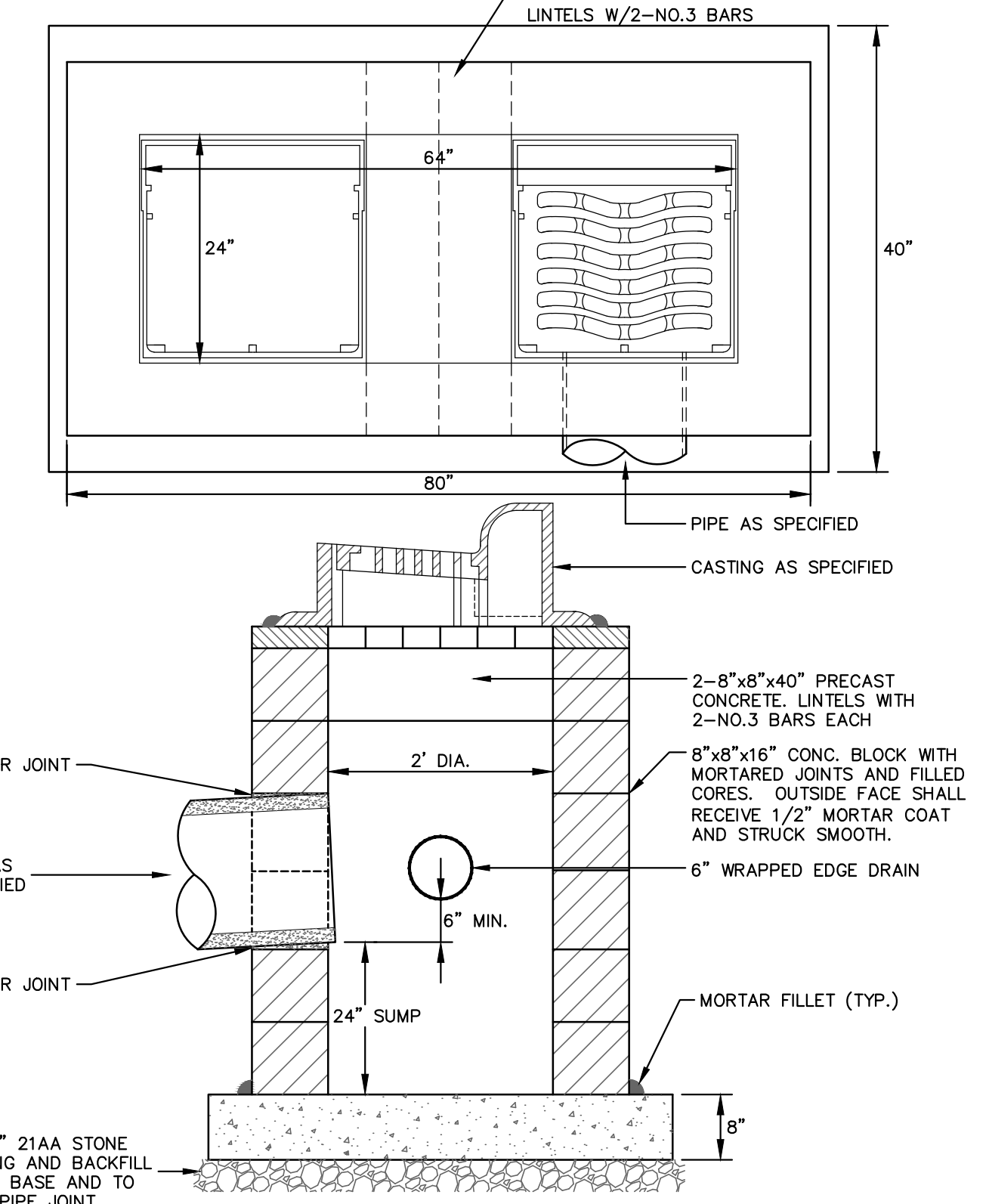
**STANDARD MANHOLE (TYPE III)**

- NOTE:
1. ALL SANITARY MANHOLES SHALL BE PRECAST CONCRETE. STORM MANHOLES MAY BE PRECAST CONCRETE OR CONC. BLOCK.
  2. ALL SANITARY SEWER OPENINGS SHALL BE PRECAST WITH RUBBER BOOT CONNECTIONS.
  3. 4' M.H. FOR 8"-30" SEWERS, 5' M.H. FOR 36" & 42" SEWERS, 6' M.H. FOR 48" & 54" SEWERS (NO. OF PIPES ALSO DICTATES M.H. SIZE)



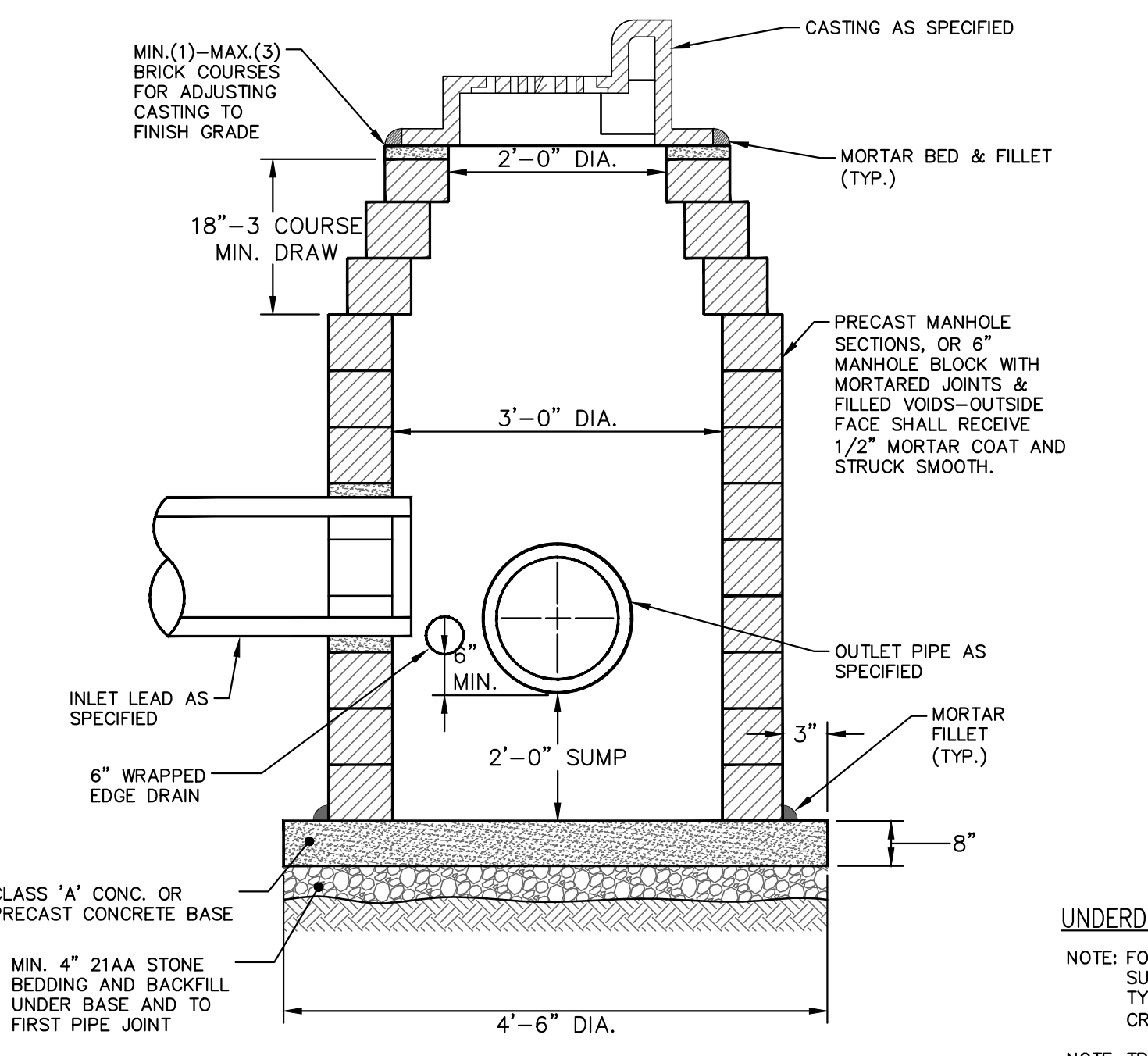
**SINGLE INLET STRUCTURE SD-S-10**

- NOTES:
1. MAY BE USED WITH ONLY SINGLE OUTLET PIPE, AND NO INLET PIPE
  2. FRONT EDGE OF INLET CASTING SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE-OF-METAL)



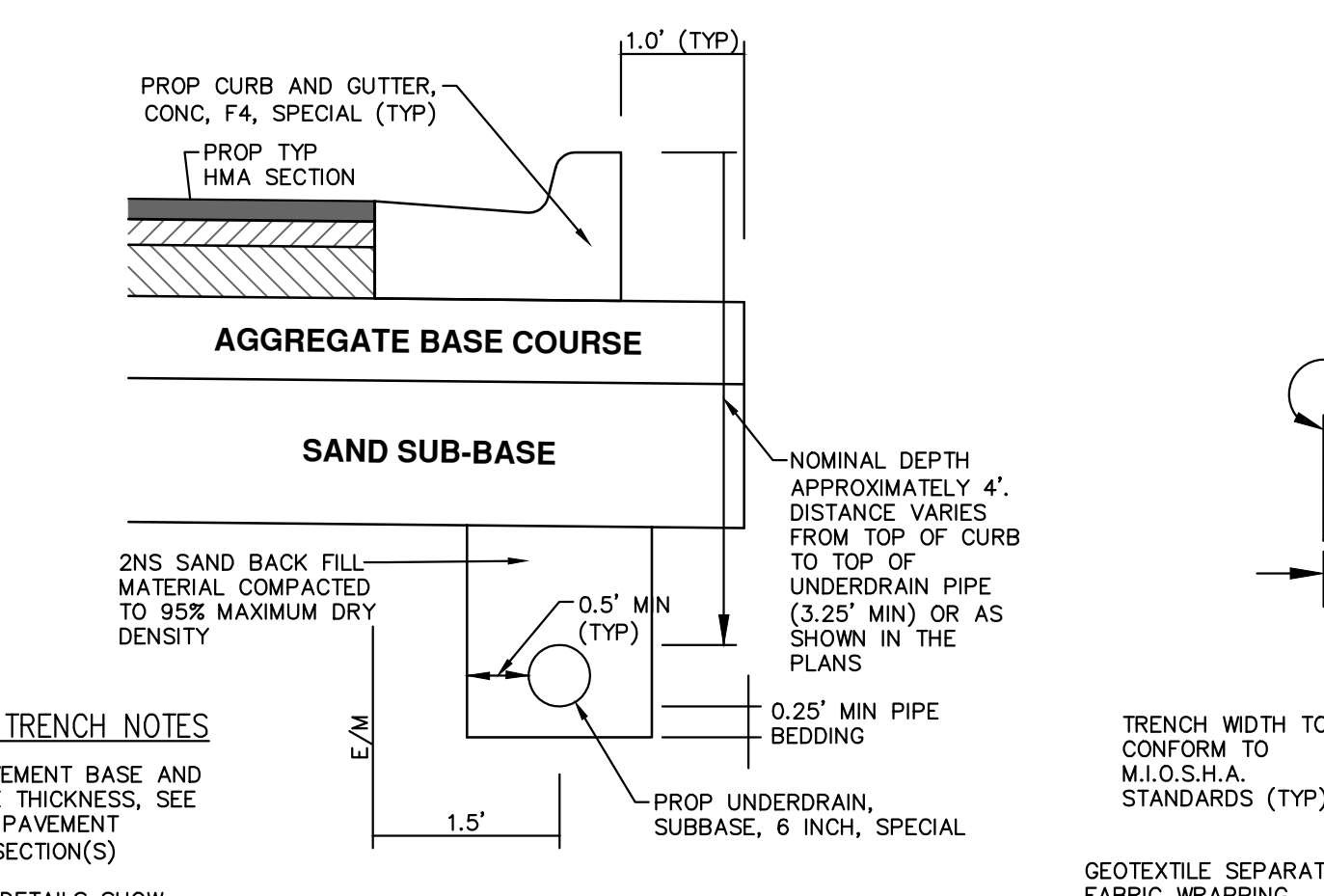
**DOUBLE INLET STRUCTURE SD-S-11**

- NOTES:
1. FRONT EDGE OF INLET CASTINGS SHALL BE FLUSH WITH THE FRONT EDGE OF GUTTER (EDGE-OF-METAL)
  2. 2' SUMP REQUIRED ON ALL DRAINAGE STRUCTURES



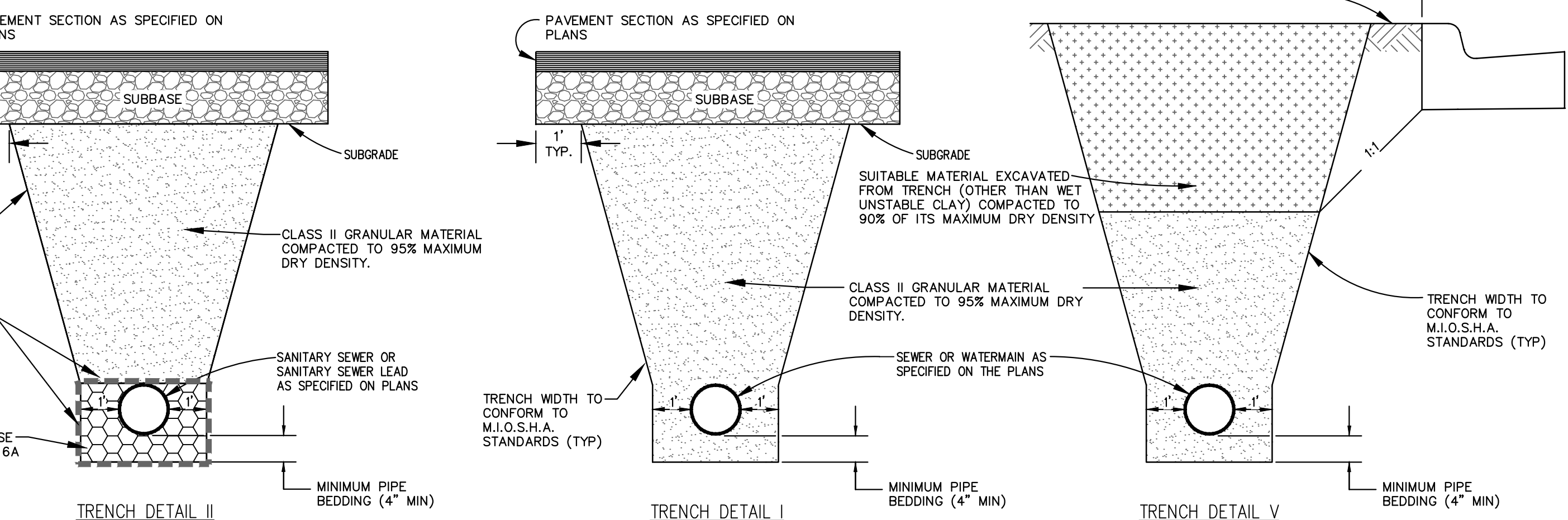
**INLET-JUNCTION CHAMBER SD-S-9**

- NOTES:
1. SHALL BE USED IF SINGLE OUTLET PIPE AND SINGLE INLET PIPE.
  2. FRONT EDGE OF INLET CASTING SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE-OF-METAL)




**TRENCH DETAIL FOR UNDERDRAIN (UNDER HMA PAVEMENT)**

- UNDERDRAIN TRENCH NOTES
- NOTE: FOR PAVEMENT BASE AND SUBBASE THICKNESS, SEE TYPICAL PAVEMENT CROSS-SECTION(S)
- NOTE: TRENCH DETAILS SHOW TYPE OF BACKFILL AND SURFACE RESTORATION ONLY
- NOTE: ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. STANDARDS
- BASED ON CITY OF ANN ARBOR STANDARD SD-TD-10 APPLIES TO: HMA PAVEMENT - SEE PLANS FOR LOCATIONS




**TRENCH DETAIL I, II, V**

- APPLIES TO: SEWER OR WATERMAIN UNDER ROADBED OR WITHIN INFLUENCE OF ROADBED - SEE PLANS FOR LOCATIONS



Know what's below. Call before you dig.

NO.	DATE	DESCRIPTION	REV.
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			JKA
			CHECKED
			DRAWN



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ANN ARBOR, MI 48106-0667  
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**PROJECT MANAGEMENT - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**

SCALE: NTS  
DRAWING NO. 2015018-5  
SHEET NO. 5 OF 68

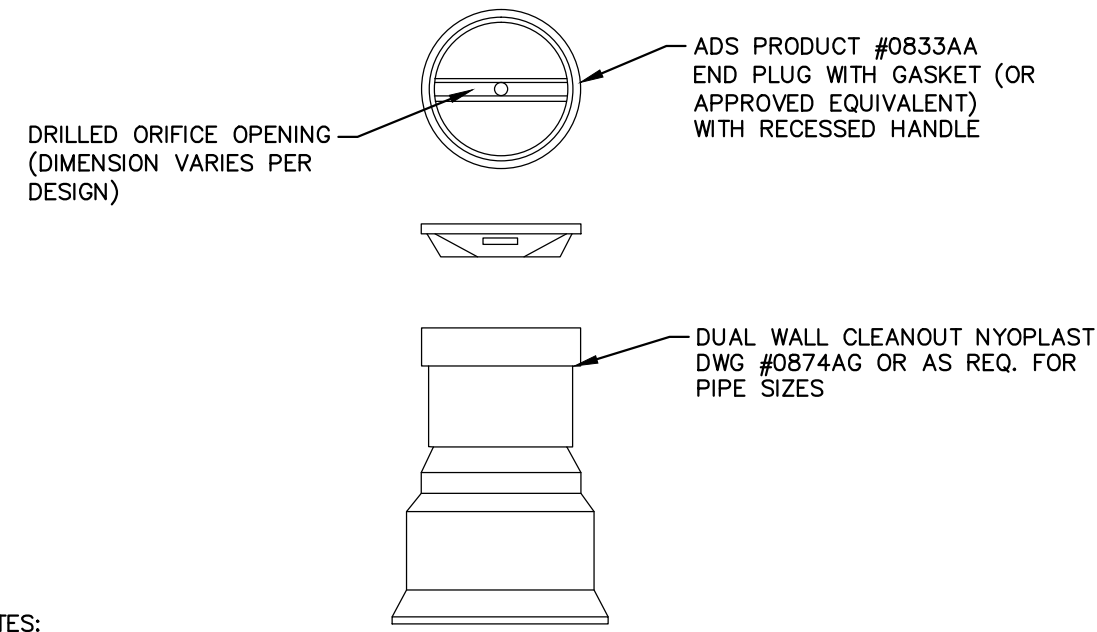
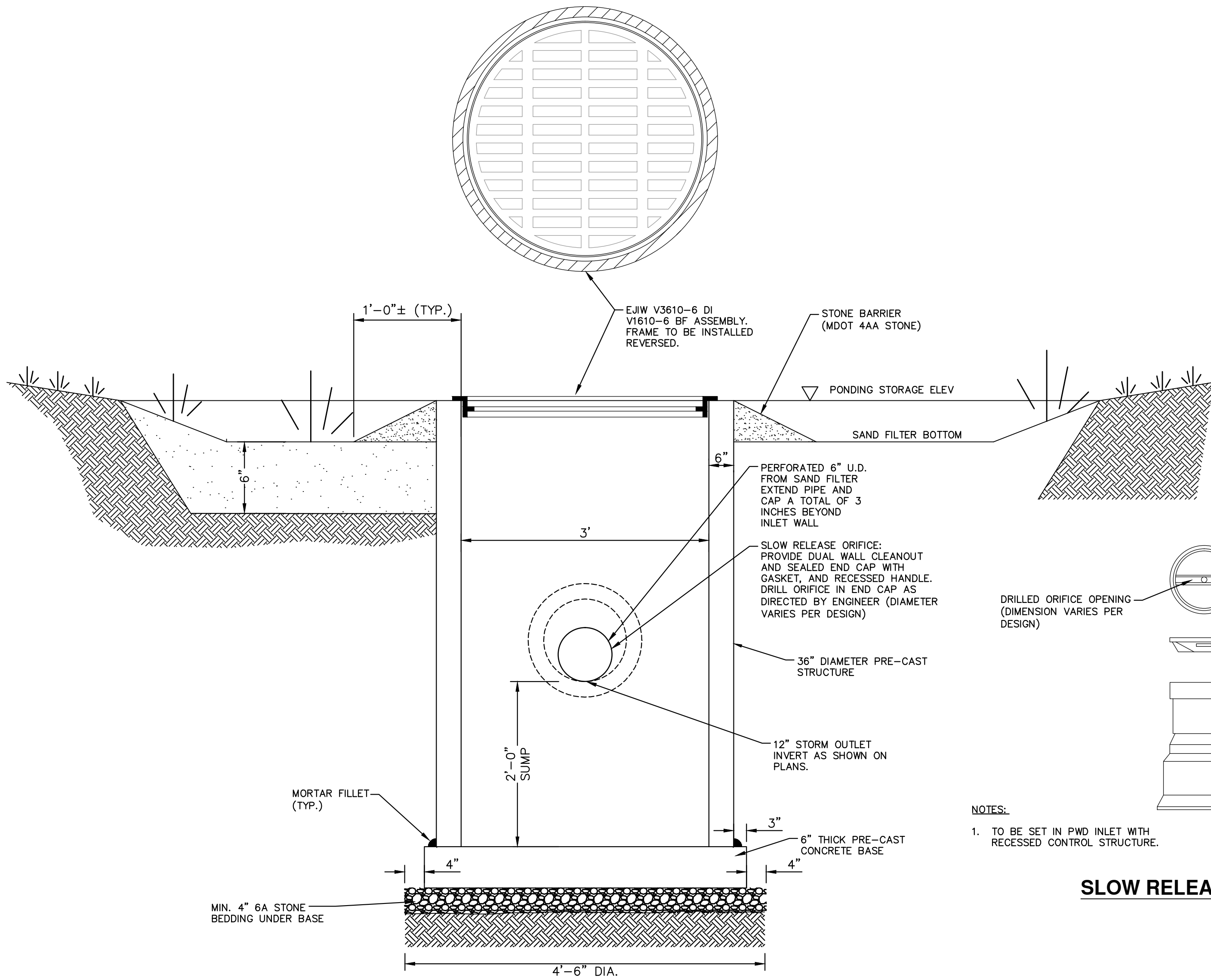
STORM & SANITARY SEWER DETAILS





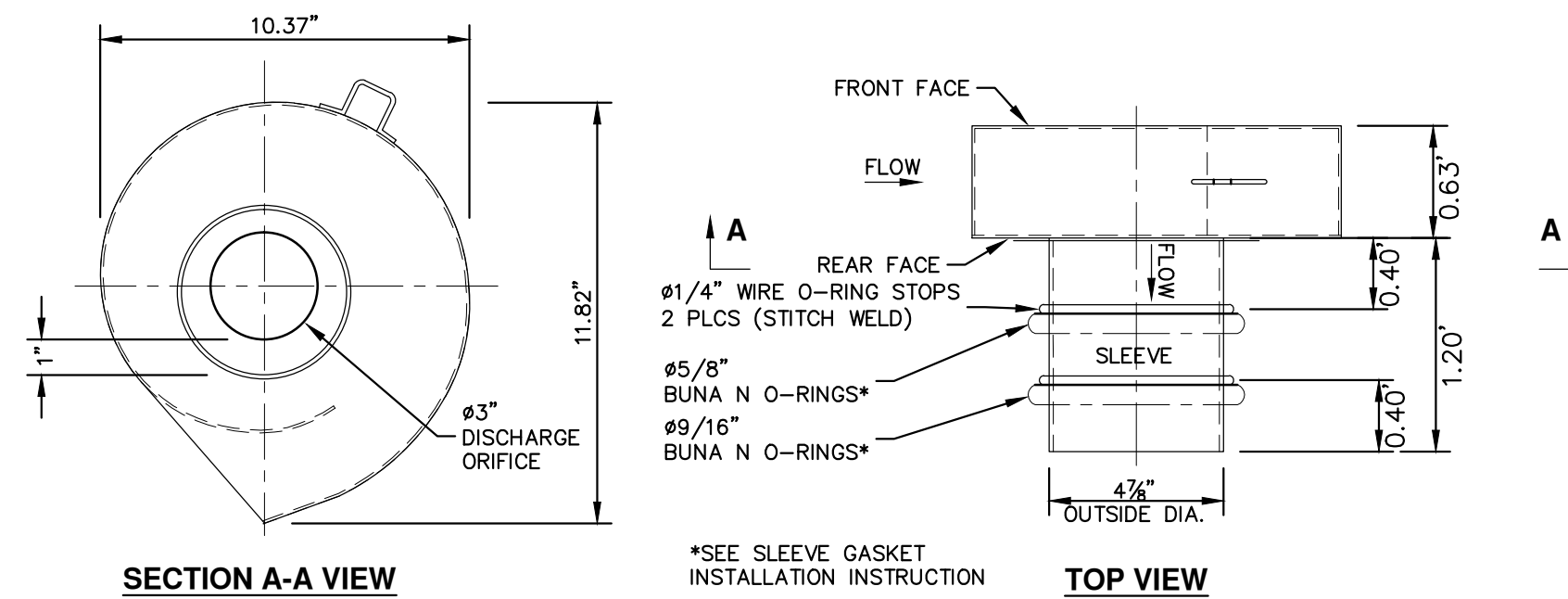
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**GRATE DETAIL**



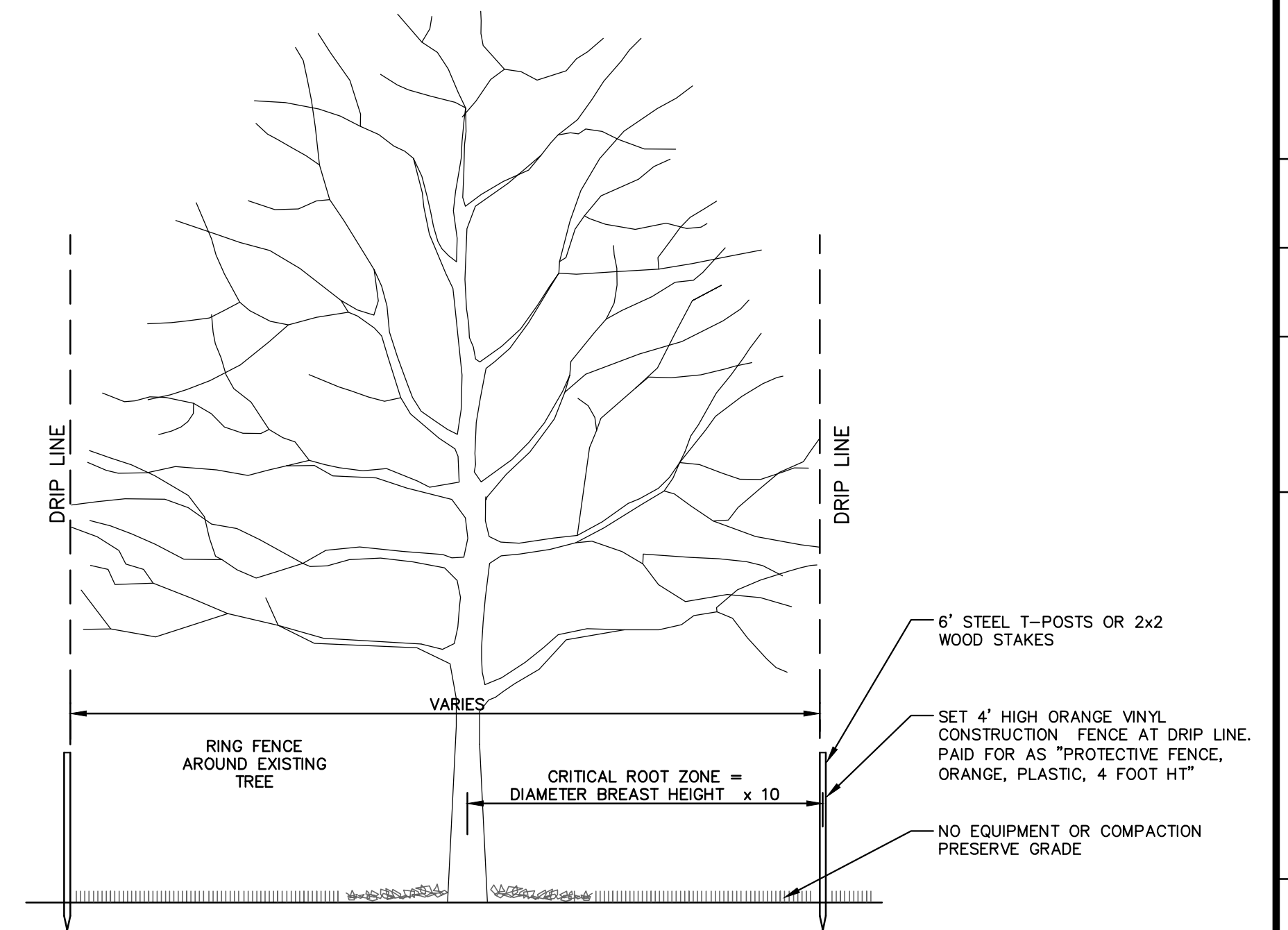
**NOTES:**  
1. TO BE SET IN PWD INLET WITH RECESSED CONTROL STRUCTURE.

**SLOW RELEASE ORIFICE**

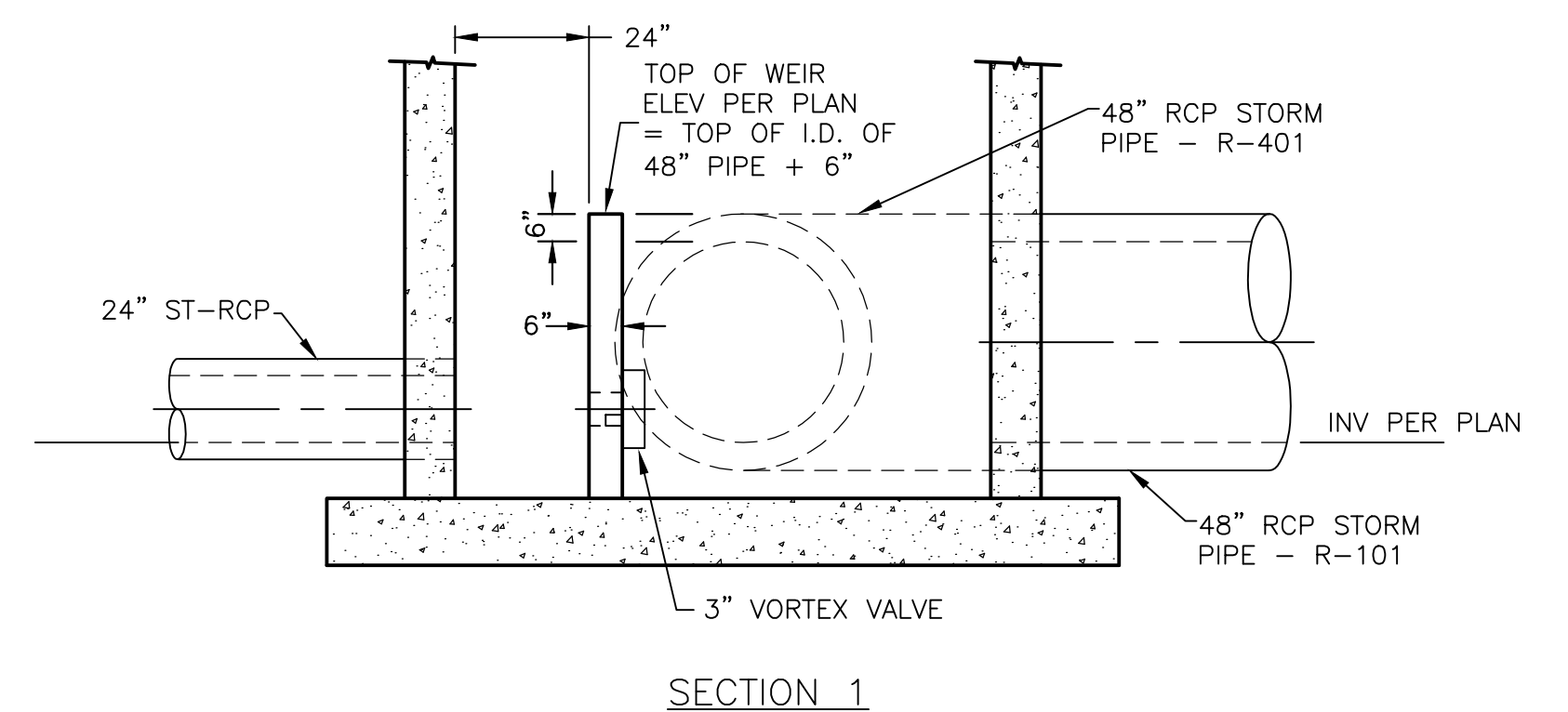
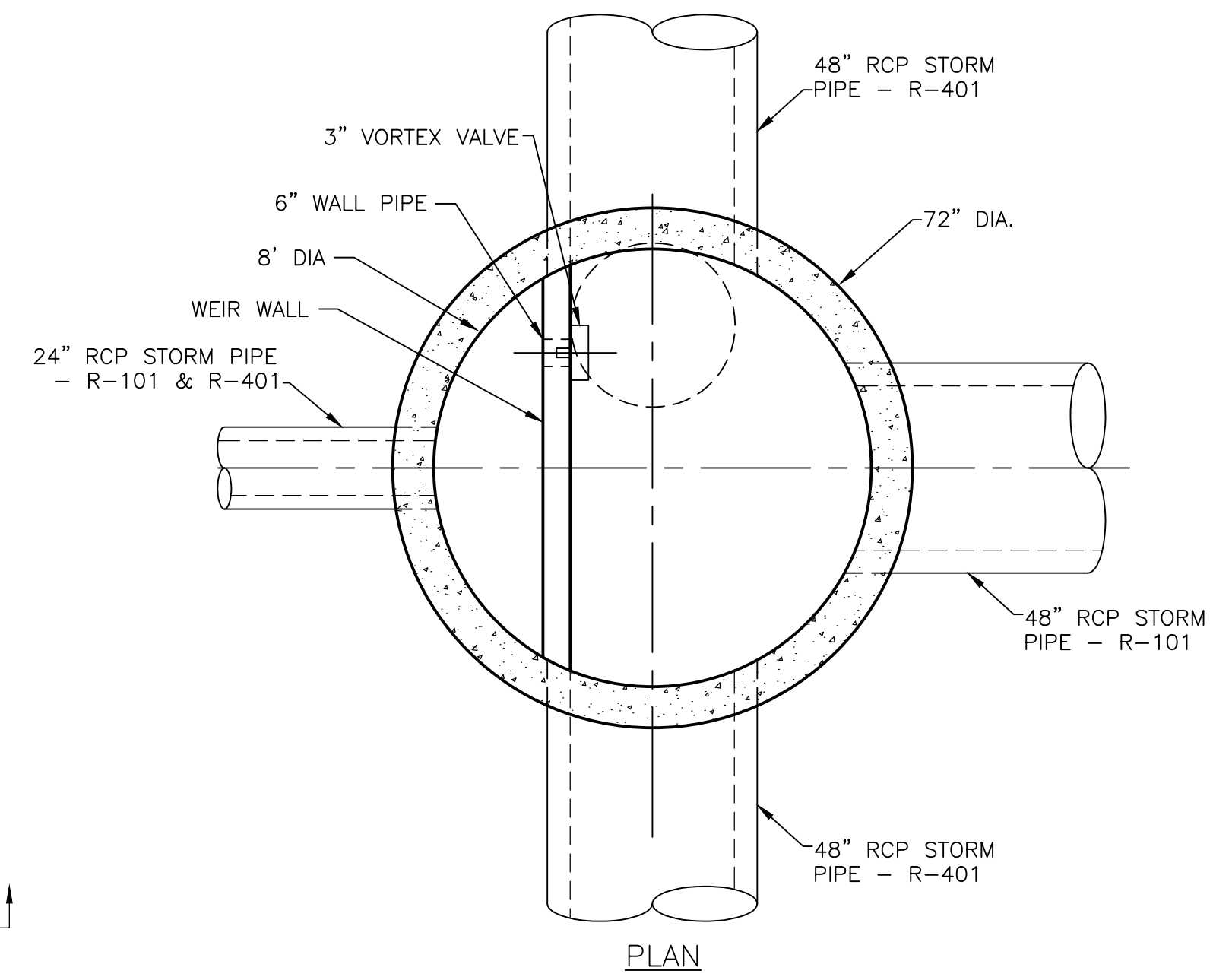


**NOTES:**  
1. ALL WELDS CONTINUOUS UNLESS NOTED OTHERWISE.  
2. MATERIALS:  
• 12 GA. 304L STAINLESS STEEL  
• (1) #5/8" AND (1) #9/16" BUNA N, 50 DUROMETER O-RINGS.  
3. MANUFACTURE HOUSING AND BYPASS DOOR AND ASSEMBLE PER DRAWING "2 mm FLUIDIC-AMP FABRICATION DETAILS FA1012-FA2023 HOUSING AND INLET"  
4. DISCHARGE ORIFICE LOCATED REAR FACE. #4" BYPASS OPENING LOCATED FRONT FACE.  
5. INCLUDES 20' BYPASS DOOR PULL CABLE.

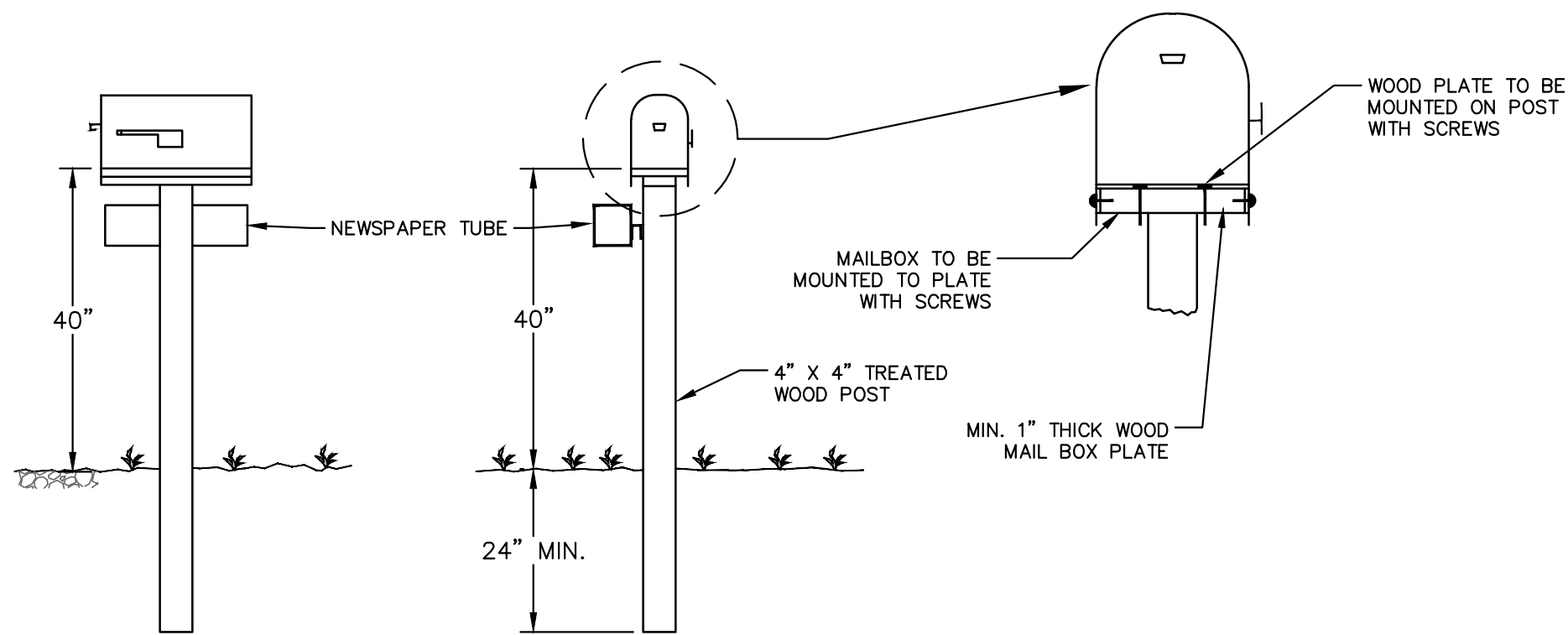
**FLUIDIC-AMP VORTEX VALVE MODEL FA1012 WITH SLEEVE ATTACHMENT FOR Ø6" OPENING FABRICATION DRAWING**



**TREE PROTECTION DETAIL**

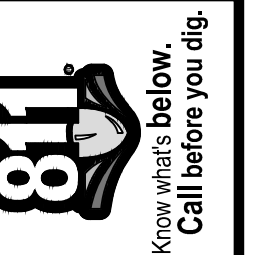


**UNDERGROUND STORMWATER STORAGE CONTROL STRUCTURES, R-101 & R-401**



**NOTES:**  
1. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH CURRENT FEDERAL POSTAL SERVICE SPECIFICATIONS.  
2. PERMANENT MAILBOX RELOCATION REQUIRES POST TO BE NEW PRESSURE-TREATED 4" X 4" POST, OR RESTORE ORIGINAL POST TO AS GOOD, OR BETTER THAN, ORIGINAL CONDITION.  
3. TEMPORARY MAILBOX RELOCATION REQUIRES THE USE OF EXISTING POST WILL BE PERMITTED.  
4. WHEN RELOCATING NEWSPAPER TUBES, THE RE-USE OF THE EXISTING POST WILL BE ALLOWED IF IT REMAINS UNDAMAGED.  
5. THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "Machine Grading, Modified, \_\_\_\_\_"

**MAILBOX/NEWSPAPER TUBE INSTALLATION AND RELOCATION**



REV.	DATE	DESCRIPTION
00	12/04/2015	MDFCO SUBMITTAL
		JKA DRAWN
		AMW CHECKED

CITY OF ANN ARBOR  
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301 EAST HURON STREET  
ANN ARBOR MI 48106-8647  
ANN ARBOR MI 734-794-4410  
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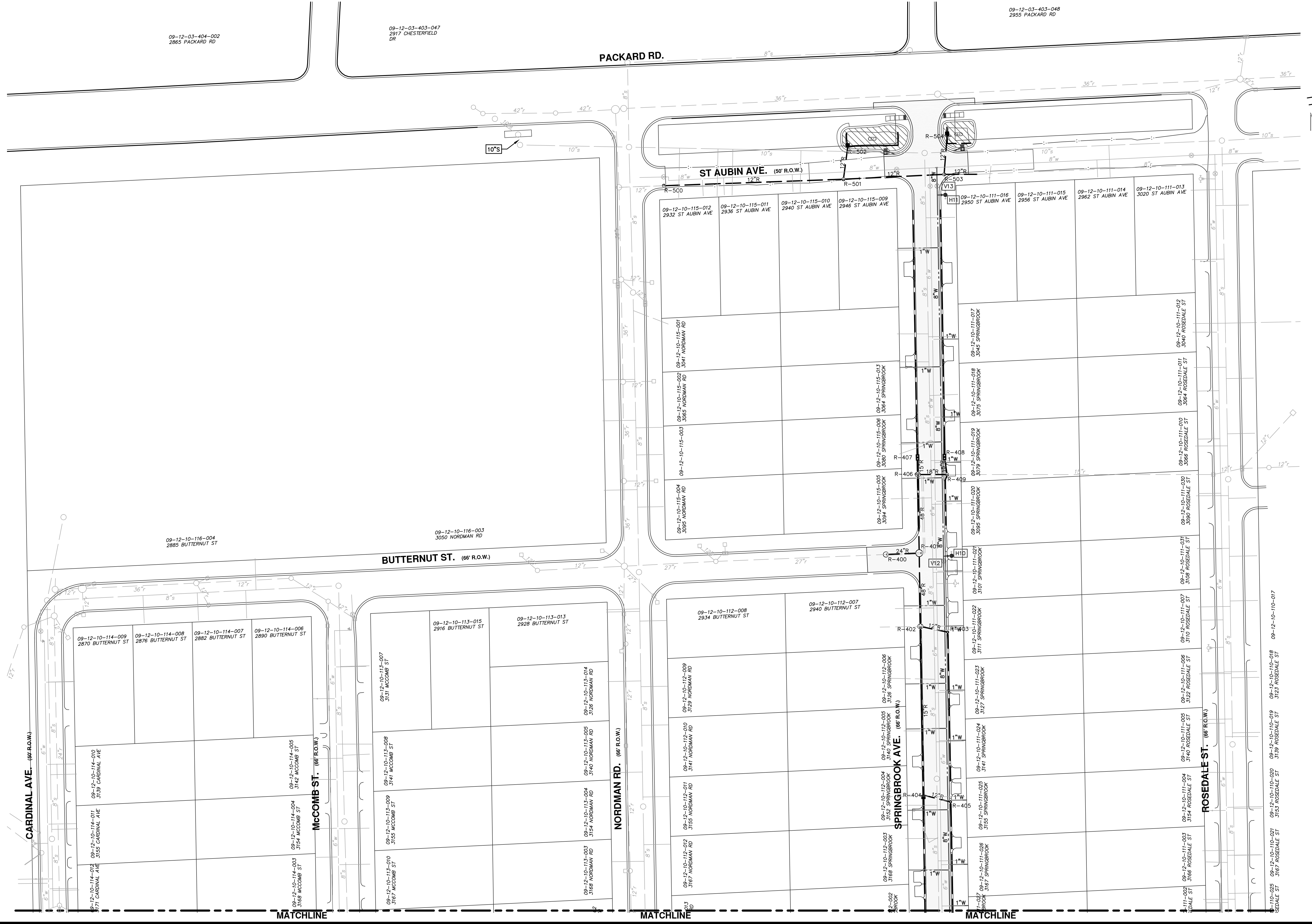
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR  
SPRINGWATER SUBDIVISION - PHASE II  
SAND FILTER OVERFLOW STRUCTURE DETAIL

SCALE: NTS  
DRAWING No. 2015018-7  
SHEET No. 7 OF 68



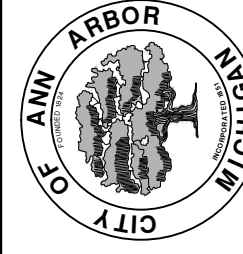


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**SPRINGWATER SUBDIVISION - PHASE II**

SCALE PLAN: 1" = 50'  
DRAWING No.  
**2015018-9**

OVERALL UTILITY PLAN - NORTH

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	MEFO SUBMITTAL	12/04/2015	JKA	AMW



09-12-10-103-901



**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**

SCALE PLAN: 1" = 50'

DRAWING No.  
**2015018-10**

SHEET No.

10 OF 68



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00	12/04/2015	MFCO SUBMITTAL
		JKA DRAWN
		AMW CHECKED






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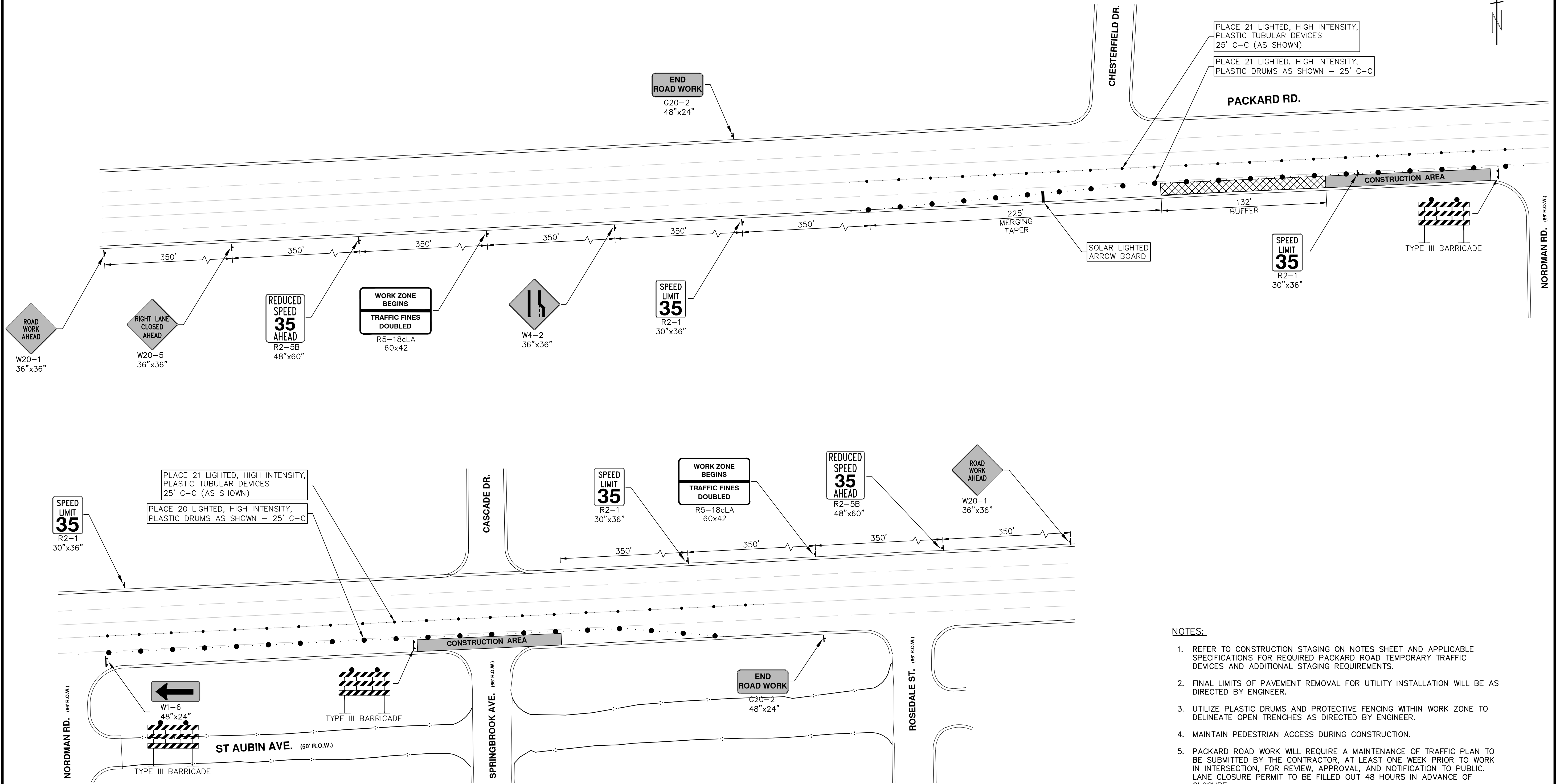


**NOTES:**

1. REFER TO CONSTRUCTION STAGING ON NOTES SHEET AND APPLICABLE SPECIFICATIONS FOR REQUIRED PACKARD ROAD TEMPORARY TRAFFIC DEVICES AND ADDITIONAL STAGING REQUIREMENTS.
2. FINAL LIMITS OF PAVEMENT REMOVAL FOR UTILITY INSTALLATION WILL BE AS DIRECTED BY ENGINEER.
3. UTILIZE PLASTIC DRUMS AND PROTECTIVE FENCING WITHIN WORK ZONE TO DELINEATE OPEN TRENCHES AS DIRECTED BY ENGINEER.
4. MAINTAIN PEDESTRIAN ACCESS DURING CONSTRUCTION.
5. PACKARD ROAD WORK WILL REQUIRE A MAINTENANCE OF TRAFFIC PLAN TO BE SUBMITTED BY THE CONTRACTOR, AT LEAST ONE WEEK PRIOR TO WORK IN INTERSECTION, FOR REVIEW, APPROVAL, AND NOTIFICATION TO PUBLIC. LANE CLOSURE PERMIT TO BE FILLED OUT 48 HOURS IN ADVANCE OF CLOSURE.
6. COVER CONFLICTING SIGNS AS NEEDED OR AS DIRECTED BY ENGINEER.
7. REMOVE CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
8. CONTRACTOR SHALL PLACE PORTABLE, CHANGEABLE MESSAGE SIGNS A MINIMUM OF ONE (1) WEEK PRIOR TO THE START OF CONSTRUCTION IN LOCATIONS INDICATED BY ENGINEER. MESSAGE TO BE PROVIDED BY THE ENGINEER.

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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR SPRINGWATER SUBDIVISION - PHASE II	DESCRIPTION: MAINTENANCE OF TRAFFIC
SCALE PLAN: 1" = 100' DRAWING No.: 2015018-11	SHEET No.: 11 OF 68

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- NOTES:**
1. REFER TO CONSTRUCTION STAGING ON NOTES SHEET AND APPLICABLE SPECIFICATIONS FOR REQUIRED PACKARD ROAD TEMPORARY TRAFFIC DEVICES AND ADDITIONAL STAGING REQUIREMENTS.
  2. FINAL LIMITS OF PAVEMENT REMOVAL FOR UTILITY INSTALLATION WILL BE AS DIRECTED BY ENGINEER.
  3. UTILIZE PLASTIC DRUMS AND PROTECTIVE FENCING WITHIN WORK ZONE TO DELINEATE OPEN TRENCHES AS DIRECTED BY ENGINEER.
  4. MAINTAIN PEDESTRIAN ACCESS DURING CONSTRUCTION.
  5. PACKARD ROAD WORK WILL REQUIRE A MAINTENANCE OF TRAFFIC PLAN TO BE SUBMITTED BY THE CONTRACTOR, AT LEAST ONE WEEK PRIOR TO WORK IN INTERSECTION, FOR REVIEW, APPROVAL, AND NOTIFICATION TO PUBLIC. LANE CLOSURE PERMIT TO BE FILLED OUT 48 HOURS IN ADVANCE OF CLOSURE.
  6. COVER CONFLICTING SIGNS AS NEEDED OR AS DIRECTED BY ENGINEER.
  7. REMOVE CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
  8. CONTRACTOR SHALL PLACE PORTABLE, CHANGEABLE MESSAGE SIGNS A MINIMUM OF ONE (1) WEEK PRIOR TO THE START OF CONSTRUCTION IN LOCATIONS INDICATED BY ENGINEER. MESSAGE TO BE PROVIDED BY THE ENGINEER.

**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**  
 MAINTENANCE OF TRAFFIC -  
 PACKARD ROAD LANE CLOSURES

SCALE PLAN: 1" = 40'  
 DRAWING No. 2015016-12

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CITY OF ANN ARBOR  
 MICHIGAN

SHEET No. 12 OF 68

**GENERAL**  
NOTIFY THE CITY OF ANN ARBOR SOIL EROSION CONTROL OFFICE 48 HOURS PRIOR TO BEGINNING WORK ON THE PROJECT. PHONE: 734-794-6265.

- THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN THE SOIL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER AT ALL TIMES DURING CONSTRUCTION. ANY MODIFICATIONS OR ADDITIONS TO THE SOIL EROSION CONTROL MEASURES DUE TO CONSTRUCTION OR CHANGED CONDITIONS SHALL BE AS DIRECTED AND APPROVED BY THE ENGINEER.
- ALL SOIL EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE PERMIT REQUIREMENTS OF THE CITY OF ANN ARBOR, CITY ORDINANCE CHAPTER 63, CITY OF ANN ARBOR STANDARDS DIVISION VII, THE LAWS OF THE STATE OF MICHIGAN, AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
- DAILY, OR AFTER ANY STORM EVENT, INSPECTIONS OF EROSION CONTROL MEASURES SHALL BE MADE BY THE CONTRACTOR. PERIODIC INSPECTIONS MAY BE MADE BY THE ENGINEER TO DETERMINE THE EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES. ANY NECESSARY CORRECTIONS SHALL BE MADE WITHOUT DELAY, AND WITHOUT ADDITIONAL COST TO THE CITY OF ANN ARBOR.
- EROSION AND SEDIMENTATION FROM WORK ON THE SITE SHALL BE CONTAINED ON THE SITE AND NOT BE ALLOWED TO COLLECT ON ANY OFF-SITE AREAS, ROADWAYS OR WATERWAYS.
- ALL MUD/SOIL TRACKED ONTO ROADWAYS FROM THE SITE DUE TO CONSTRUCTION, SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR. IF SO ORDERED, THE CONTRACTOR SHALL PROVIDE AND OPERATE A VACUUM-TYPE STREET SWEEPER, AT NO ADDITIONAL COST TO THE CITY OF ANN ARBOR, WITHIN FOUR (4) HOURS OF BEING SO ORDERED.
- RESTORATION OF ALL DISTURBED AREAS, INCLUDING PLACEMENT OF TOPSOIL, SEED, FERTILIZER AND MULCH AND/OR SOD SHALL BE PERFORMED WITHIN FIVE (5) DAYS OF THE COMPLETION OF FINAL GRADE.
- CONSTRUCTION OPERATIONS SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE SOIL EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO

EXCAVATION IN CRITICAL AREAS AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING OPERATIONS.

- SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.
- PROPER DUST CONTROL SHALL BE MAINTAINED DURING CONSTRUCTION BY USE OF WATER TRUCKS AND/OR DUST PALLATIVE AS REQUIRED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND REMOVAL OF SOME MEASURES UPON AUTHORIZED COMPLETION OF THE PROJECT. FINAL COMPLETION OF PROJECT WILL NOT BE AUTHORIZED UNTIL ALL SITE WORK AND UTILITY CONSTRUCTION IS COMPLETE AND ALL SOILS ARE STABILIZED.
- THE CONTRACTOR SHALL NOT GRADE INTO ADJACENT PROPERTIES. SILT AND PROTECTIVE FENCE SHALL BE INSTALLED AND MAINTAINED TO PREVENT GRADING, EROSION AND SEDIMENTATION INTO THE ADJACENT PROPERTIES.
- TREE PROTECTION FENCING MUST REMAIN INTACT UNTIL RESTORATION OF THE SITE IS COMPLETE.

**SEQUENCE OF EROSION CONTROL MEASURES:**

- THE CONTRACTOR IS TO SUBMIT TO THE ENGINEER, A SEQUENCE OF CONSTRUCTION WITH RESPECT TO THE SOIL EROSION CONTROL MEASURES FOR REVIEW, COMMENT AND APPROVAL. THIS SCHEDULE IS TO INCLUDE INSPECTION AND REPAIR OF ALL TEMPORARY EROSION CONTROL MEASURES DAILY AND WITHIN 24 HOURS OF A STORM EVENT.

**SAMPLE SOIL EROSION AND SEDIMENTATION CONTROL INSTALLATION MINIMUM REQUIREMENTS:**

- INSTALL SILT FENCE, TREE PROTECTION FENCING, MUD MATS, INLET FILTERS ON EXISTING DRAINAGE FEATURES, AND ALL OTHER TEMPORARY SOIL EROSION CONTROLS, PRIOR TO ANY CLEARING OR EARTH MOVING OPERATION.
- STRIP AND STOCKPILE TOPSOIL. STABILIZE STOCKPILE AS REQUIRED.

- COMPLETE REQUIRED DITCHING FROM MALLET'S CREEK TO STONE SCHOOL ROAD.
- INSTALL WATER MAINS, STORM AND SANITARY SEWERS, AND OTHER ENCLOSED DRAINAGE FEATURES. NEW INLET FILTERS SHALL BE INSTALLED IMMEDIATELY FOLLOWING INSTALLATION OF NEW DRAINAGE INLETS.
- PERFORM MACHINE GRADING OPERATIONS AND CONSTRUCT PAVEMENTS (MAINLINE, SIDEWALKS, DRIVES, ETC.).
- CONTINUALLY MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES, AS REQUIRED TO ALLOW DRAINAGE AND SEDIMENT REMOVAL. REMOVE ANY ACCUMULATED SEDIMENT IMMEDIATELY.
- COMPLETE ALL GRADING AND FINE GRADING.
- TEMPORARY SEED AND INSTALL EROSION CONTROL BLANKET IN ALL DISTURBED AREAS.
- REFER TO LANDSCAPE PLANTING PLANS FOR PERMANENT SITE STABILIZATION.
- CLEAN OUT STORM SEWER SYSTEMS.
- REMEDY ANY NOTED DEFECTS TO THE SATISFACTION OF THE CITY OF ANN ARBOR'S SOIL EROSION AND SEDIMENTATION CONTROL OFFICIAL.
- ALL TEMP. SOIL EROSION CONTROL MEASURES MUST BE REMOVED, WITH ENGINEERS APPROVAL, PRIOR TO FINAL INSPECTION

NOTE: THIS SEQUENCE IS FOR INFORMATION ONLY. IT IS INTENDED TO SHOW THE SEQUENCE OF CONSTRUCTION WITH RESPECT TO THE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THEIR OWN DETAILED CONSTRUCTION SEQUENCE AND SCHEDULE TO THE ENGINEER FOR REVIEW, COMMENT, AND APPROVAL.

**TEMPORARY SEEDING:**

- SEED IN ACCORDANCE WITH PROJECT DRAWINGS AND SPECIFICATIONS.

- ANY DISTURBED AREA NOT PAVED, SEEDED, MULCHED, SODDED OR BUILT UPON BY NOVEMBER 15TH OR JUNE 30TH IS TO BE TEMPORARILY STABILIZED PER SPECIFICATIONS.

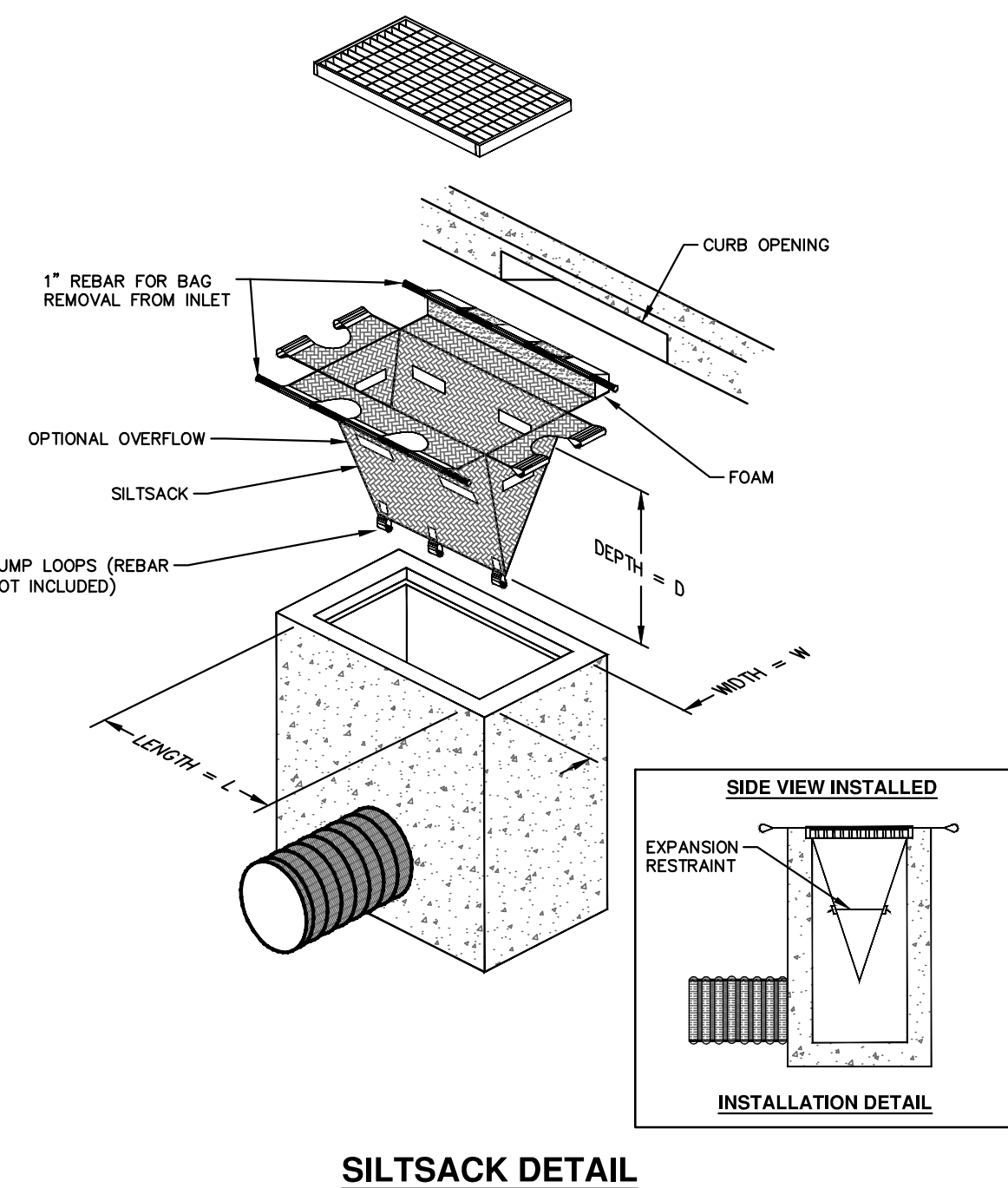
THE ESTIMATED COST OF SOIL EROSION AND SEDIMENTATION CONTROL MEASURES, TOPSOIL, SEEDING, AND MULCH = \$xxx,xxx

ESTIMATE OF EXCAVATION AND FILL FROM EXISTING TO FINAL GRADE:  
 • EXCAVATION = 349.8CY, FILL = 43.4CY

- ON SITE SOILS PER THE USDA SOIL SURVEY OF WASHTENAW COUNTY, MICHIGAN:
- NaB - NAPPANEE SILTY CLAY LOAM - ON FOOT SLOPES AND ALONG DRAINAGEWAYS OF TILL PLAINS, MORAINES, AND LAKE PLAINS. POORLY DRAINED TO VERY POORLY DRAINED. NEARLY LEVEL TO GENTLY SLOPING.
  - Ho - HOYTVILLE SILTY CLAY LOAM - NEARLY LEVEL SOIL IN DEPRESSIONAL AREAS, BROAD LOW-LYING AREAS, AND DRAINAGEWAYS OF TILL PLAINS AND LAKE PLAINS. PERMEABILITY IS SLOW. 0 TO 2 PERCENT SLOPES.
  - MoB - MORLEY LOAM - IN BROAD UPLAND AREAS AND ON LOW RISES AND SIDE SLOPES OF TILL PLAINS AND MORAINES. WELL DRAINED AND MODERATELY WELL DRAINED. 2 TO 6 PERCENT SLOPES.

IMPERVIOUS PROJECT AREA  
151,131ft<sup>2</sup> - 156,450ft<sup>2</sup>  
= -0.12 AC

TOTAL AREA OF PROPOSED DISTURBANCE = 1.64 AC



NOTE: THE SILTSACK WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE FOLLOWING SPECIFICATIONS.

**REGULAR FLOW SILTSACK**

(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PROPERTIES	REQUIRED VALUE	TEST METHOD
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80%
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1

**HI-FLOW SILTSACK**

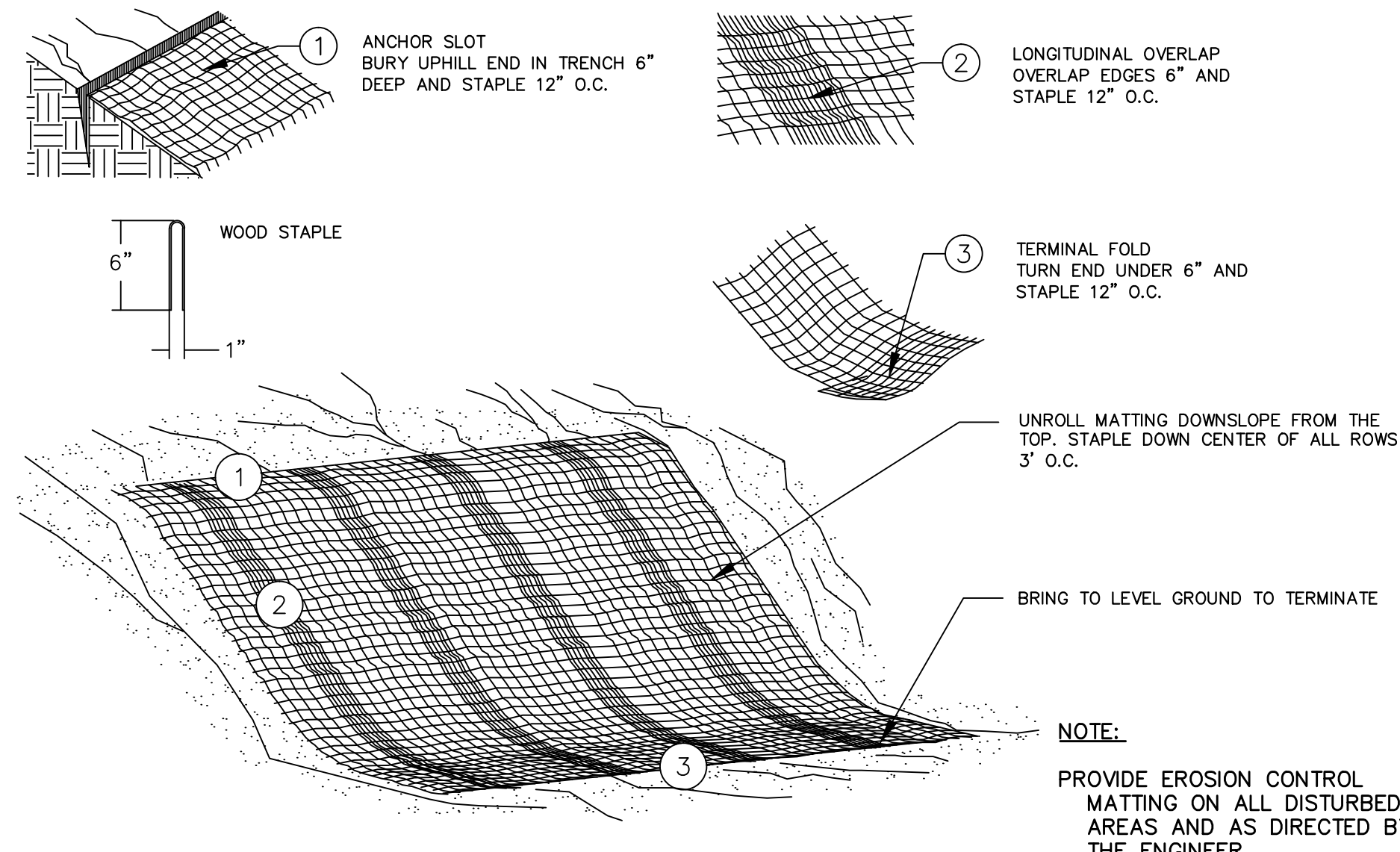
(FOR AREAS OF MODERATE TO HEAVY PRECIPITATION AND RUN-OFF)

PROPERTIES	REQUIRED VALUE	TEST METHOD
GRAB TENSILE STRENGTH	ASTM D-4632	265 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	135 LBS
MULLEN BURST	ASTM D-3786	420 PSI
TRAPEZOID TEAR	ASTM D-4533	45 LBS
UV RESISTANCE	ASTM D-4355	90%
APPARENT OPENING SIZE	ASTM D-4751	20 US SIEVE
FLOW RATE	ASTM D-4491	200 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	1.5 SEC -1

**OIL-ABSORBANT SILTSACK**

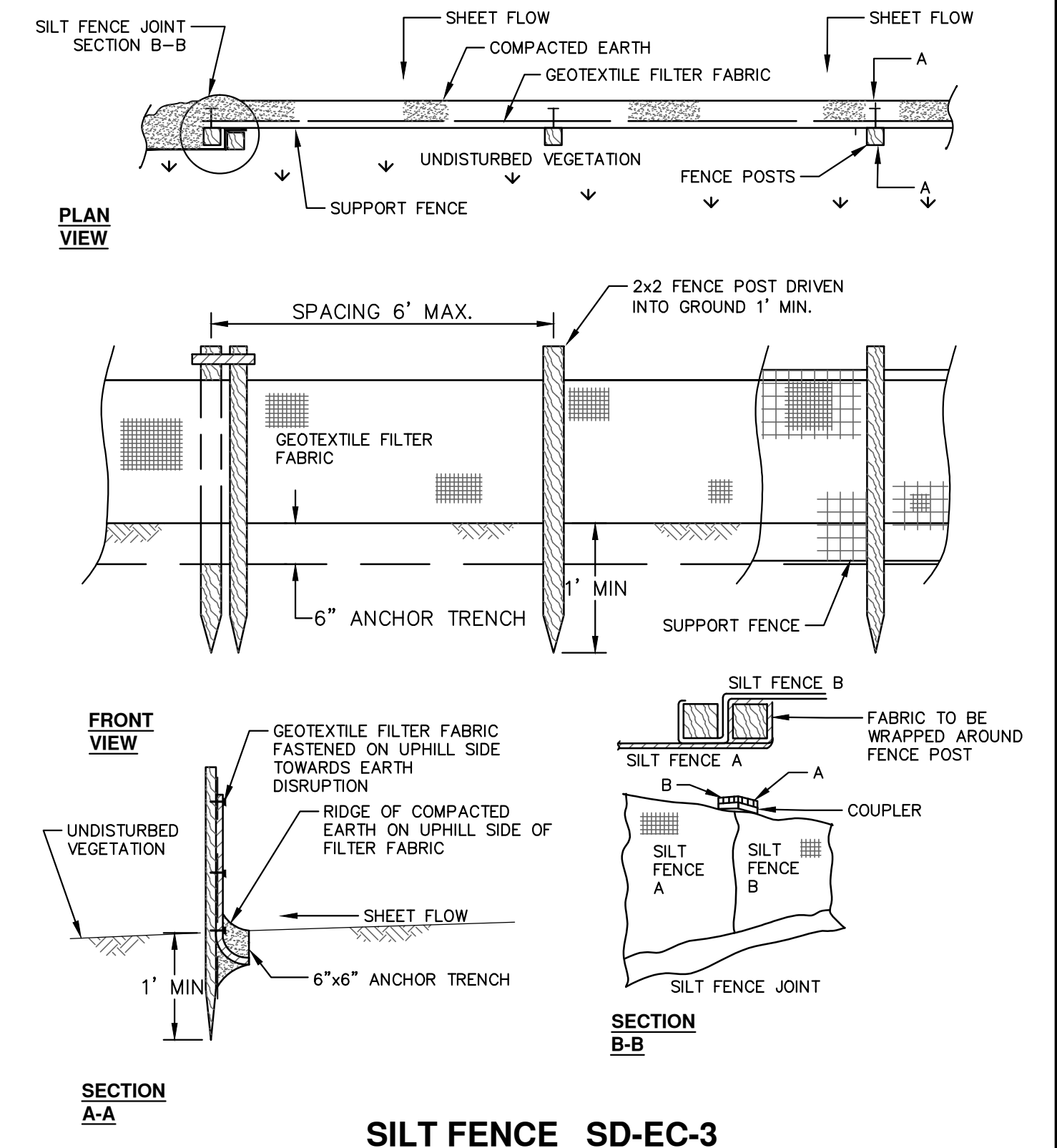
(FOR AREAS WHERE THERE IS A CONCERN FOR OIL RUN-OFF OR SPILLS)

IT IS THE INTENT OF THE PLANS AND SPECIFICATIONS THAT THE CONTRACTOR INSTALL THE REBAR AS SHOWN IN THIS DETAIL TO PROVIDE A FULLY FUNCTIONING UNIT. ALL COSTS ASSOCIATED WITH FURNISHING, CLEANING AS MANY TIMES AS REQUIRED, DISPOSAL OF SEDIMENT, AND REMOVING THE INLET FILTER WHEN NO LONGER NEEDED IS INCLUDED IN THE ITEM OF WORK AND WILL NOT BE PAID FOR SEPARATELY.



**MULCH BLANKET DETAIL**

APPLIES TO ALL AREAS TO BE PERMANENTLY RESTORED WITH GRASS. SEE LANDSCAPE PLANS FOR MORE DETAILS.



**SILT FENCE SD-EC-3**

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00	12/04/2015	WFCO SUBMITTAL	JKA	AMW

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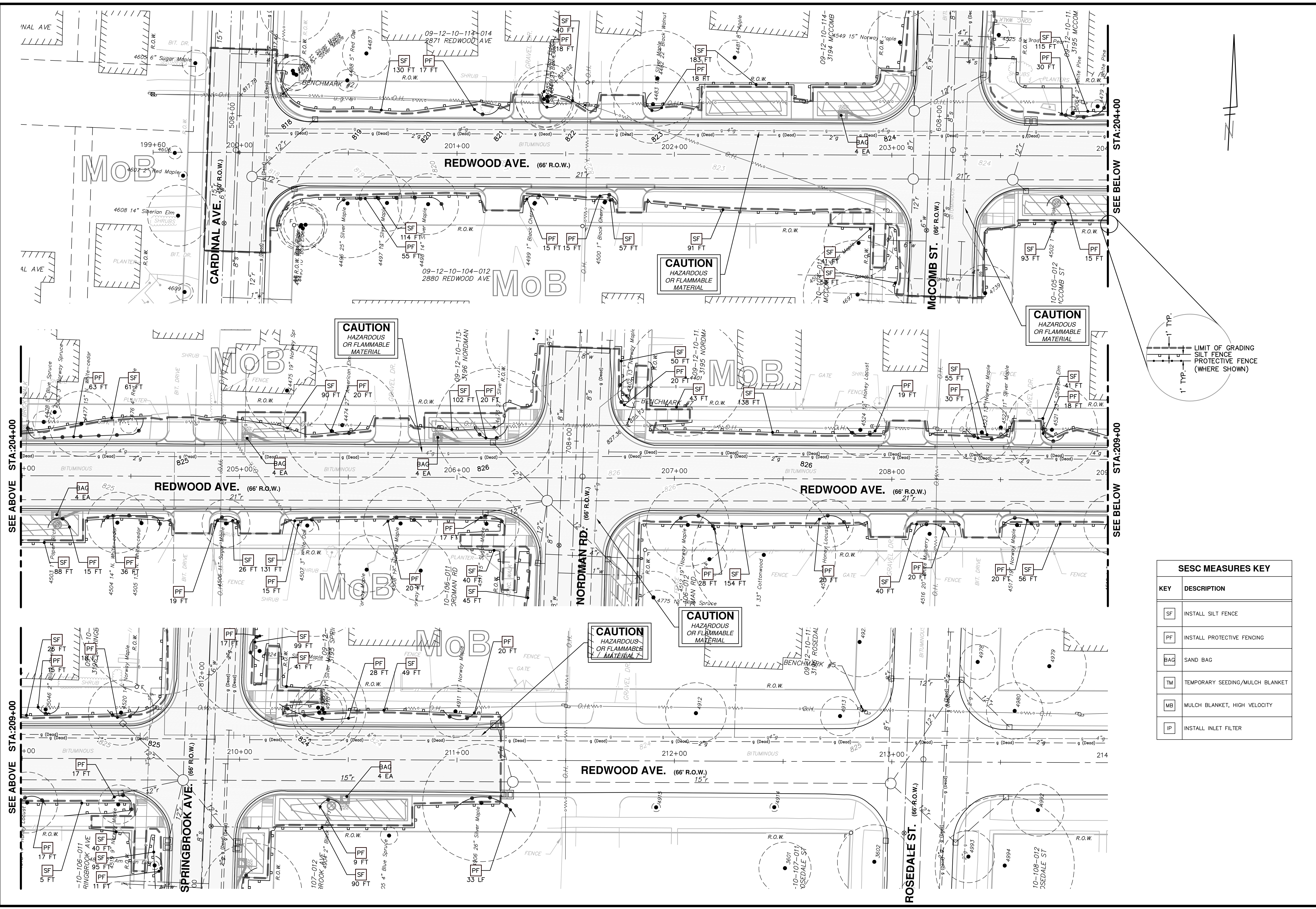
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**SPRINGWATER SUBDIVISION - PHASE II**

NOTES AND DETAILS

SCALE: N/A  
DRAWING No. 2015018-13

SHEET No. 13 OF 68





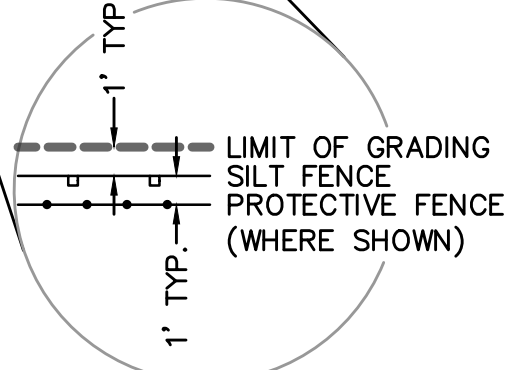
**CAUTION**  
HAZARDOUS  
OR FLAMMABLE  
MATERIAL

**CAUTION**  
HAZARDOUS  
OR FLAMMABLE  
MATERIAL

**CAUTION**  
HAZARDOUS  
OR FLAMMABLE  
MATERIAL

**CAUTION**  
HAZARDOUS  
OR FLAMMABLE  
MATERIAL

**CAUTION**  
HAZARDOUS  
OR FLAMMABLE  
MATERIAL



SESC MEASURES KEY	
KEY	DESCRIPTION
SF	INSTALL SILT FENCE
PF	INSTALL PROTECTIVE FENCING
BAG	SAND BAG
TM	TEMPORARY SEEDING/MULCH BLANKET
MB	MULCH BLANKET, HIGH VELOCITY
IP	INSTALL INLET FILTER

**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**  
 SOIL EROSION & SEDIMENTATION CONTROL MEASURES  
 REDWOOD AVENUE POB TO POE

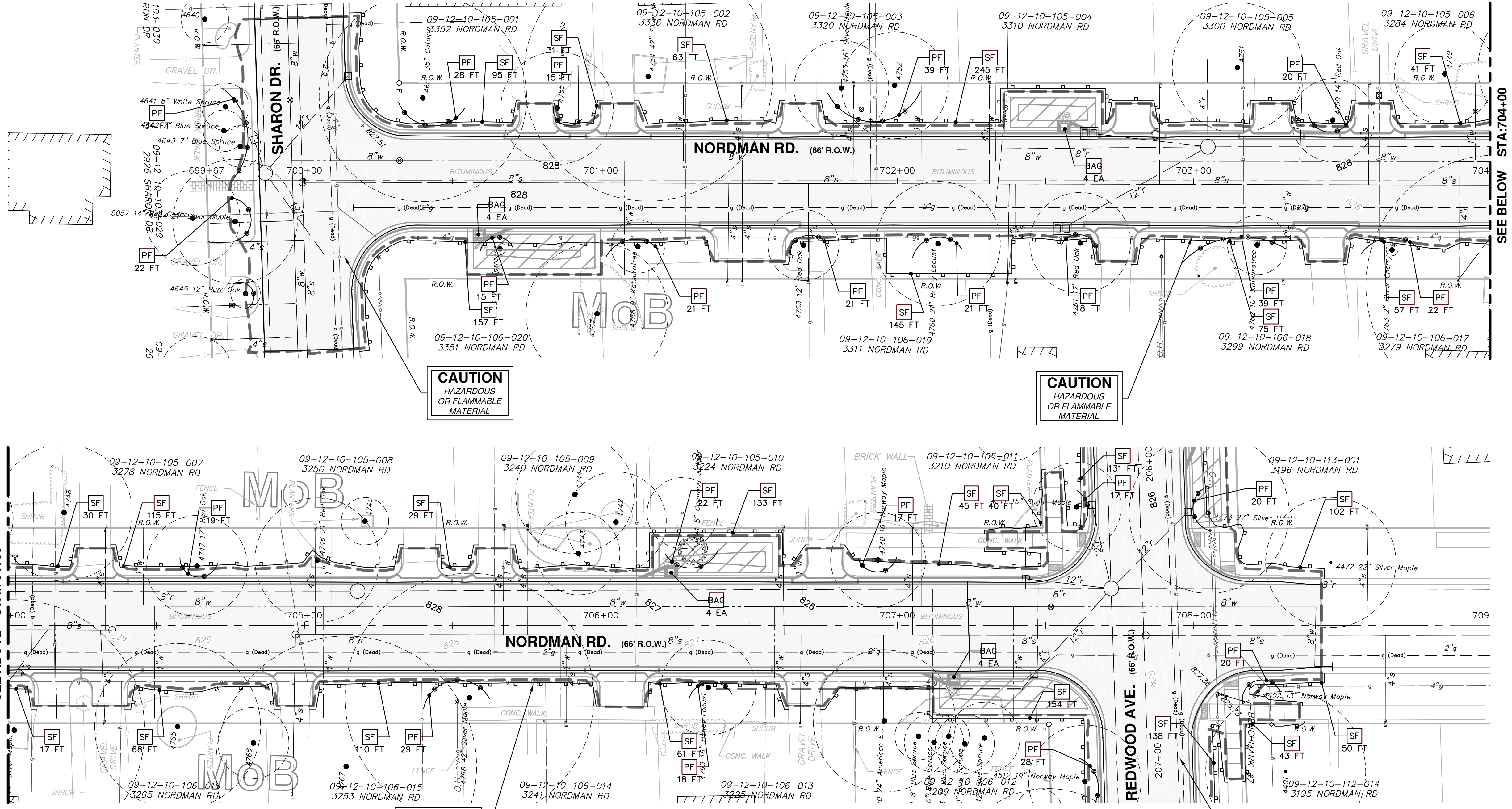
SCALE PLAN: 1" = 20'  
 DRAWING No. 2015018-14  
 SHEET No. 14 OF 68

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 ANN ARBOR: 734.754.4410  
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00	12/04/2015	JKA	DRAWN
		AMW	CHECKED





SEE BELOW STA:704+00

SEE ABOVE STA:704+00

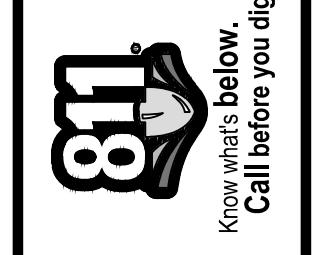
**CAUTION**  
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OR FLAMMABLE  
MATERIAL

**CAUTION**  
HAZARDOUS  
OR FLAMMABLE  
MATERIAL

**CAUTION**  
HAZARDOUS  
OR FLAMMABLE  
MATERIAL

**CAUTION**  
HAZARDOUS  
OR FLAMMABLE  
MATERIAL

SESC MEASURES KEY	
KEY	DESCRIPTION
SF	INSTALL SILT FENCE
PF	INSTALL PROTECTIVE FENCING
BAG	SAND BAG
TM	TEMPORARY SEEDING/MULCH BLANKET
MB	MULCH BLANKET, HIGH VELOCITY
IP	INSTALL INLET FILTER

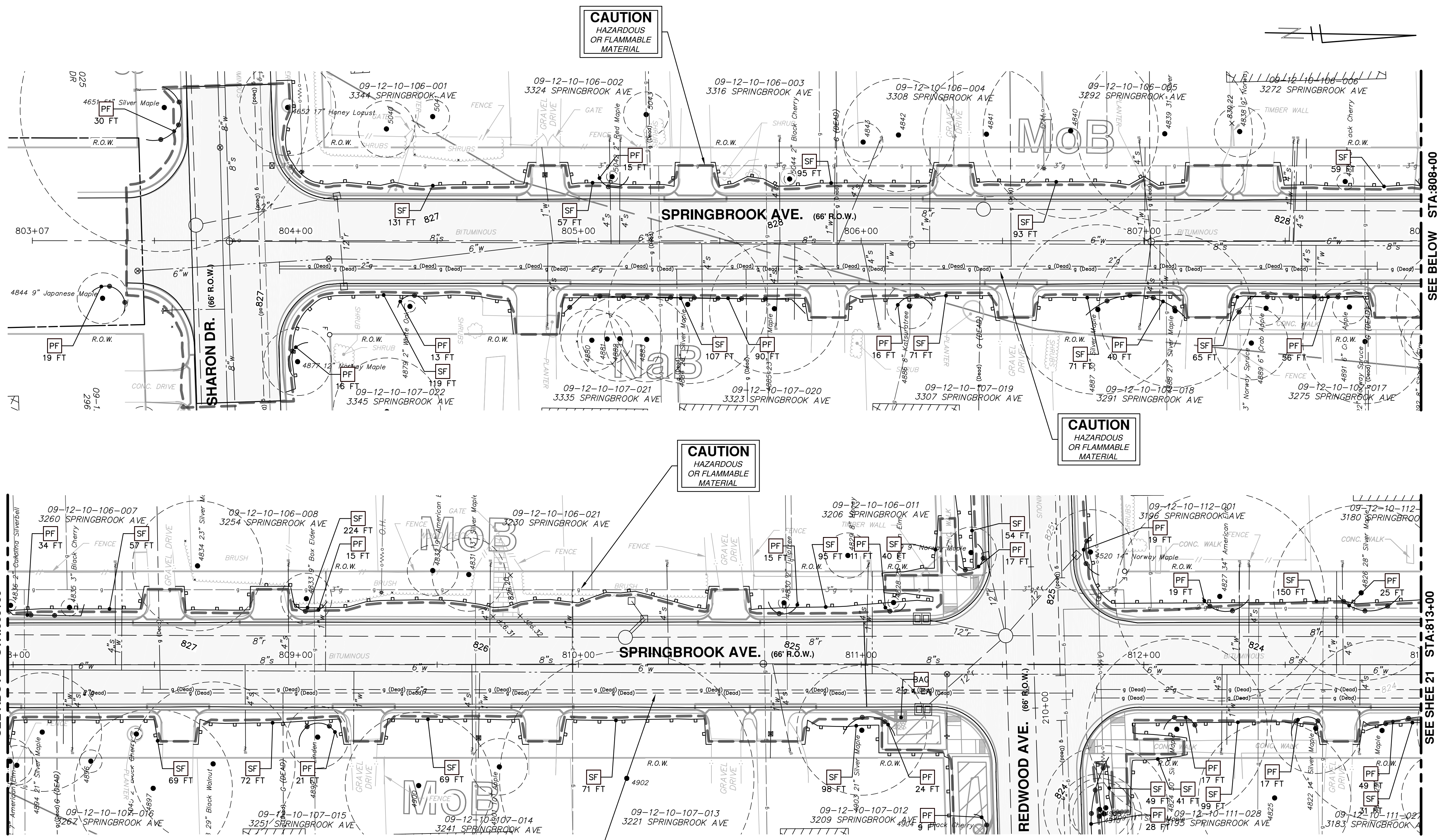


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**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**  
SOIL EROSION & SEDIMENTATION CONTROL MEASURES  
NORDMAN ROAD POB TO POE

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	MECO SUBMITTAL	12/04/2015	JKA	AMW





SEE BELOW STA:808+00

SEE SHEE 21 STA:813+00

SESC MEASURES KEY	
KEY	DESCRIPTION
SF	INSTALL SILT FENCE
PF	INSTALL PROTECTIVE FENCING
BAG	SAND BAG
TM	TEMPORARY SEEDING/MULCH BLANKET
MB	MULCH BLANKET, HIGH VELOCITY
IP	INSTALL INLET FILTER

**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**  
 SOIL EROSION & SEDIMENTATION CONTROL MEASURES  
 SPRINGBROOK AVENUE - POB TO STA. 813+00

SCALE PLAN: 1" = 20'  
 DRAWING No. 2015018-16

SHEET No. 16 OF 68

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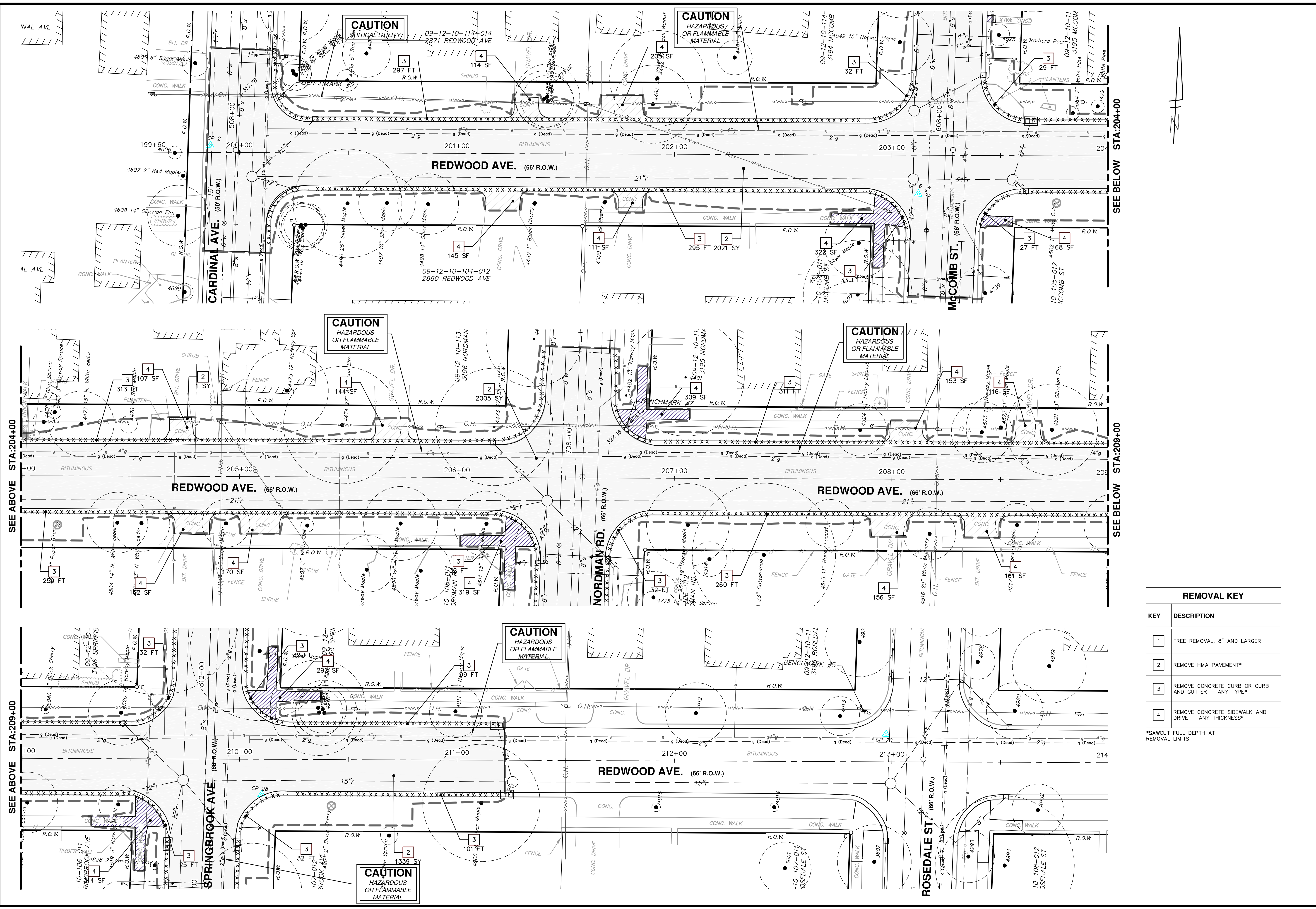
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00	12/04/2015	DATE	JKA	AMW
		REV.		







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REMOVAL KEY	
KEY	DESCRIPTION
1	TREE REMOVAL, 8" AND LARGER
2	REMOVE HMA PAVEMENT*
3	REMOVE CONCRETE CURB OR CURB AND GUTTER - ANY TYPE*
4	REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS*

\*SAW CUT FULL DEPTH AT REMOVAL LIMITS

**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**  
 REMOVALS  
 REDWOOD AVENUE POB TO POE

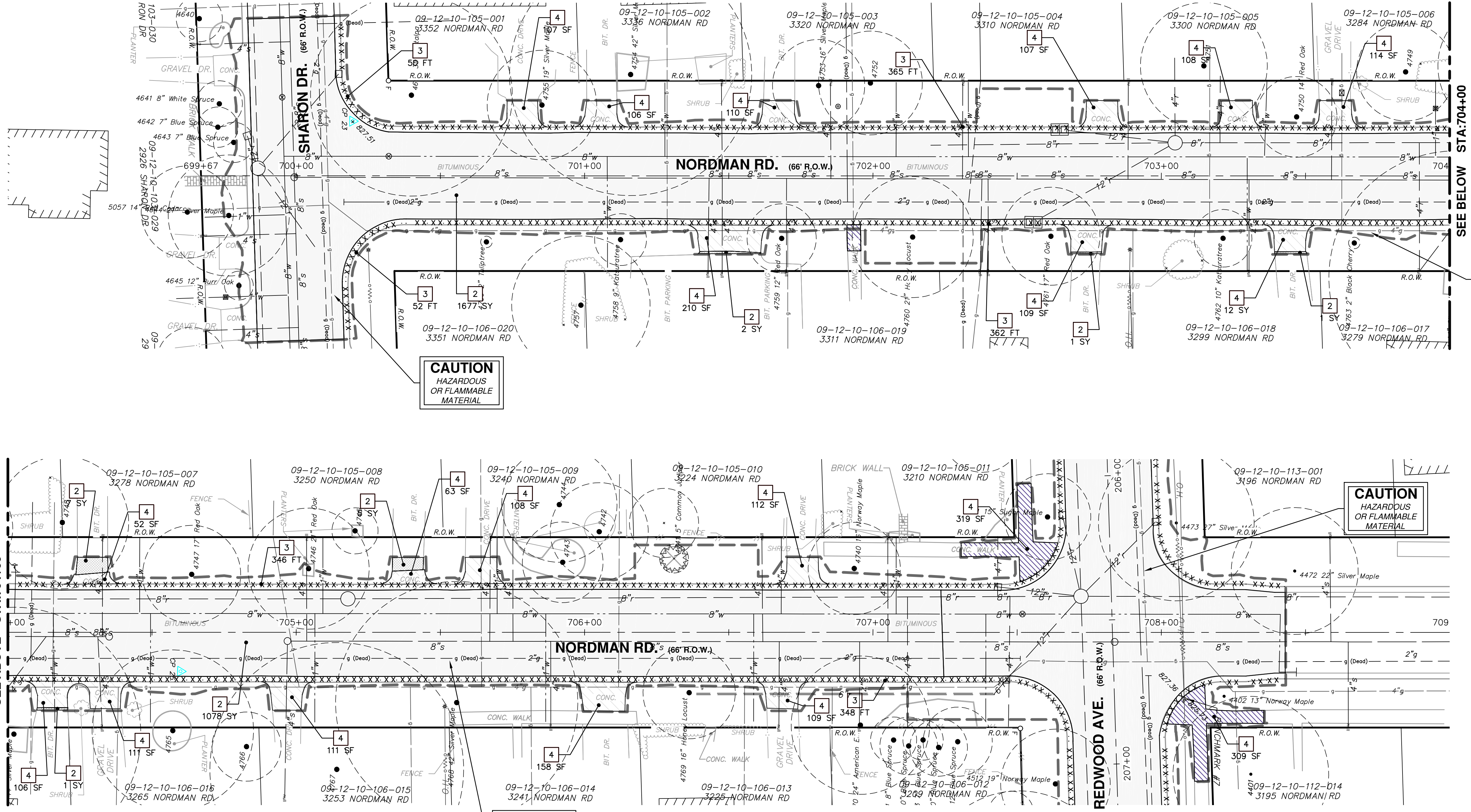
SCALE PLAN: 1" = 20'  
 DRAWING NO.: 2015018-18  
 SHEET NO.: 18 OF 68

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REV.	DATE	DESCRIPTION
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		AMW CHECKED





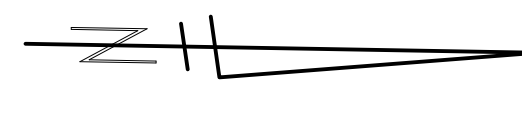
**CAUTION**  
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OR FLAMMABLE  
MATERIAL

**CAUTION**  
HAZARDOUS  
OR FLAMMABLE  
MATERIAL

**CAUTION**  
HAZARDOUS  
OR FLAMMABLE  
MATERIAL

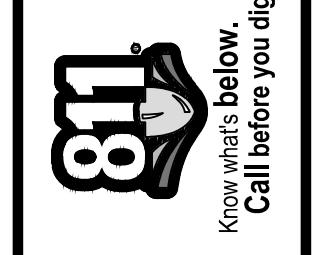
REMOVAL KEY	
KEY	DESCRIPTION
1	TREE REMOVAL, 8" AND LARGER
2	REMOVE HMA PAVEMENT*
3	REMOVE CONCRETE CURB OR CURB AND GUTTER - ANY TYPE*
4	REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS*

\*SAWCUT FULL DEPTH AT REMOVAL LIMITS



SEE BELOW STA: 704+00

SEE ABOVE STA: 704+00



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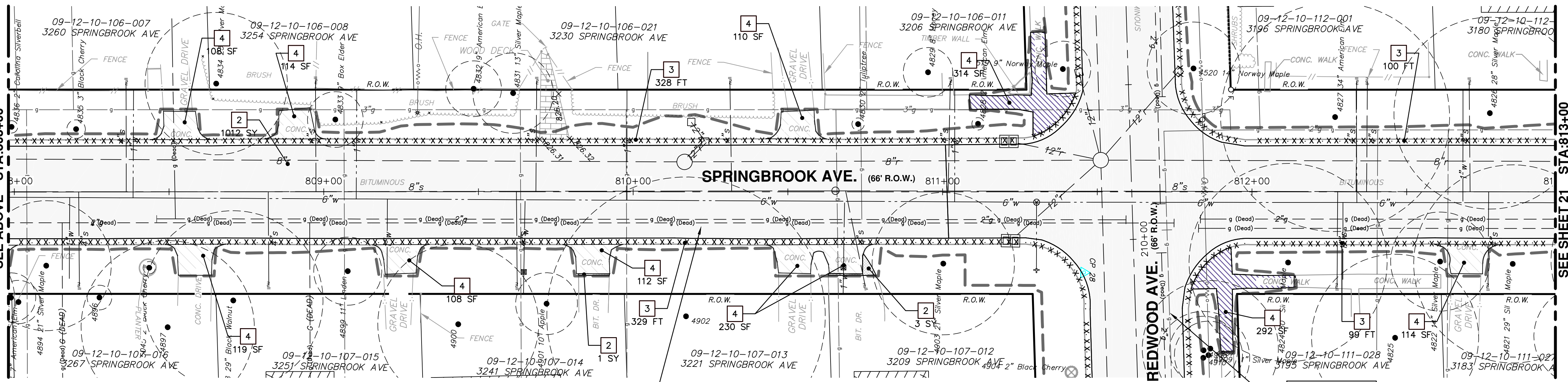
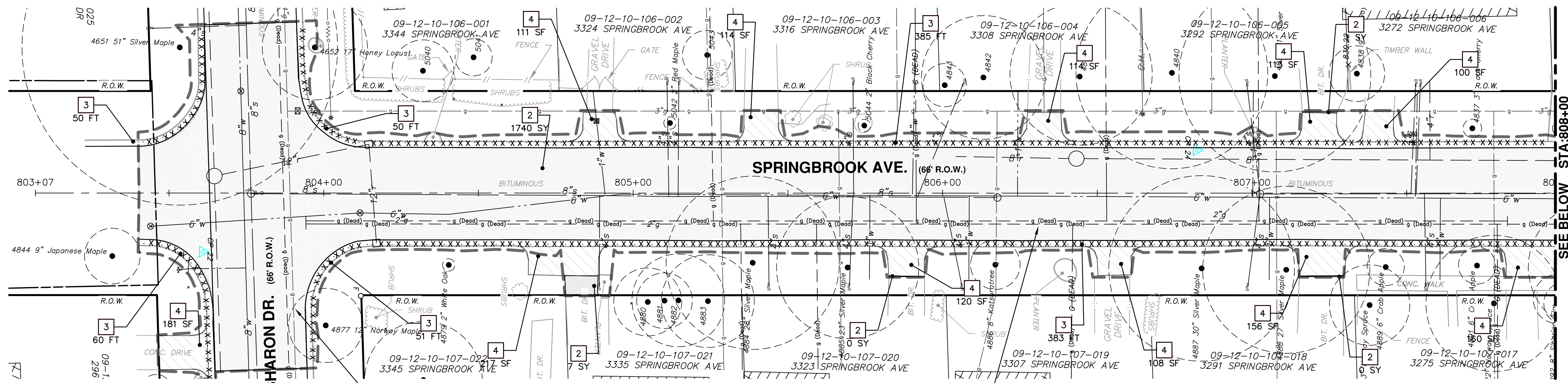
**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**  
REMOVALS  
NORDMAN ROAD POB TO POE

SCALE PLAN: 1" = 20'  
DRAWING No. 2015018-19

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	WDCO SUBMITTAL	12/04/2015	JKA	AMW



S:\Project Management\Design\2014018 Springwater Sub Ph II\Plan Production\Primary\2014018REM.dwg Dwg Created: 6-May-15 - \_c02 standard bw.stb - Plot Date: 8-Mar-16



REMOVAL KEY	
KEY	DESCRIPTION
1	TREE REMOVAL, 8" AND LARGER
2	REMOVE HMA PAVEMENT*
3	REMOVE CONCRETE CURB OR CURB AND GUTTER - ANY TYPE*
4	REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS*

\*SAWCUT FULL DEPTH AT REMOVAL LIMITS

**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
 SCALE PLAN: 1" = 20'  
 DRAWING No. 2015018-20  
 SHEET No. 20 OF 68

**SPRINGBROOK AVENUE POB TO STA. 813+00**  
 REMOVALS  
 SPRINGBROOK AVENUE SUBDIVISION - PHASE II

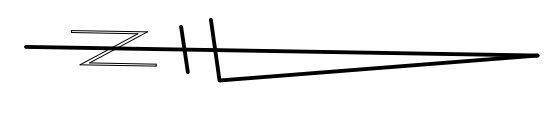
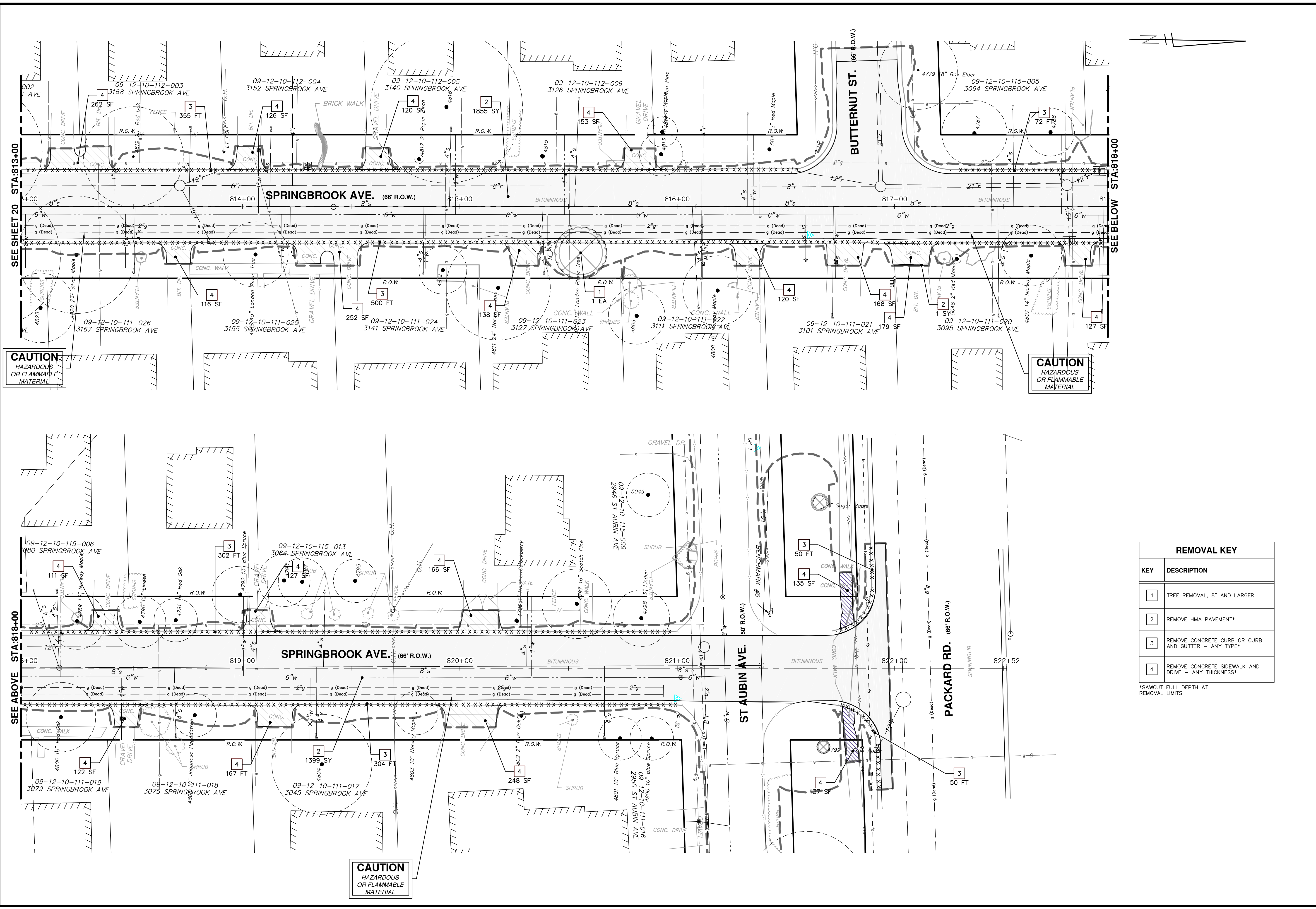
CITY OF ANN ARBOR  
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 ANN ARBOR, MI 48106-0667  
 ANN ARBOR: 734-754-4410  
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REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	WFCO SUBMITTAL	12/04/2015	JKA	AMW

811  
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S:\Project Management\Design\2014018\_Springwater Sub Ph II\Plan Production\Primary\2014018REM.dwg Dwg Created: 6-May-15 - \_c02 standard bw.stb - Plot Date: 8-Mar-16



**CAUTION**  
HAZARDOUS  
OR FLAMMABLE  
MATERIAL

**CAUTION**  
HAZARDOUS  
OR FLAMMABLE  
MATERIAL

**CAUTION**  
HAZARDOUS  
OR FLAMMABLE  
MATERIAL

REMOVAL KEY	
KEY	DESCRIPTION
1	TREE REMOVAL, 8" AND LARGER
2	REMOVE HMA PAVEMENT*
3	REMOVE CONCRETE CURB OR CURB AND GUTTER - ANY TYPE*
4	REMOVE CONCRETE SIDEWALK AND DRIVE - ANY THICKNESS*

\*SAWCUT FULL DEPTH AT REMOVAL LIMITS

**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**  
 REMOVALS  
 SPRINGBROOK AVENUE STA. 813+00 TO POE

SCALE PLAN: 1" = 20'  
 DRAWING No. 2015018-21  
 SHEET No. 21 OF 68

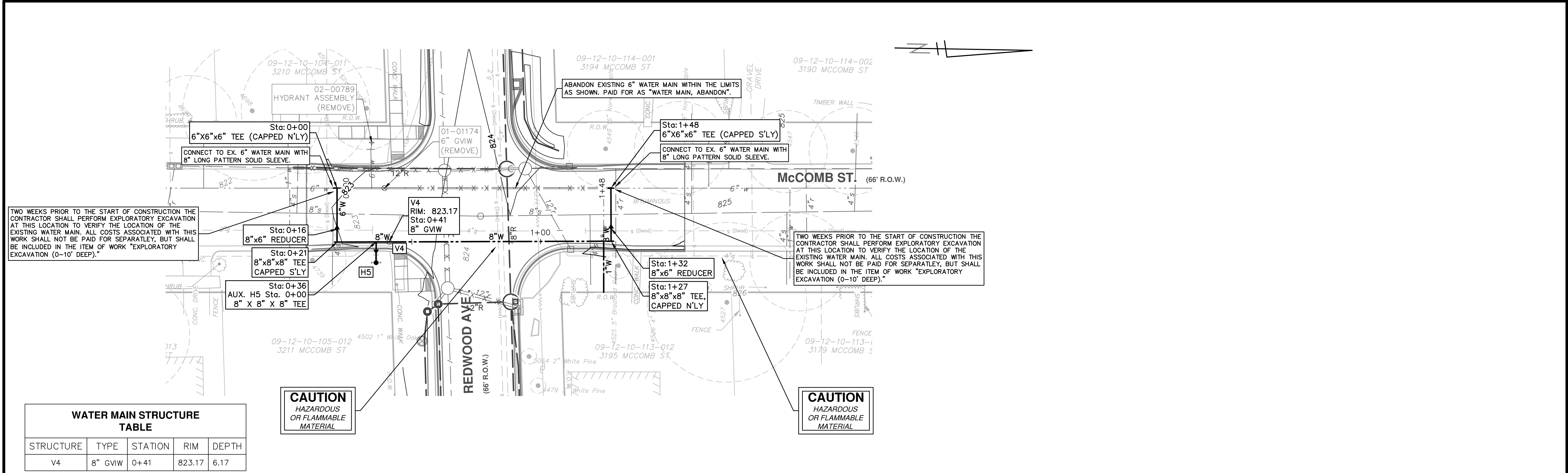
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 ANN ARBOR, MI 48106-0647  
 ANN ARBOR 734.754.4410  
 WWW.ANARBOR.MI.GOV

ANN ARBOR MICHIGAN

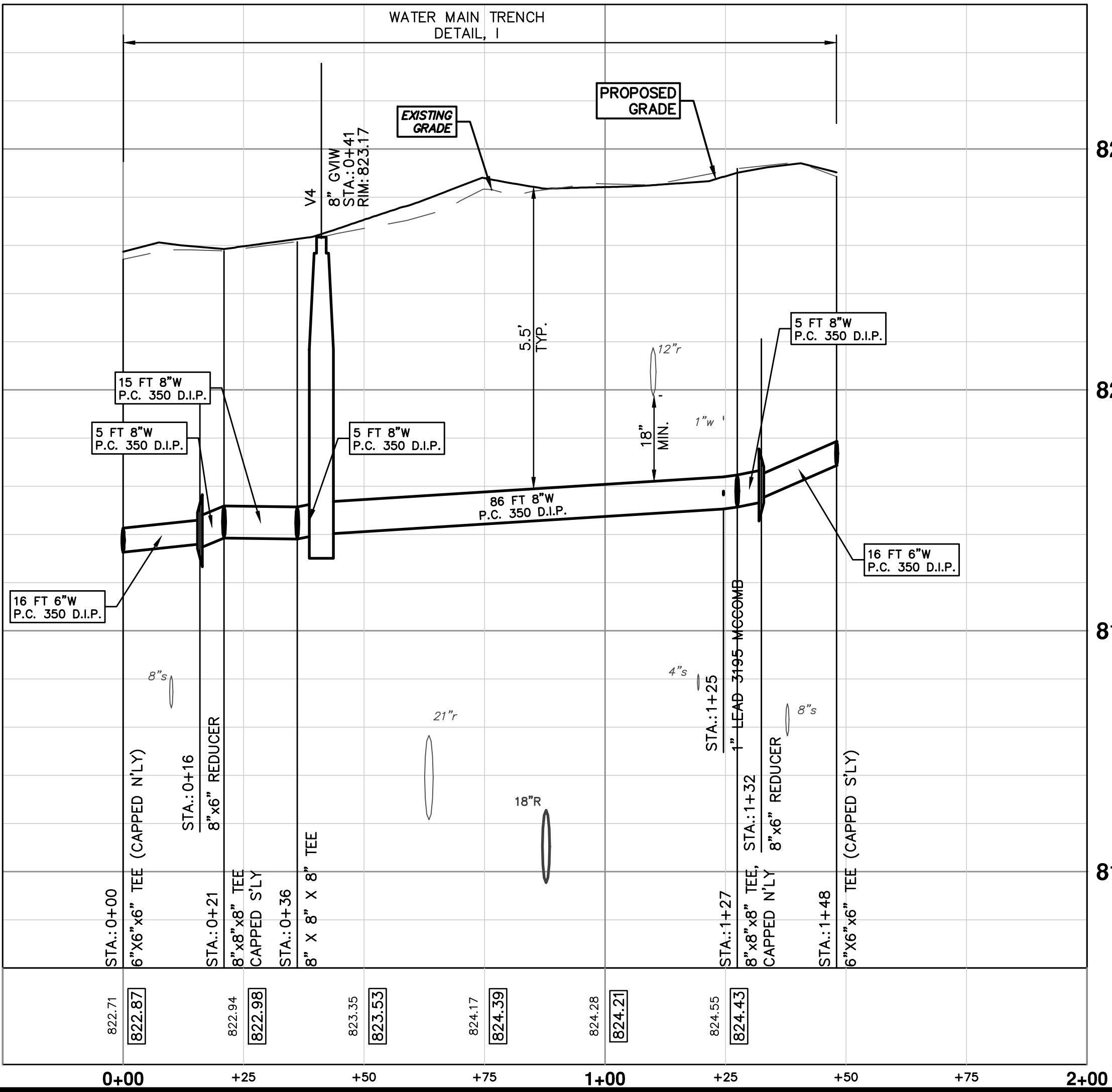
REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	WPCO SUBMITTAL	12/04/2015	JKA	AMW





**WATER MAIN STRUCTURE TABLE**

STRUCTURE	TYPE	STATION	RIM	DEPTH
V4	8" GVW	0+41	823.17	6.17



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**CITY OF ANN ARBOR MICHIGAN**

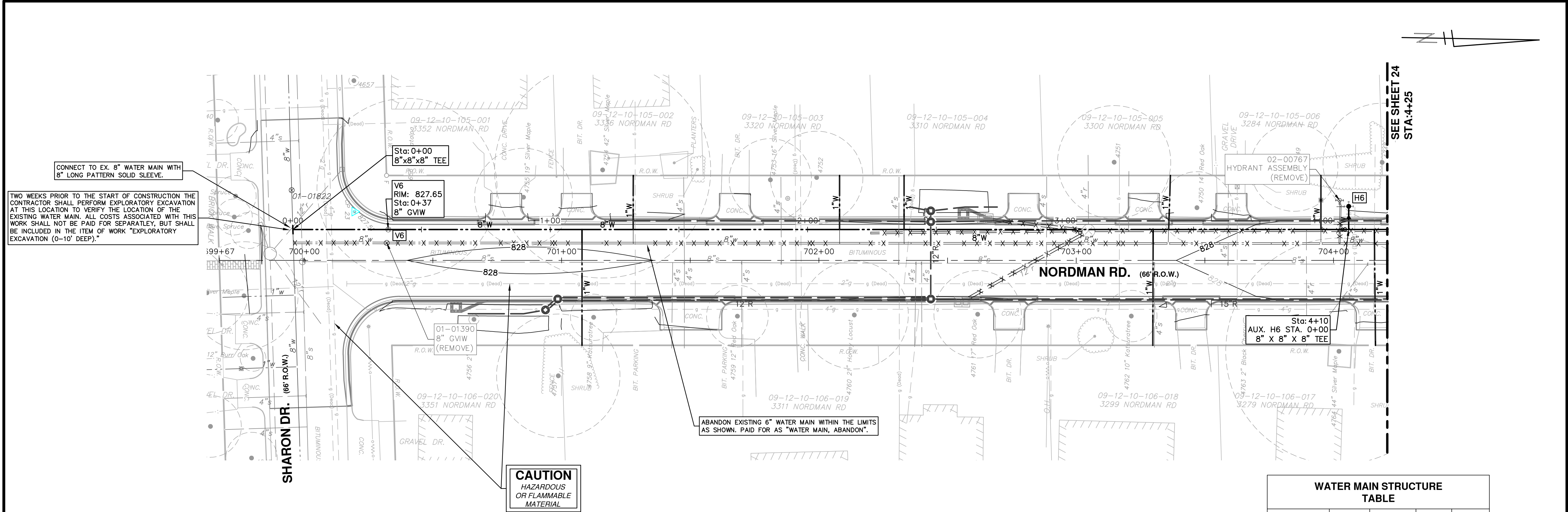
**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**  
WATER MAIN  
MCCOMB ST. WATER POB TO POE

SCALE PLAN: 1" = 20'  
PROFILE: 1" = 2'

DRAWING No. 2015018-22

SHEET No. 22 OF 68

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	MOFCO SUBMITTAL	12/04/2015	JKA	AMW



TWO WEEKS PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATION AT THIS LOCATION TO VERIFY THE LOCATION OF THE EXISTING WATER MAIN. ALL COSTS ASSOCIATED WITH THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "EXPLORATORY EXCAVATION (0-10' DEEP)."

CONNECT TO EX. 8" WATER MAIN WITH 8" LONG PATTERN SOLID SLEEVE.

Sta: 0+00  
8" x 8" x 8" TEE  
V6  
RIM: 827.65  
Sta: 0+37  
8" GVW

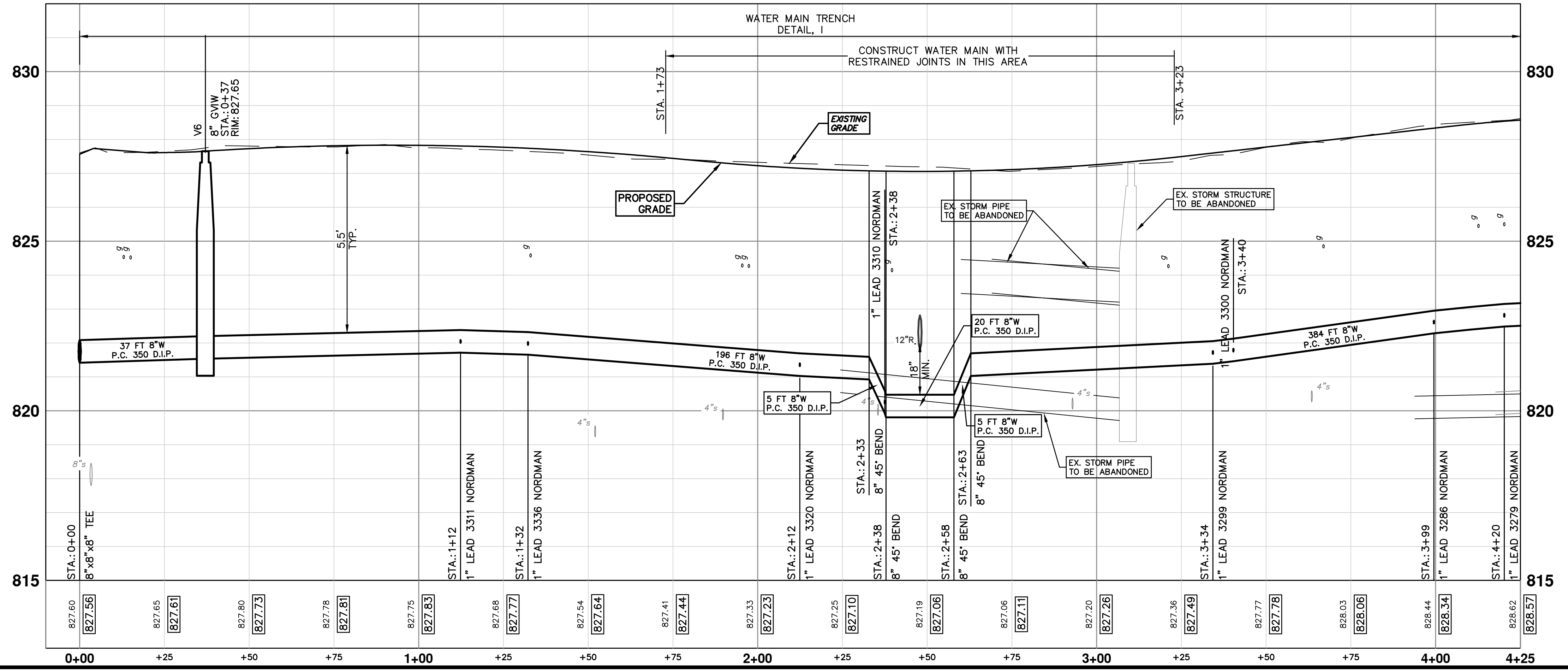
Sta: 4+10  
AUX. H6 STA. 0+00  
8" x 8" x 8" TEE

ABANDON EXISTING 6" WATER MAIN WITHIN THE LIMITS AS SHOWN. PAID FOR AS "WATER MAIN, ABANDON".

**CAUTION**  
HAZARDOUS  
OR FLAMMABLE  
MATERIAL

SEE SHEET 24  
STA: 4+25

WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
V6	8" GVW	0+37	827.65	6.12



**811**  
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MICHIGAN

---

**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
SPRINGWATER SUBDIVISION - PHASE II  
WATER MAIN

NORDMAN RD. WATER STA. 0+00 TO STA. 4+25

---

SHEET No. **23 OF 68**

DRAWING No. **2015018-23**

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SCALE PLAN: 1" = 20'  
PROFILE: 1" = 2'

DATE: 12/04/2015  
DRAWN: JKA  
CHECKED: AMW

---

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PUBLIC SERVICE  
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ANN ARBOR, MI 48106-0667  
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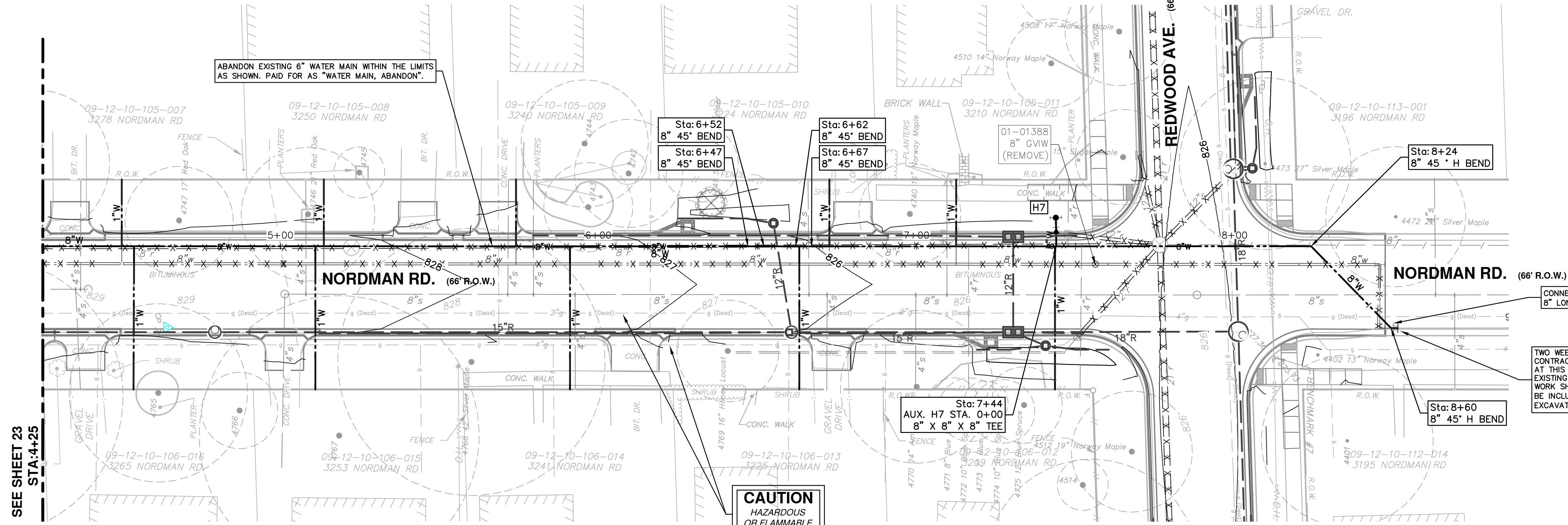
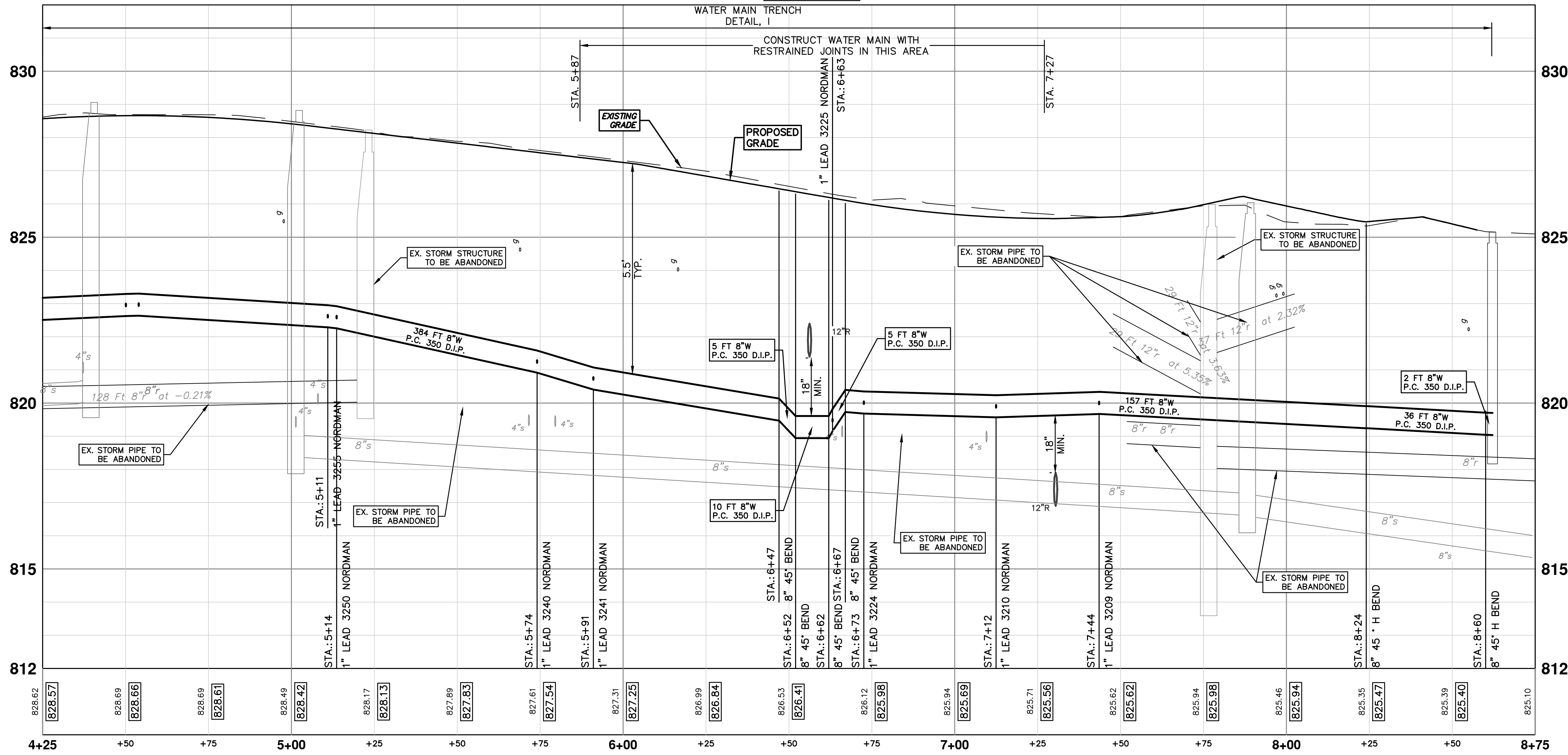
REV. NO. DESCRIPTION DATE

00	MEFO SUBMITTAL	12/04/2015
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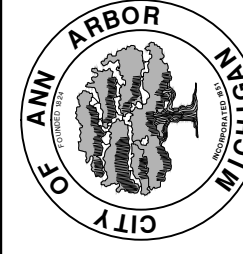
S:\Project Management\Design\2014018 Springwater Sub Ph II\Plan Production\Primary\2014018\WATR NORDMAN SPRINGBROOK.dwg Dwg Created: 18-Sep-15 \_a2 standard bw.stb - Plot Date: 8-Mar-16

SEE SHEET 23  
STA: 4+25



NO	DATE	DESCRIPTION	REV.
00	12/04/2015	DATE	
		AMW	CHECKED
		JKA	DRAWN

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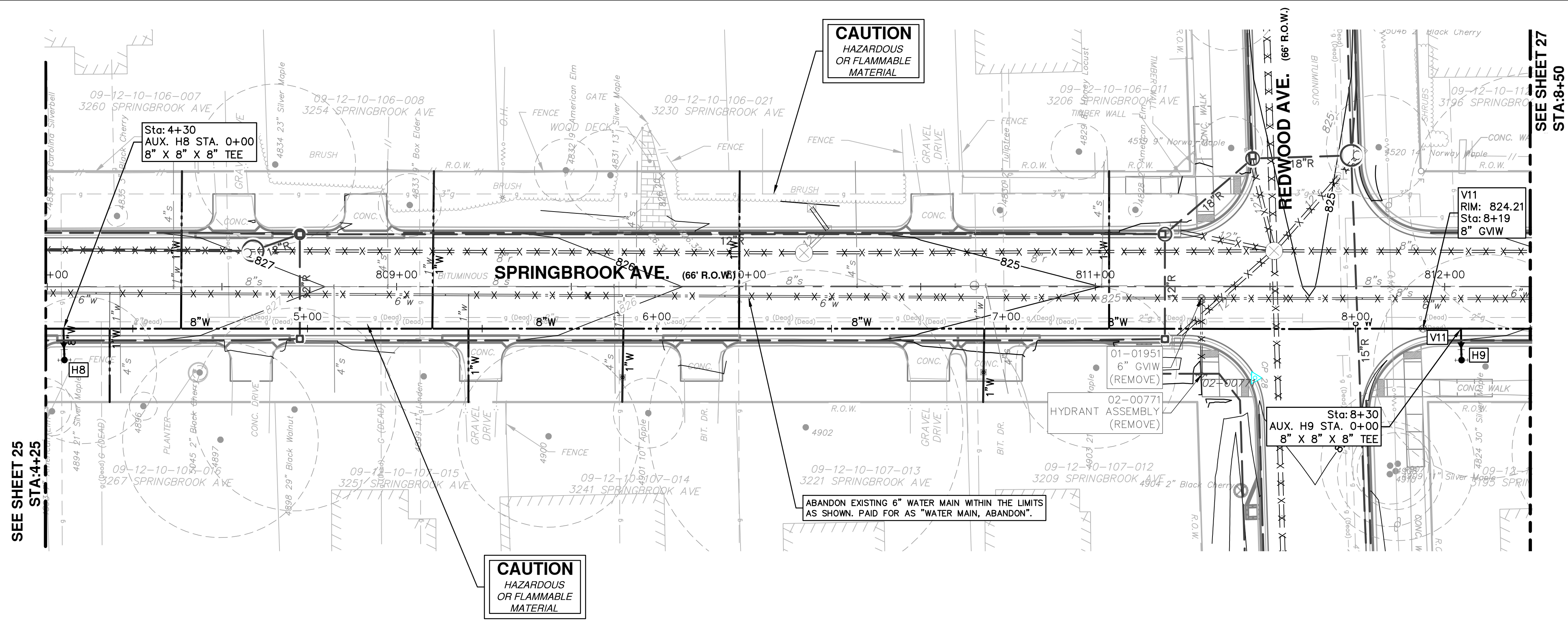
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR  
SPRINGWATER SUBDIVISION - PHASE II  
WATER MAIN

NORDMAN RD. WATER STA. 4+25 TO POE  
SCALE PLAN: 1" = 20'  
PROFILE: 1" = 2'  
DRAWING No. 2015018-24  
SHEET No. 24 OF 68



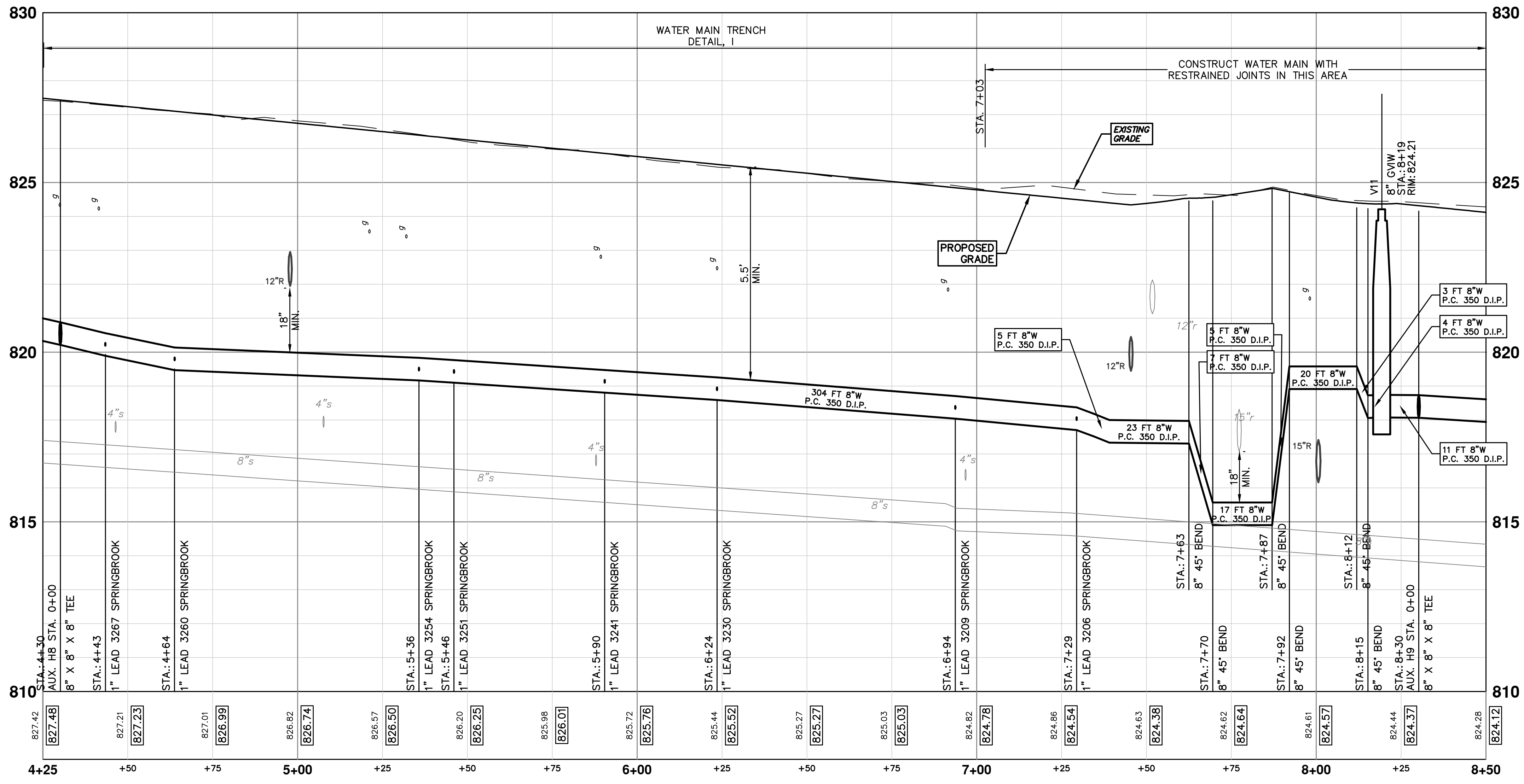






**WATER MAIN STRUCTURE TABLE**

STRUCTURE	TYPE	STATION	RIM	DEPTH
V11	8" GVW	8+19	824.21	6.13



**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**  
 WATER MAIN  
 SPRINGBROOK AVE. WATER STA. 4+25 TO STA. 8+50

SCALE PLAN: 1" = 20'  
 PROFILE: 1" = 2'

SHEET No. **26 OF 68**

**811**  
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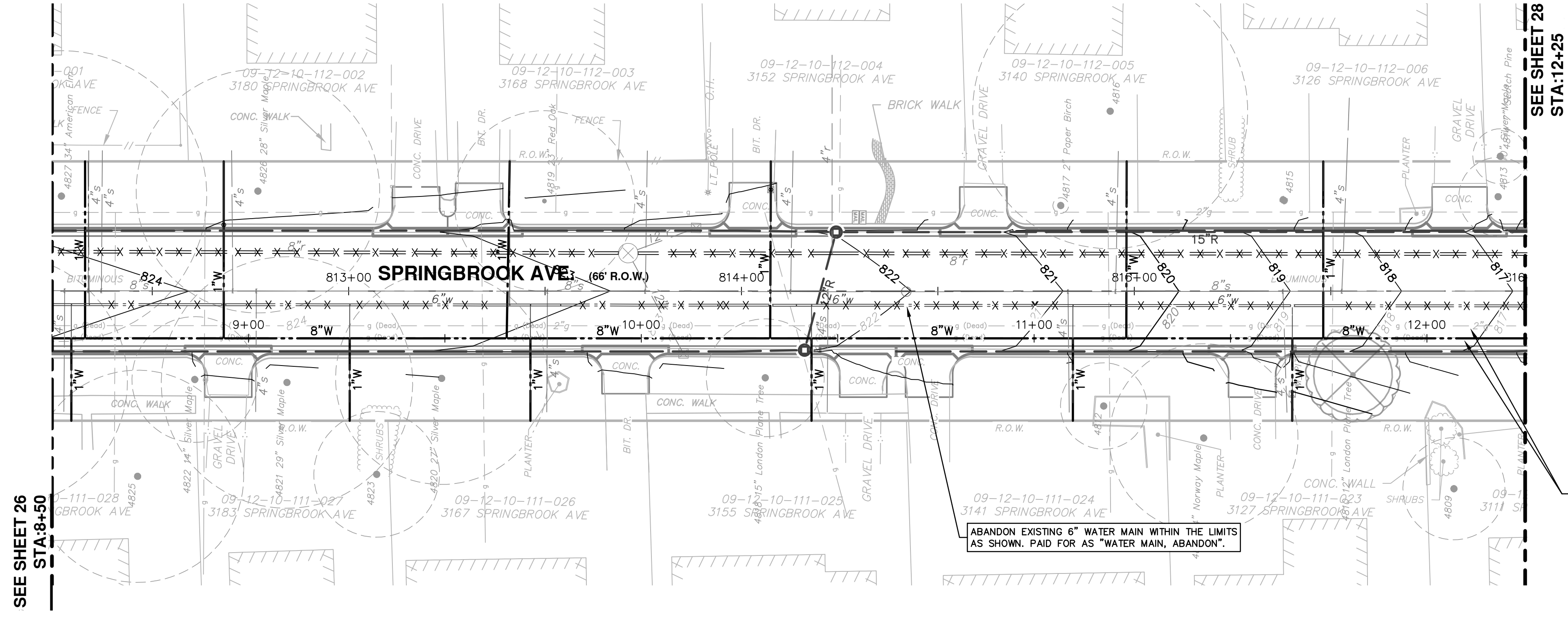
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 PUBLIC SERVICE  
 301 EAST HURON STREET  
 ANN ARBOR, MI 48106-0667  
 WWW.A2GOV.ORG

ANN ARBOR MICHIGAN CITY

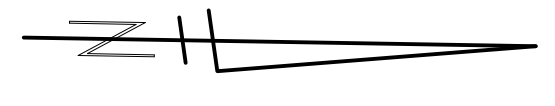
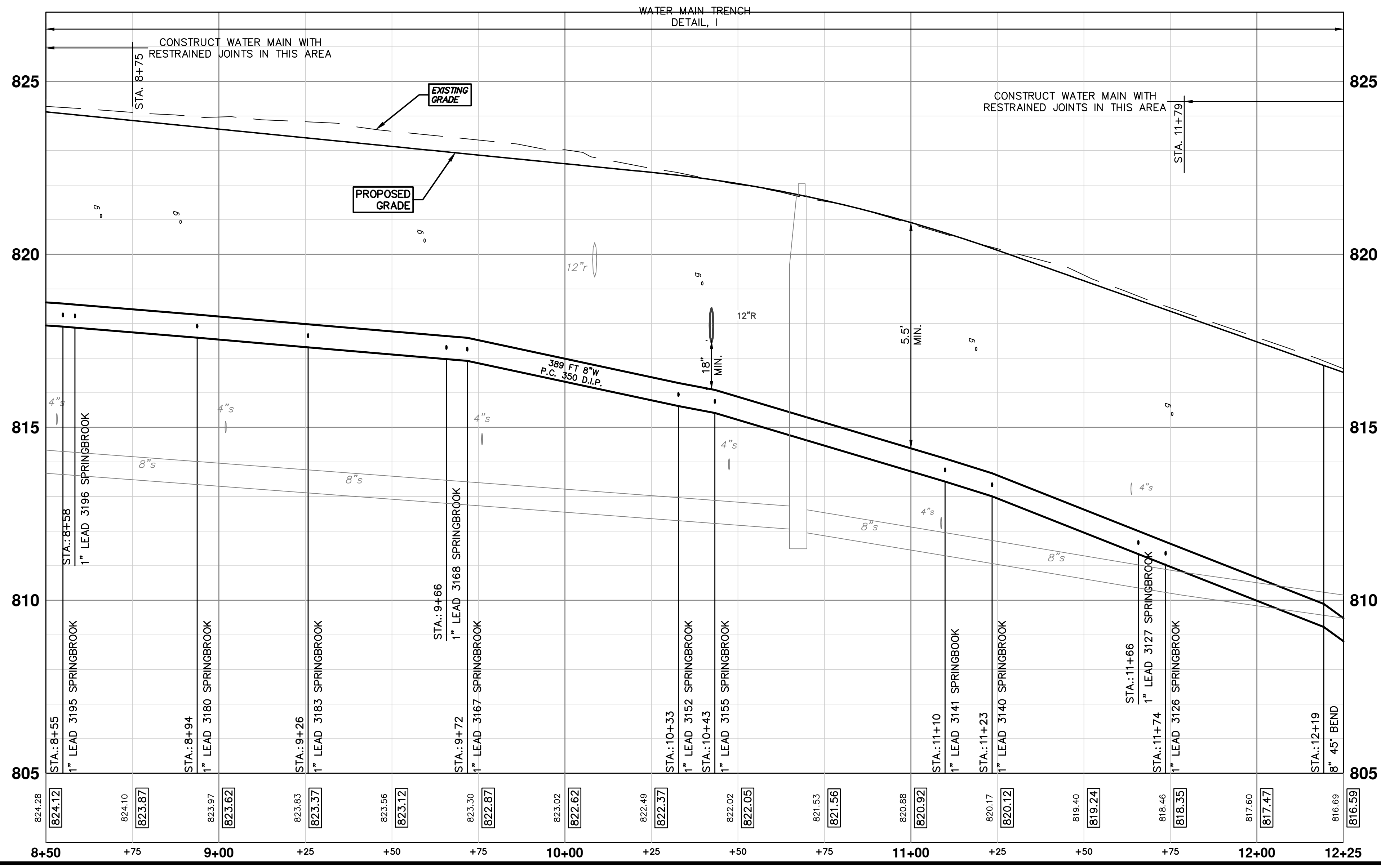
DATE: 12/04/2015  
 DRAWN: JKA  
 CHECKED: AMW

DESCRIPTION: MDCO SUBMITTAL  
 REV: 00





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HAZARDOUS  
OR FLAMMABLE  
MATERIAL



**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**  
 WATER MAIN  
 SPRINGBROOK AVE. WATER STA. 8+50 TO STA. 12+25

SCALE PLAN: 1" = 20' PROFILE: 1" = 2'  
 DRAWING No. 2015018-27

**811**  
 Know what's below.  
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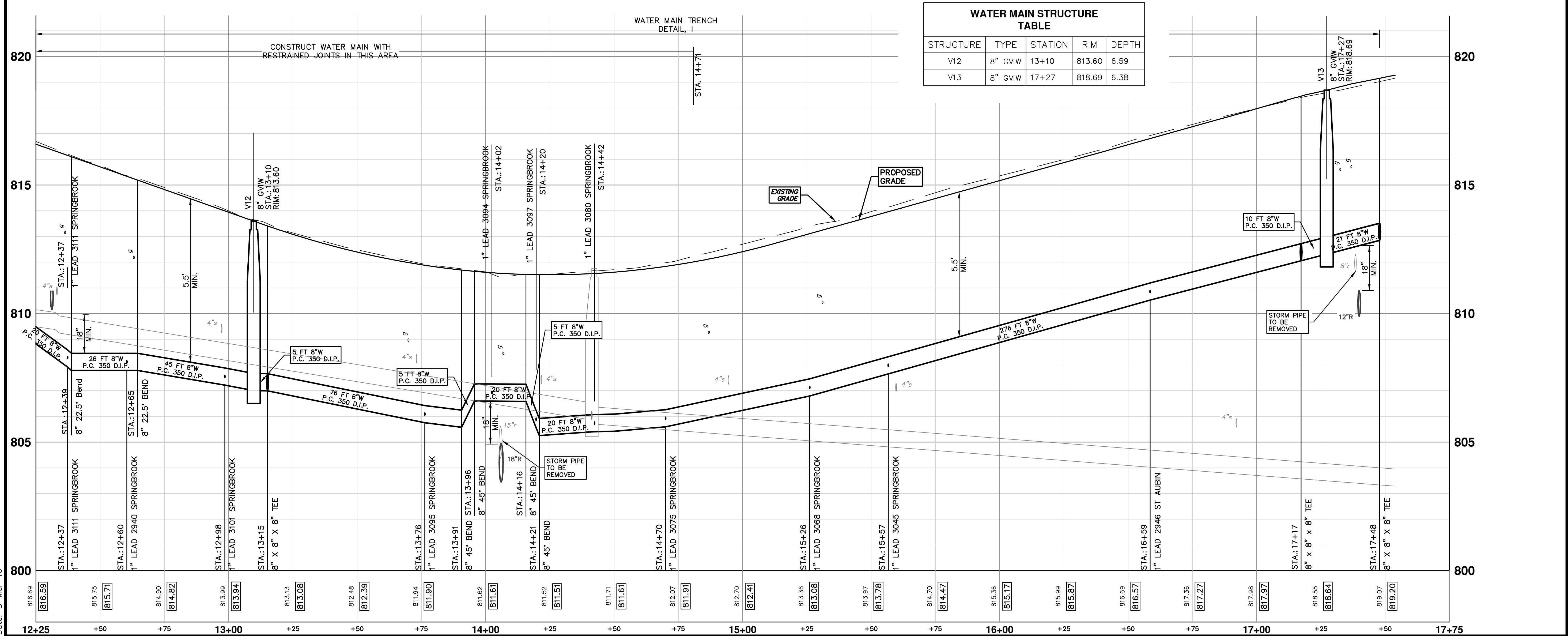
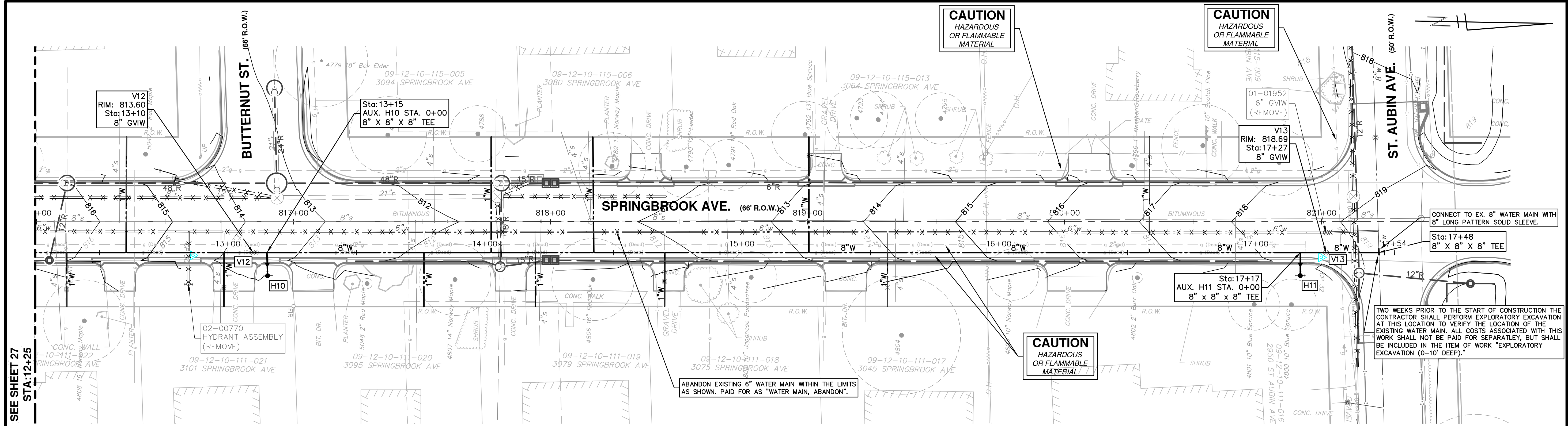
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REV. DESCRIPTION DATE DRAWN CHECKED

00	INFO SUBMITTAL	12/04/2015	JKA	AMW

SHEET No. 27 OF 68





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**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
SPRINGWATER SUBDIVISION - PHASE II  
WATER MAIN

SPRINGBROOK AVE. WATER STA. 12+25 TO POE

---

SCALE PLAN: 1" = 20'  
PROFILE: 1" = 2'

DRAWING NO.  
**2015018-28**

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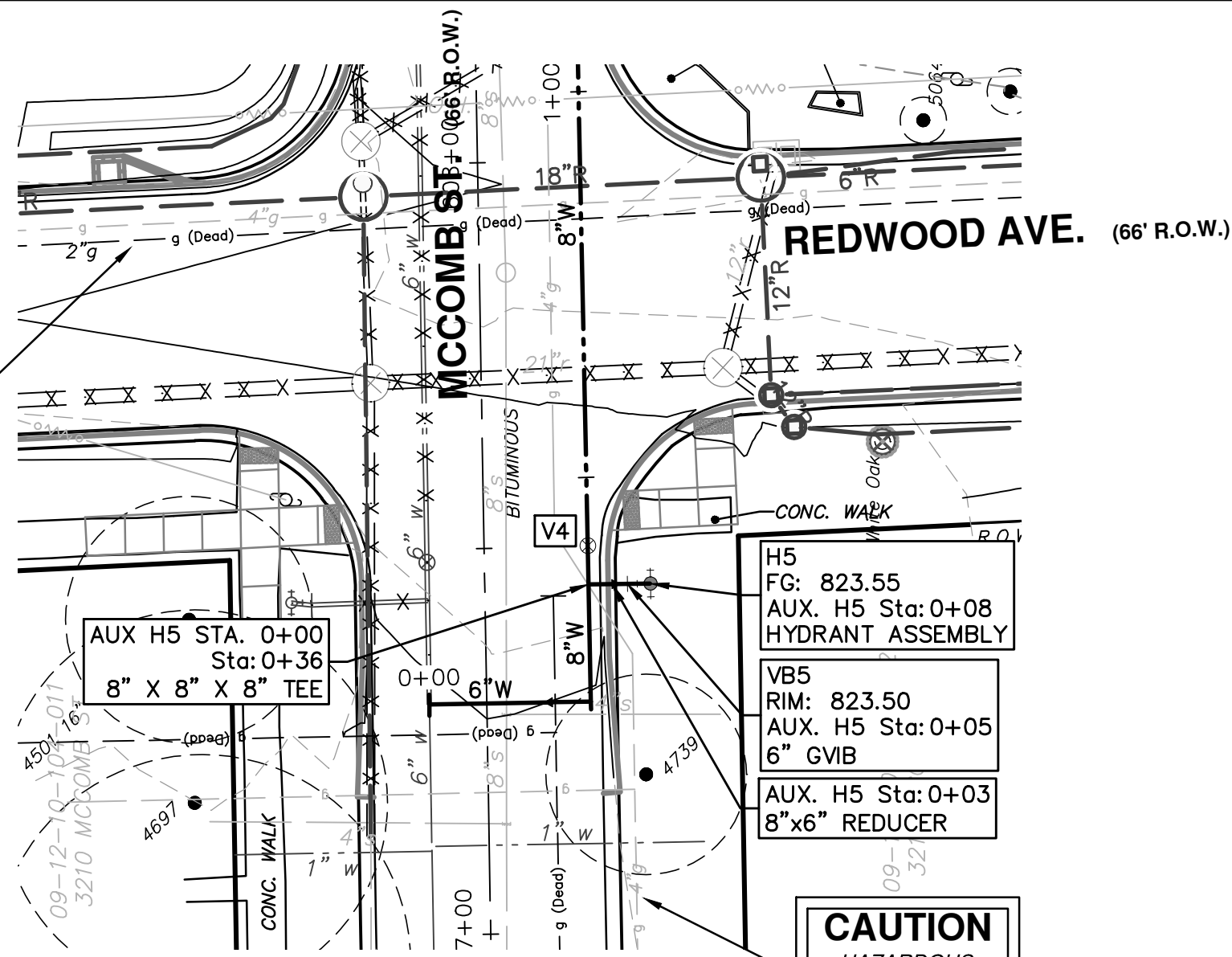
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**28 OF 68**

REV. DESCRIPTION DATE DRAWN CHECKED

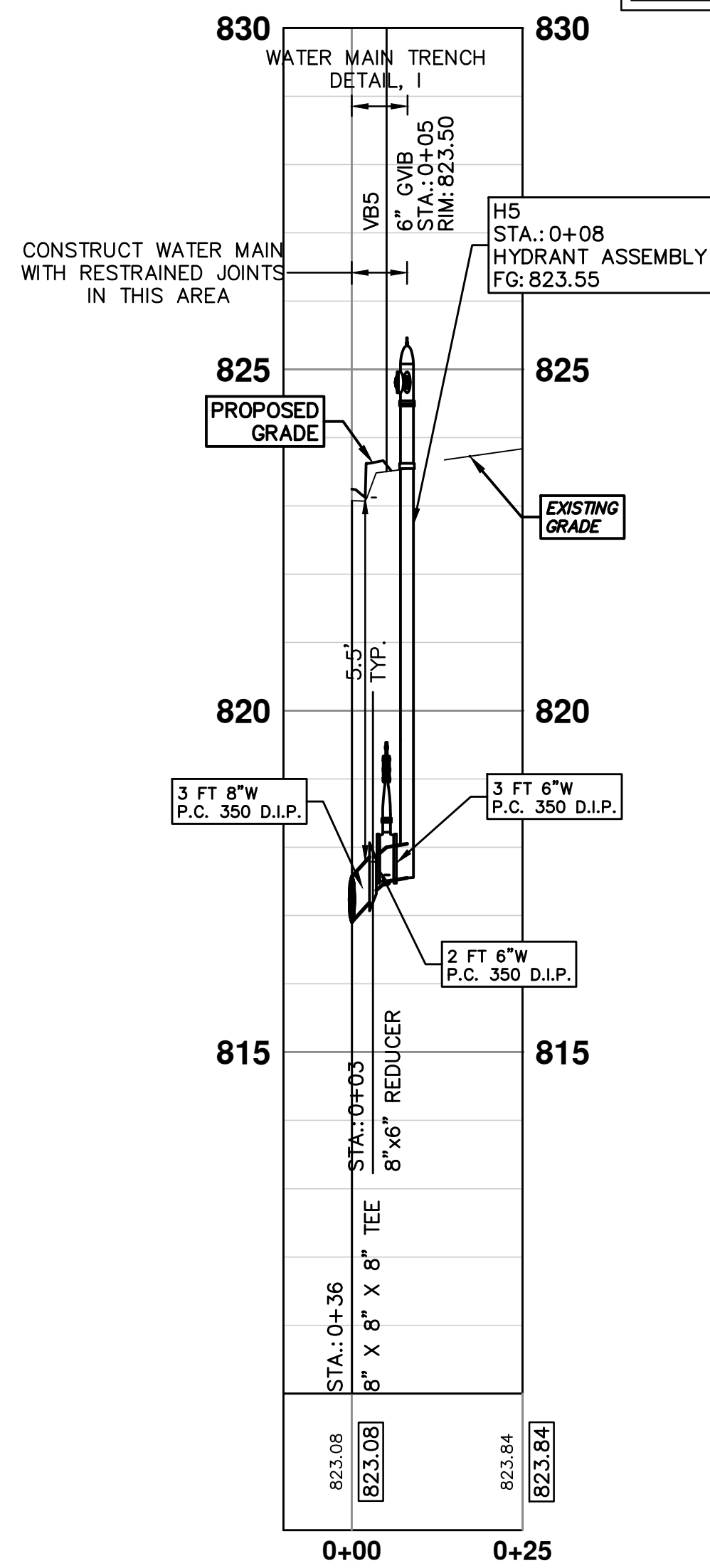
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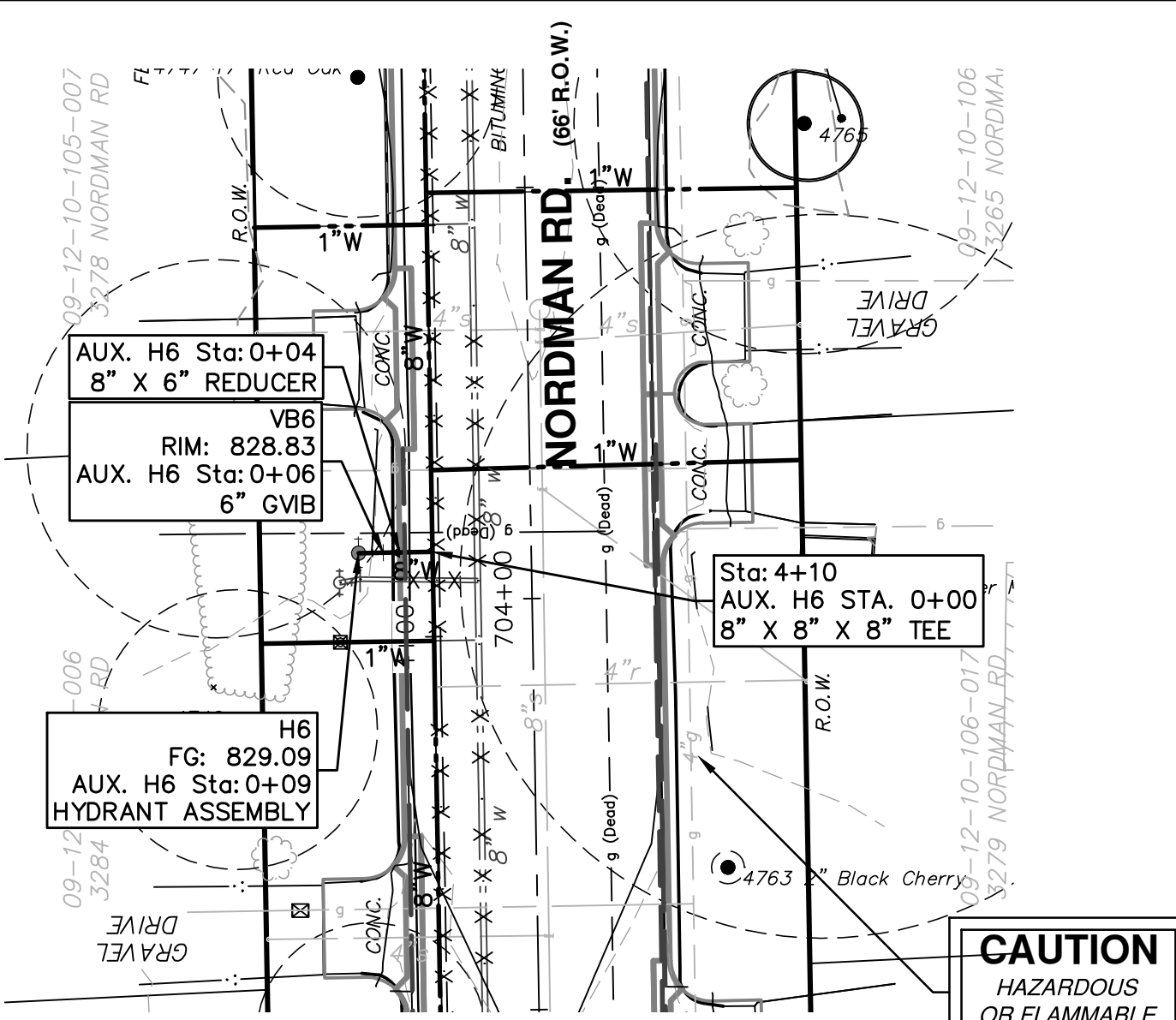
**CAUTION**  
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OR FLAMMABLE  
MATERIAL



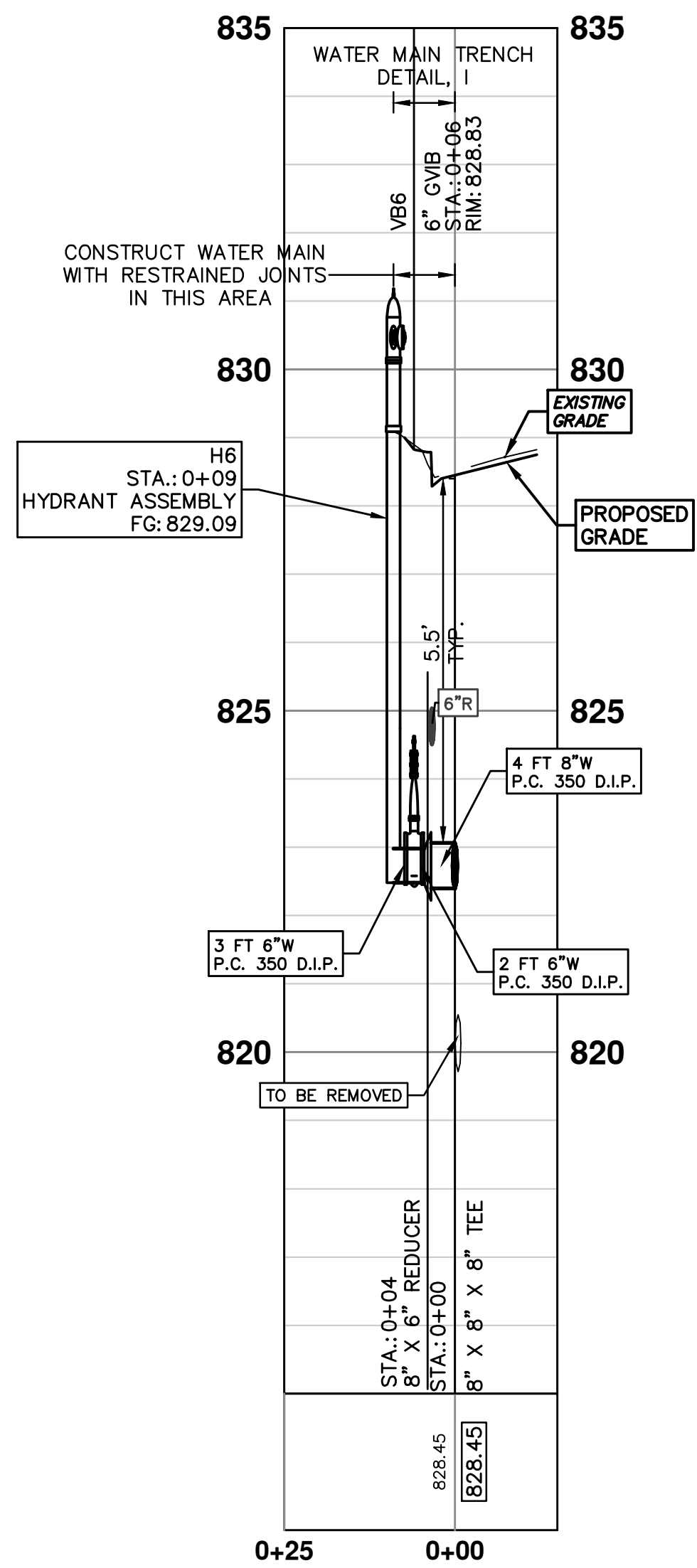
**CAUTION**  
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OR FLAMMABLE  
MATERIAL



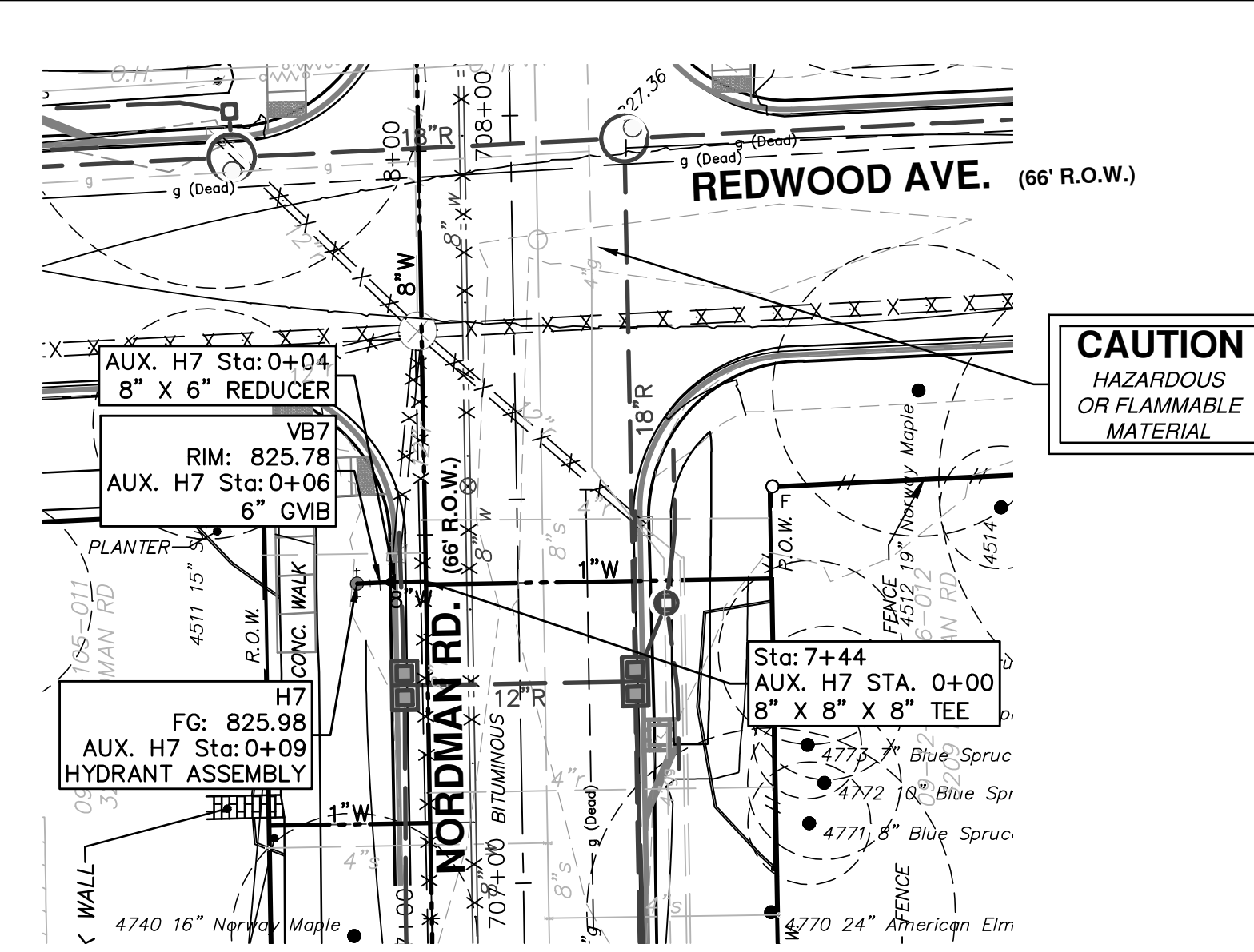
WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
VB5	6" GVB	0+05	823.50	6.00
H5	HYDRANT ASSEMBLY	0+08	823.55	6.00



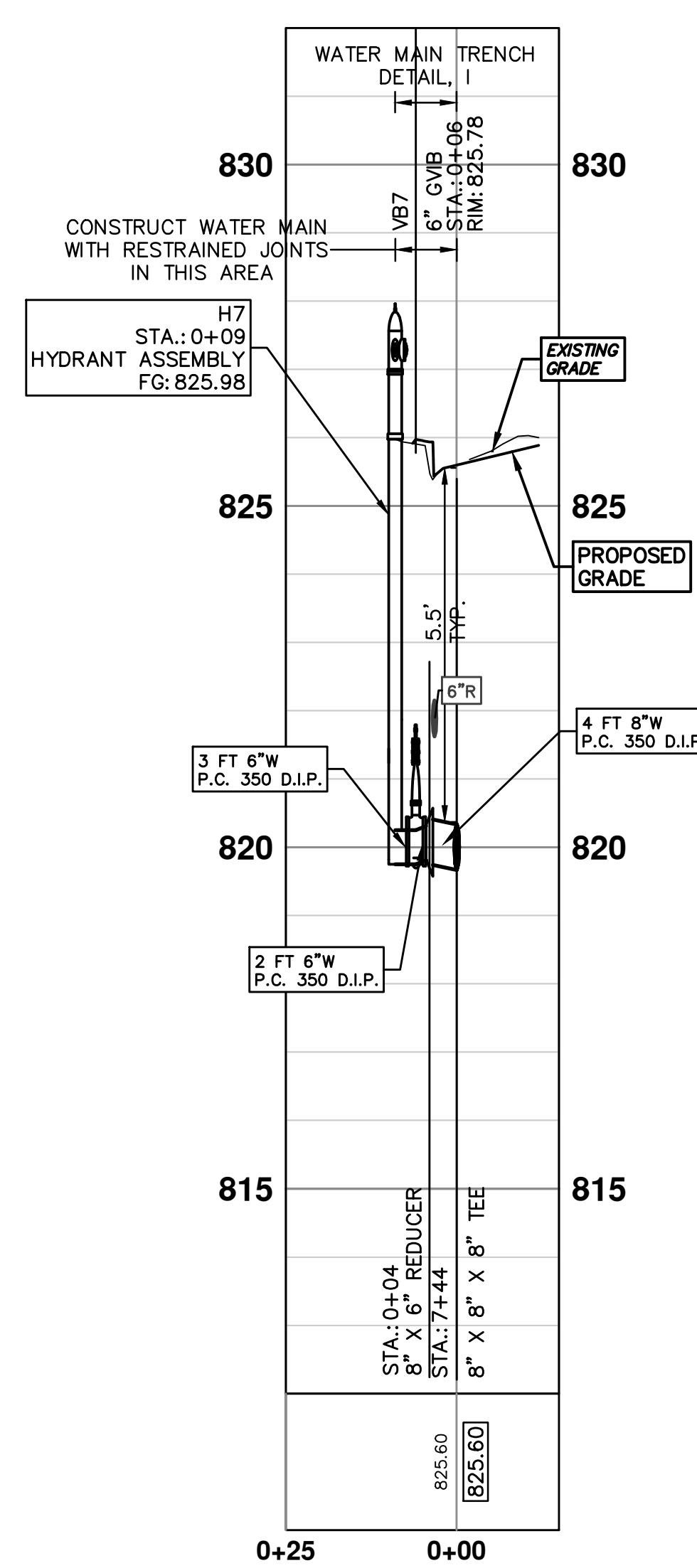
**CAUTION**  
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OR FLAMMABLE  
MATERIAL



WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
VB6	6" GVB	0+06	828.83	6.35
H6	HYDRANT ASSEMBLY	0+09	829.09	6.61



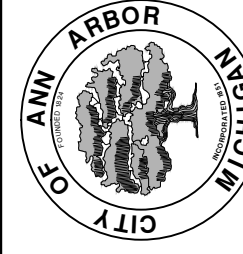
**CAUTION**  
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OR FLAMMABLE  
MATERIAL



WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
VB7	6" GVB	0+06	825.78	6.03
H7	HYDRANT ASSEMBLY	0+09	825.98	6.23



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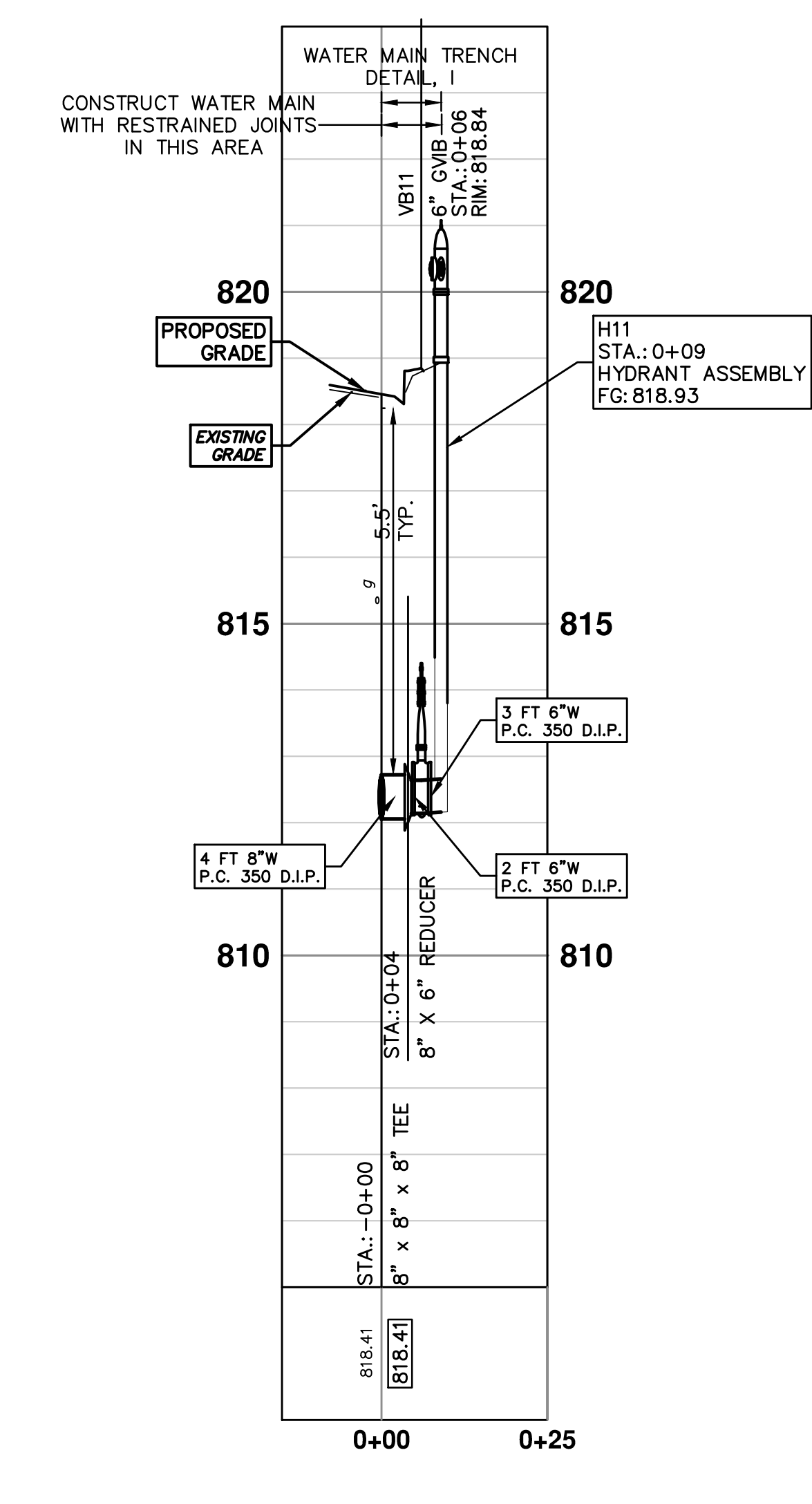
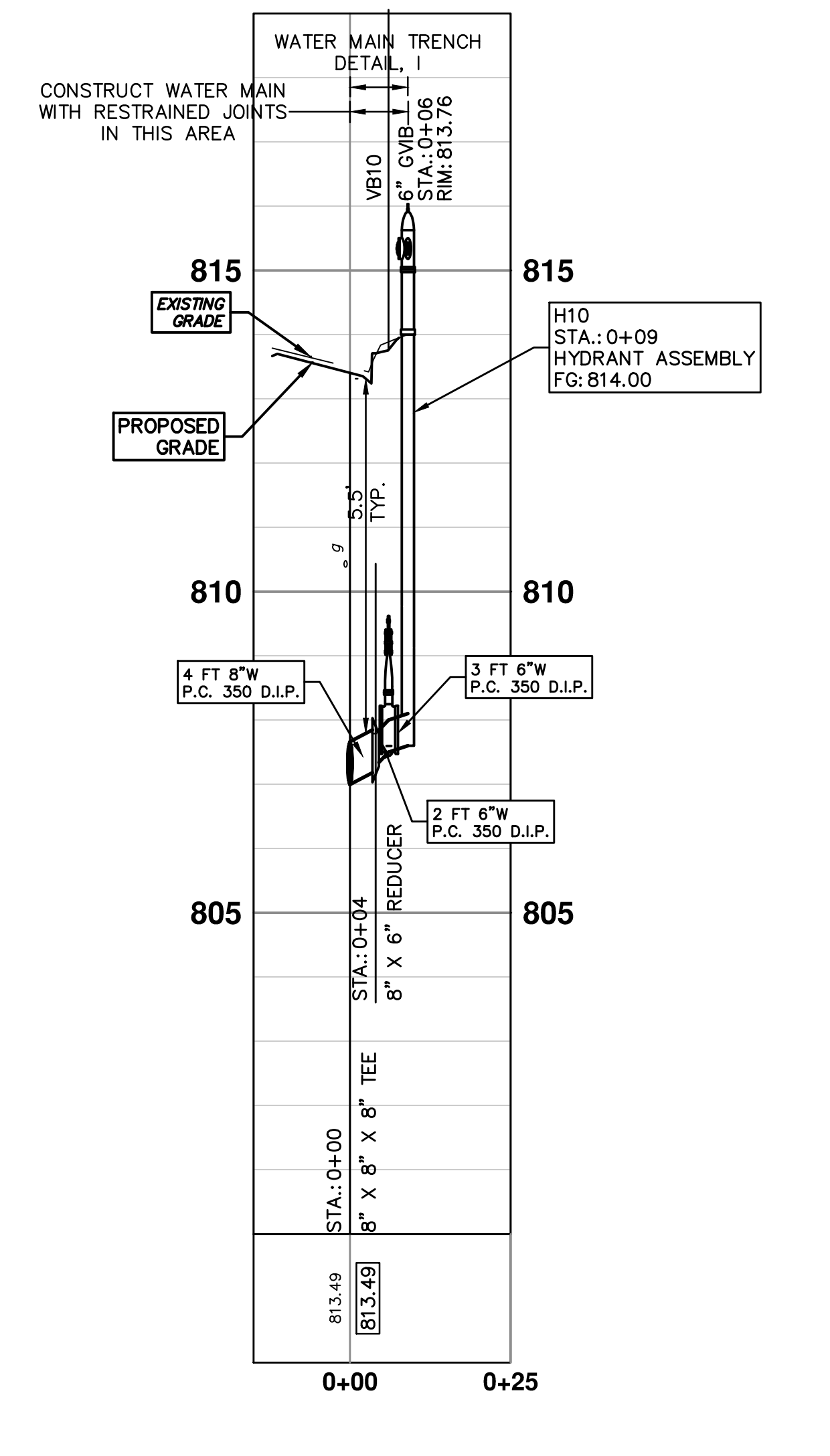
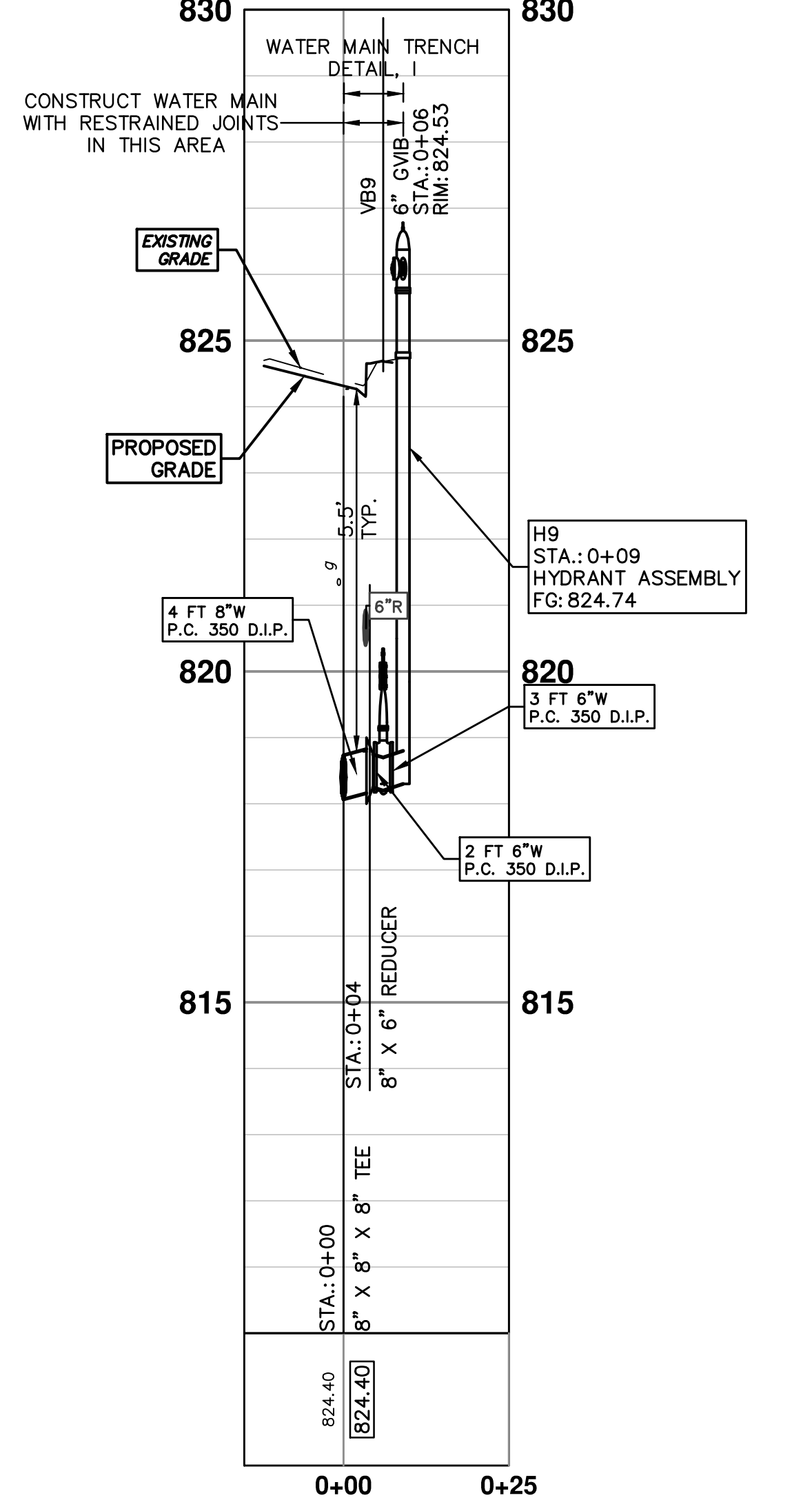
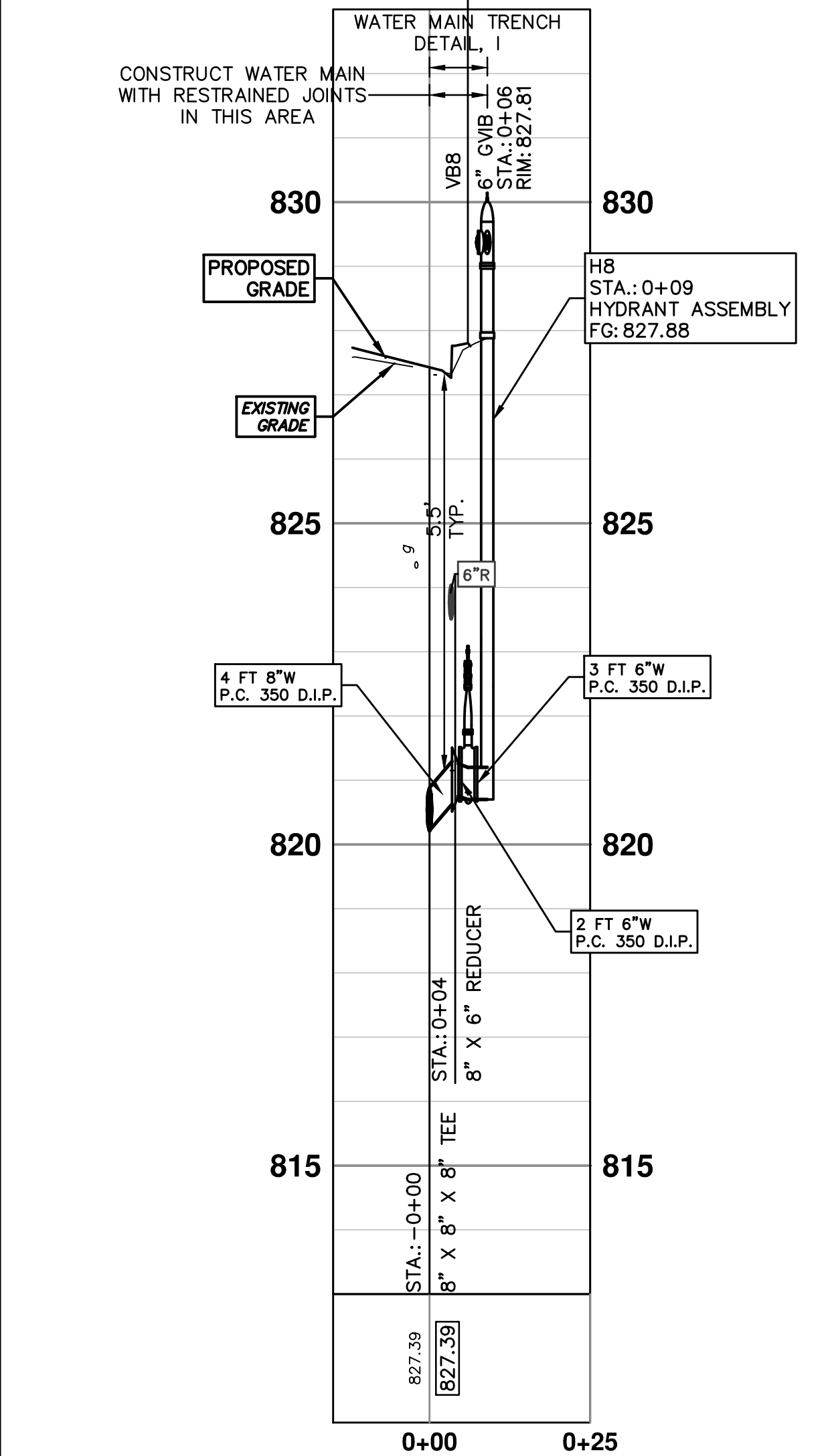
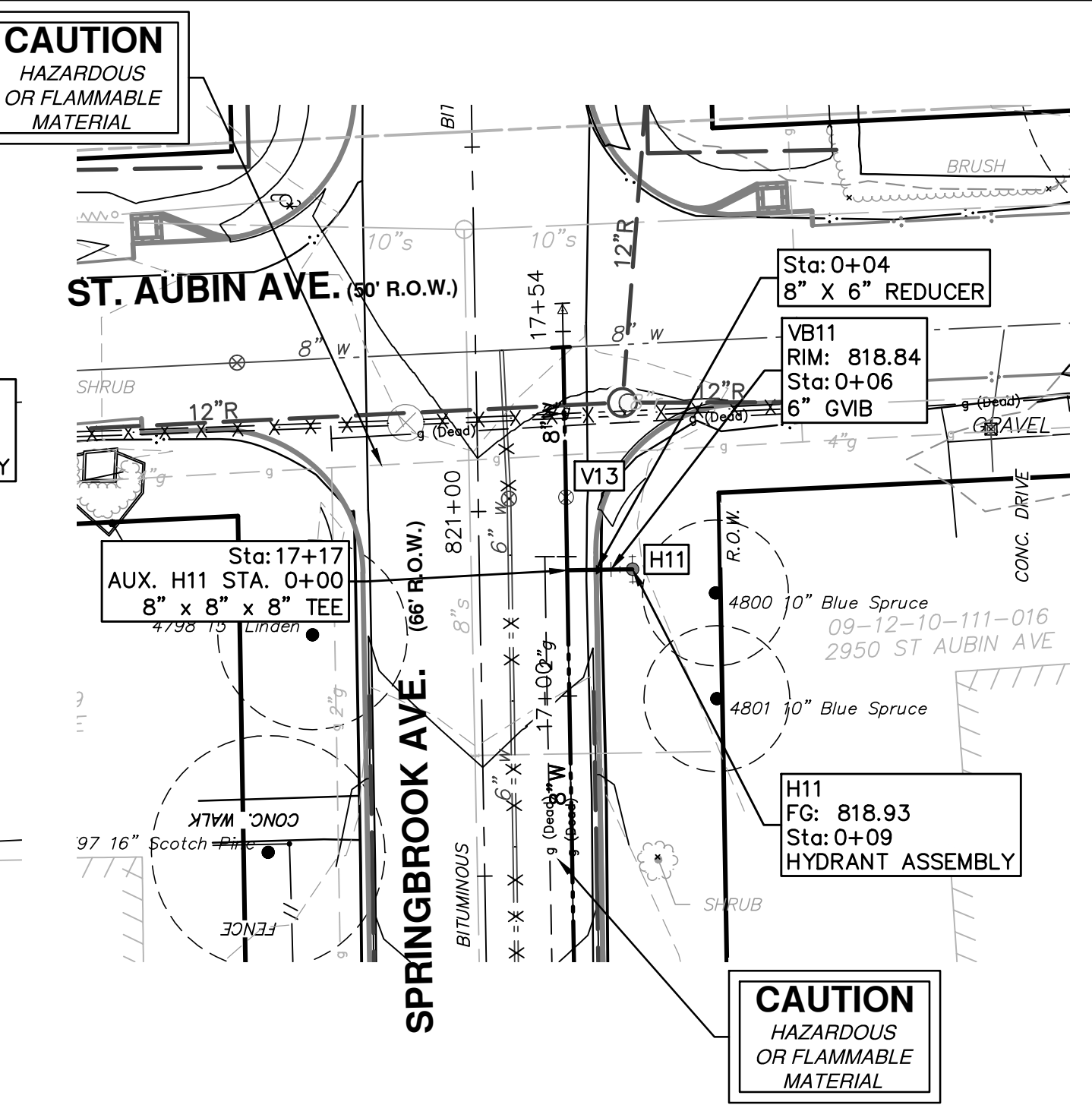
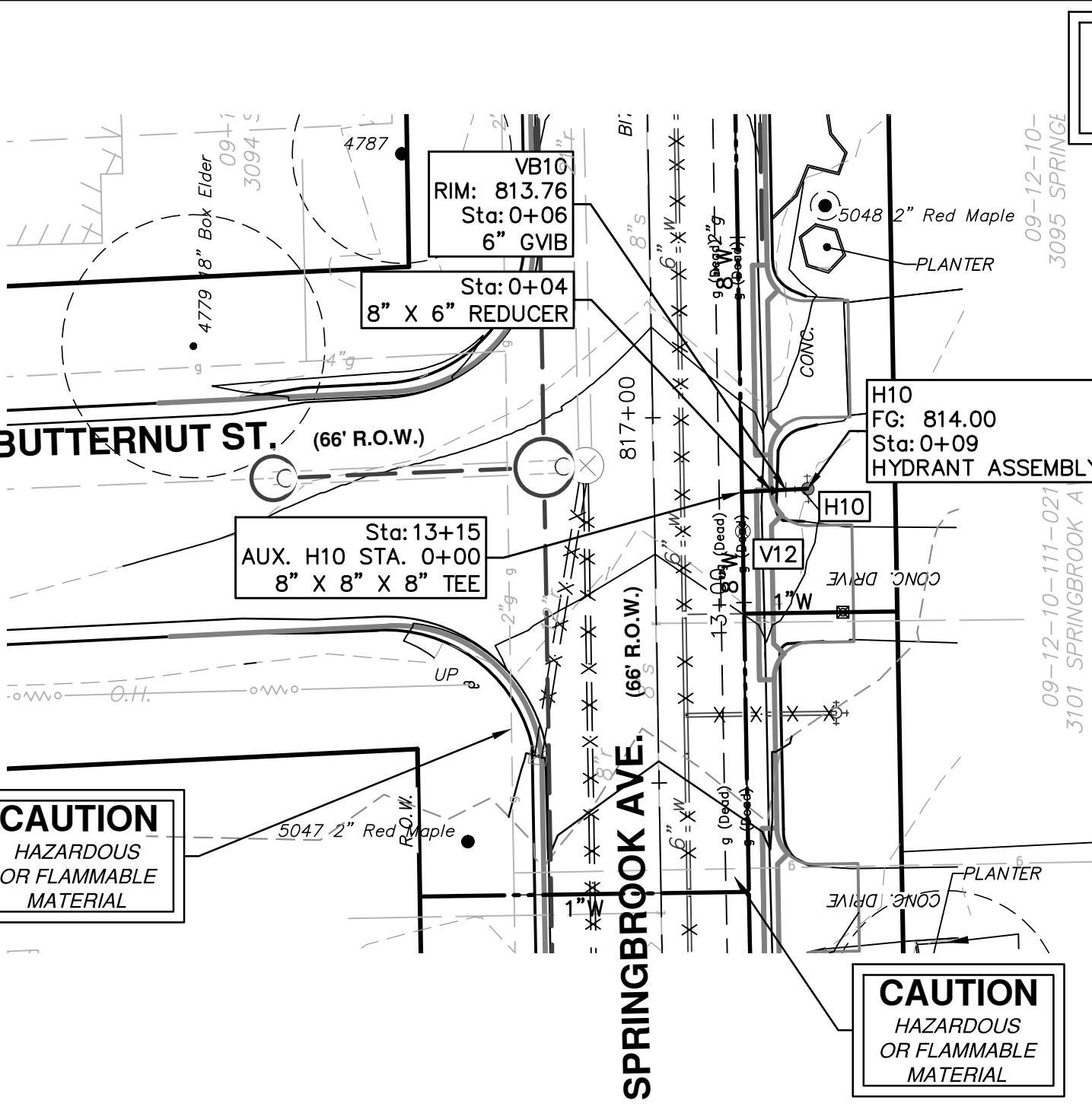
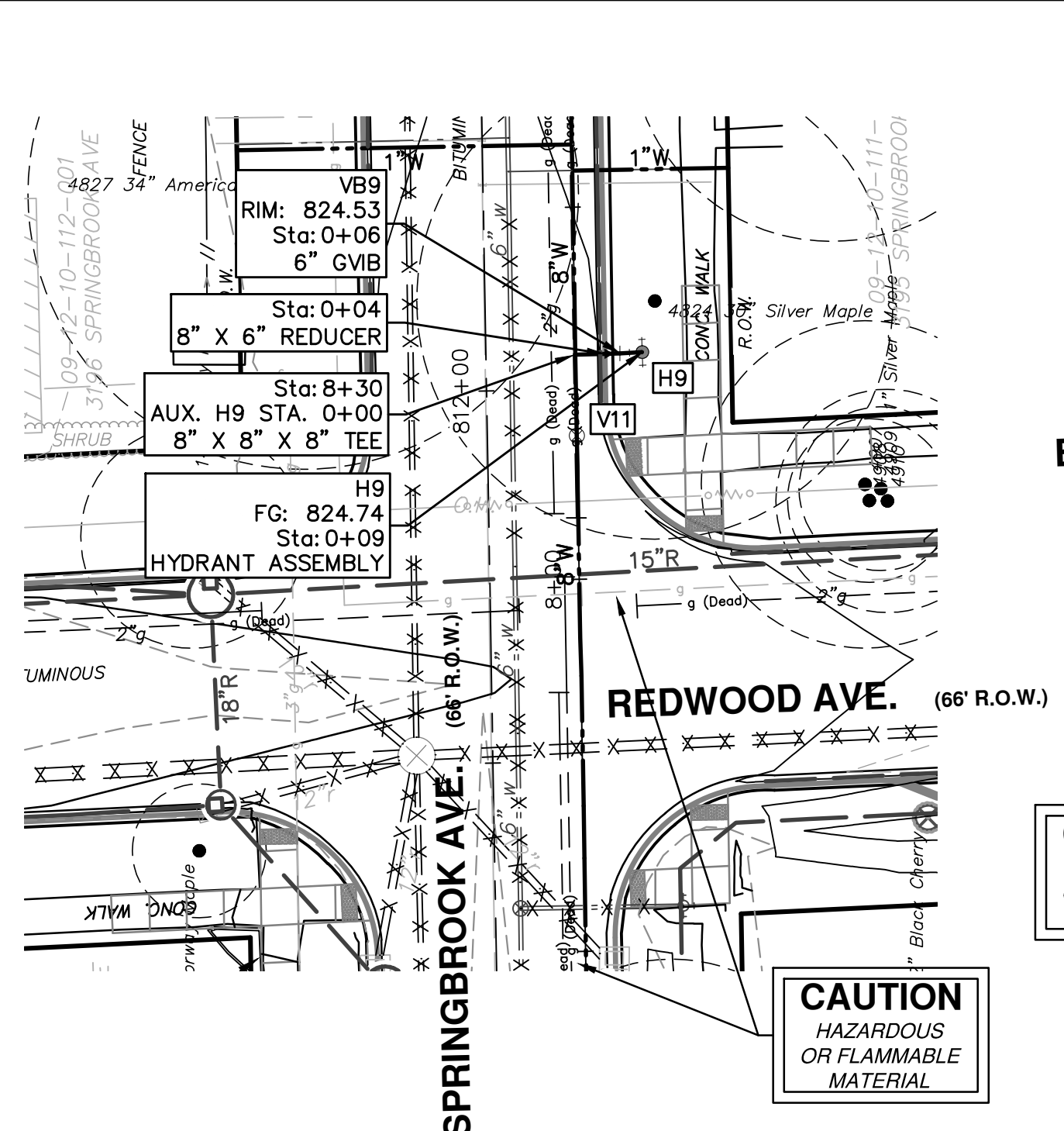
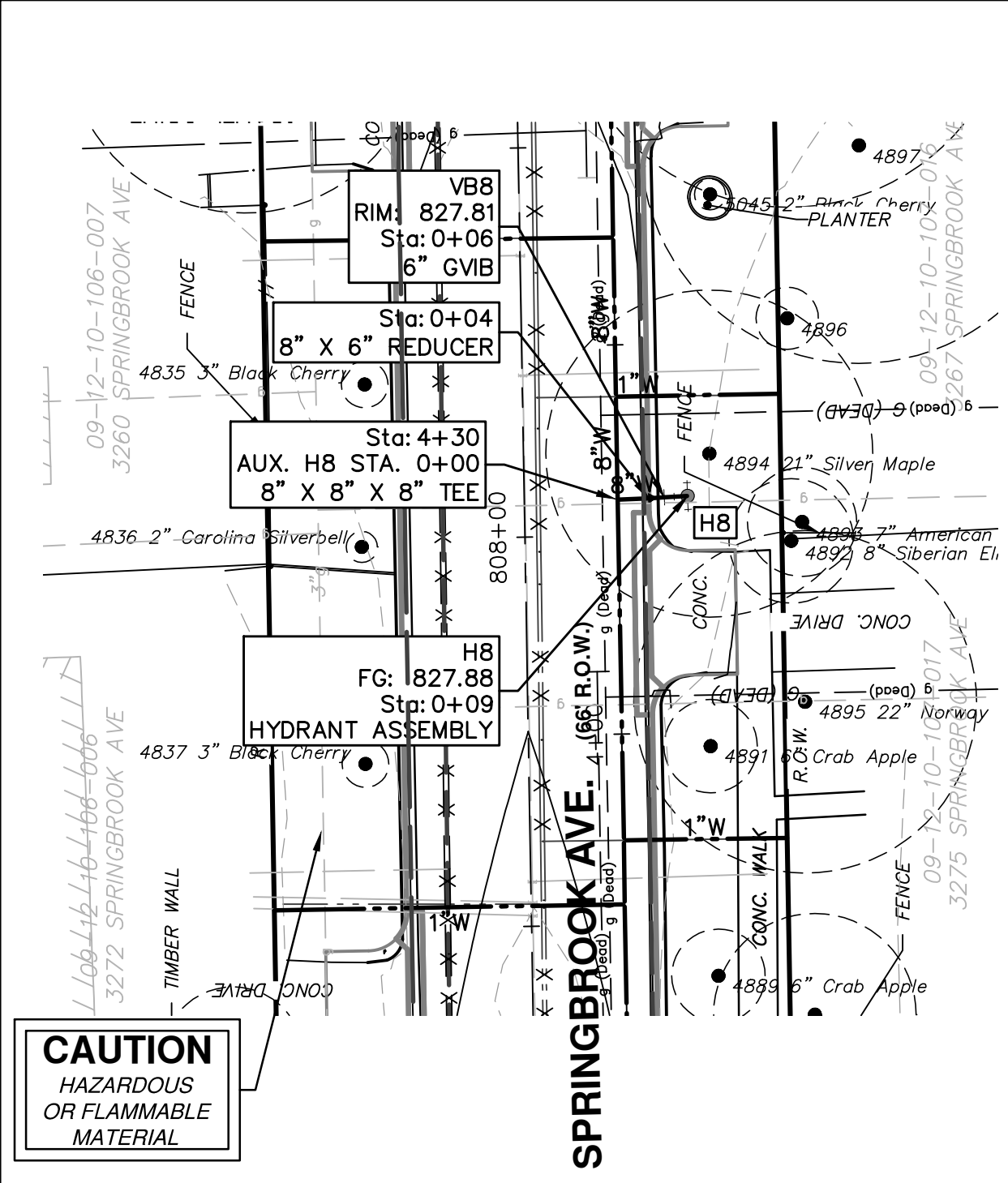
**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**  
WATER MAIN  
WATER MAIN AUXILIARY 1

SCALE PLAN: #####  
PROFILE: 1" = 2'  
DRAWING No. 2015018-29

REV.	DATE	DESCRIPTION
00	12/04/2015	WDCO SUBMITTAL
		JKA DRAWN
		AMW CHECKED



S:\Project Management\Design\2014018 Springwater Sub Ph II\Plan Production\Primary\2014018WATR\_AUXILIARY.dwg Dwg Created: 13-Oct-15 - \_a2 standard bw.stb - Plot Date: 9-Mar-16



WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
VB8	6" GVB	0+06	827.81	7.11
H8	HYDRANT ASSEMBLY	0+09	827.88	7.18

WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
VB9	6" GVB	0+06	824.53	6.33
H9	HYDRANT ASSEMBLY	0+09	824.74	6.44

WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
VB10	6" GVB	0+06	813.76	6.26
H10	HYDRANT ASSEMBLY	0+09	814.00	6.40

WATER MAIN STRUCTURE TABLE				
STRUCTURE	TYPE	STATION	RIM	DEPTH
VB11	6" GVB	0+06	818.84	6.70
H11	HYDRANT ASSEMBLY	0+09	818.93	6.77

**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**  
 WATER MAIN  
 WATER MAIN AUXILIARY 2

SCALE PLAN: #####  
 PROFILE: 1" = 2'

DRAWING NO. 2015018-30  
 SHEET NO. 30 OF 68

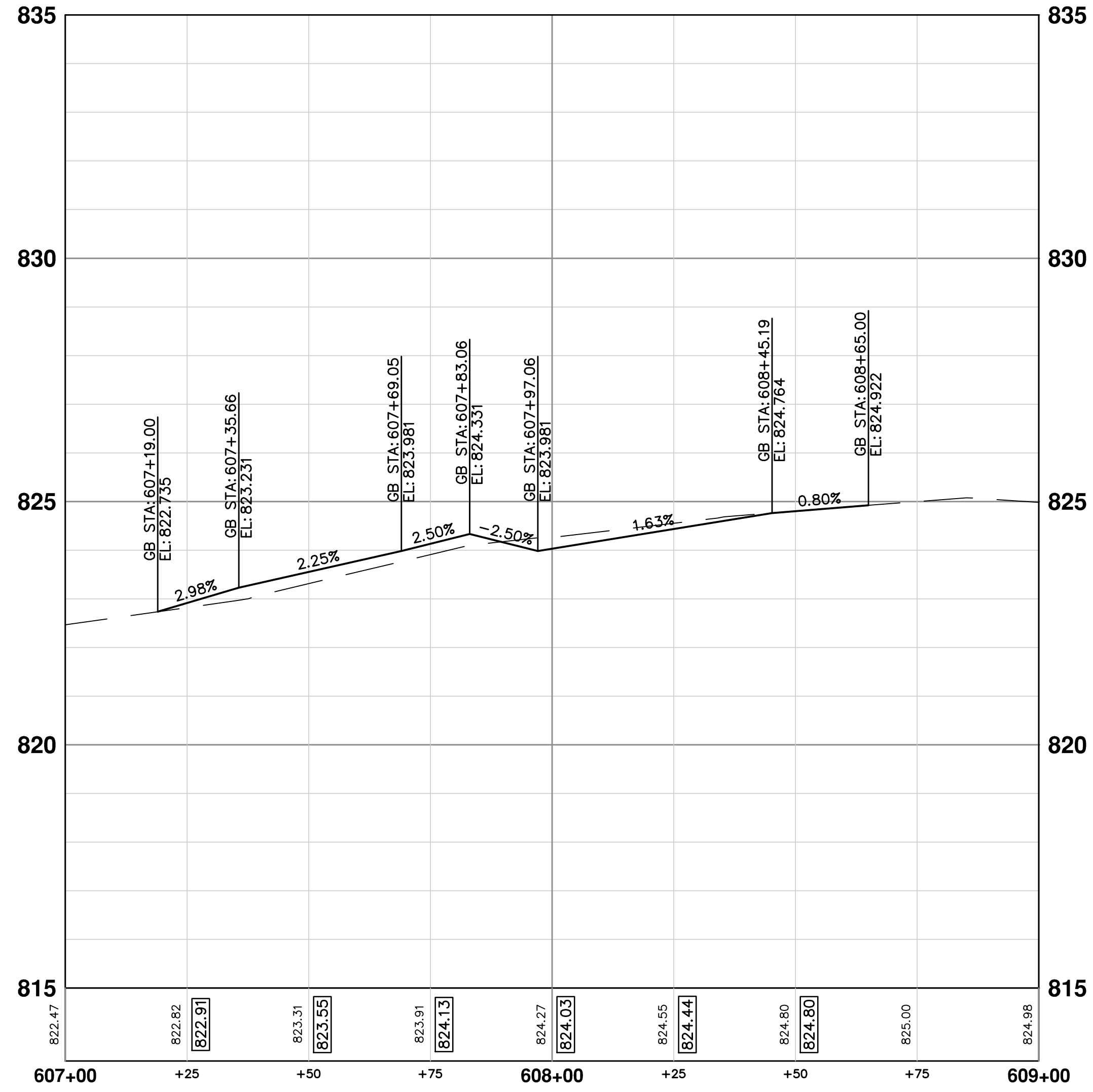
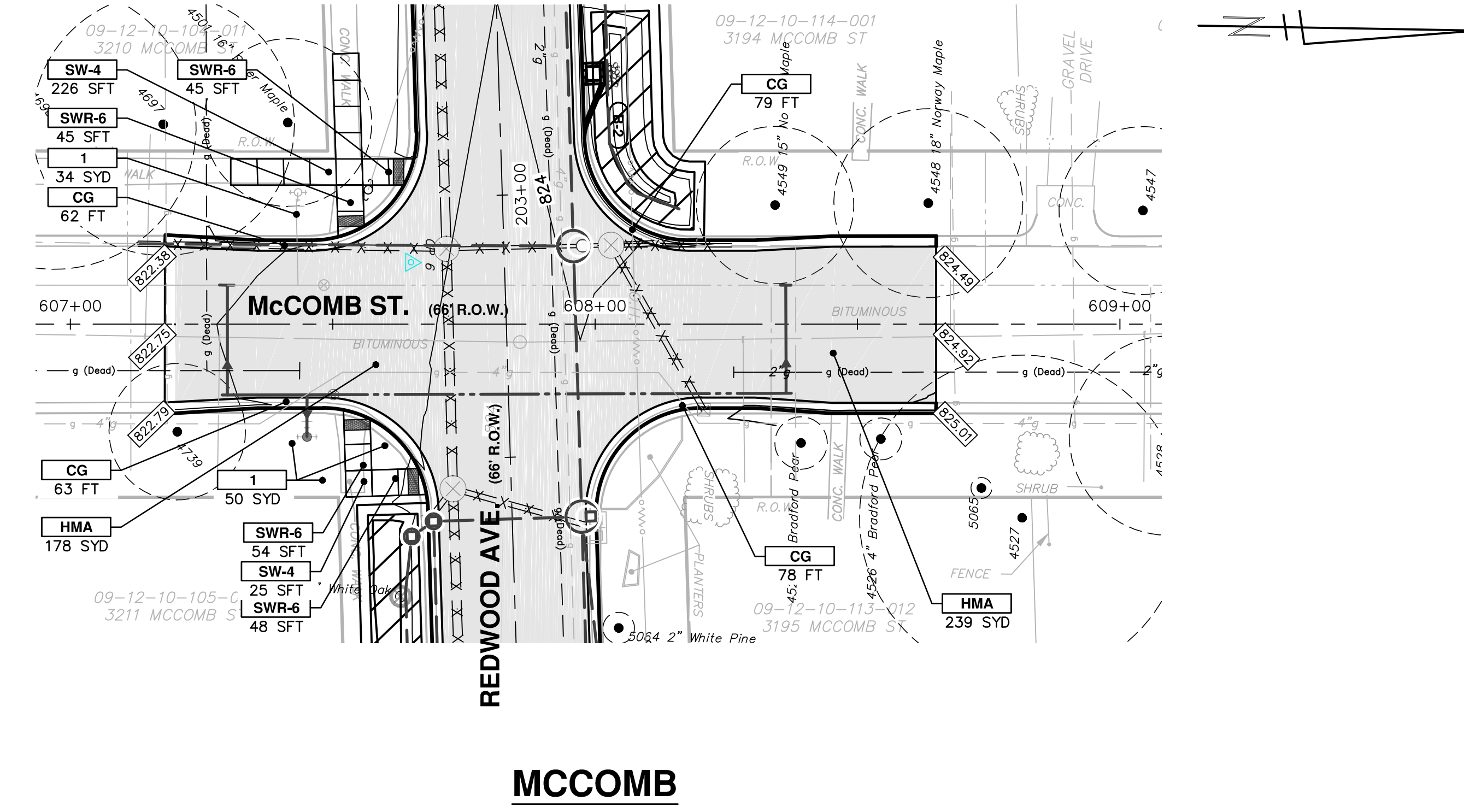
**811**  
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 PUBLIC SERVICE  
 301 EAST HURON STREET  
 P.O. BOX 86400  
 ANN ARBOR MI 48108-8647  
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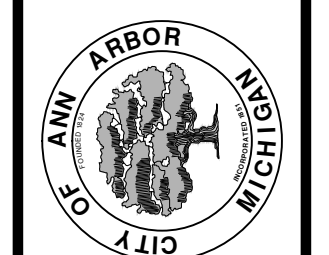
DATE: 12/04/2015  
 DRAWN: JKA  
 CHECKED: AMW

DESCRIPTION: REV.





CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CURB AND GUTTER, CONC
DO-M	DRIVEWAY OPENING, CONC, DET M
DC-6	DRIVEWAY, NONREINF CONC, 6 INCH
SW-4	SIDEWALK, CONC, 4 INCH
SW-6	SIDEWALK, CONC, 6 INCH
SWR-6	SIDEWALK RAMP, CONC, 6 INCH
DWS	DETECTABLE WARNING SURFACE
ABO	ADJUST BY OTHERS
1	SLOPE RESTORATION
2	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
3	ADJUST STRUCTURE COVER
4	DR STRUCTURE, 24 INCH DIA & DR STRUCTURE COVER, TYPE K



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**SPRINGWATER SUBDIVISION - PHASE II**  
ROAD PLAN & PROFILES  
MCCOMB ROAD POB TO POE

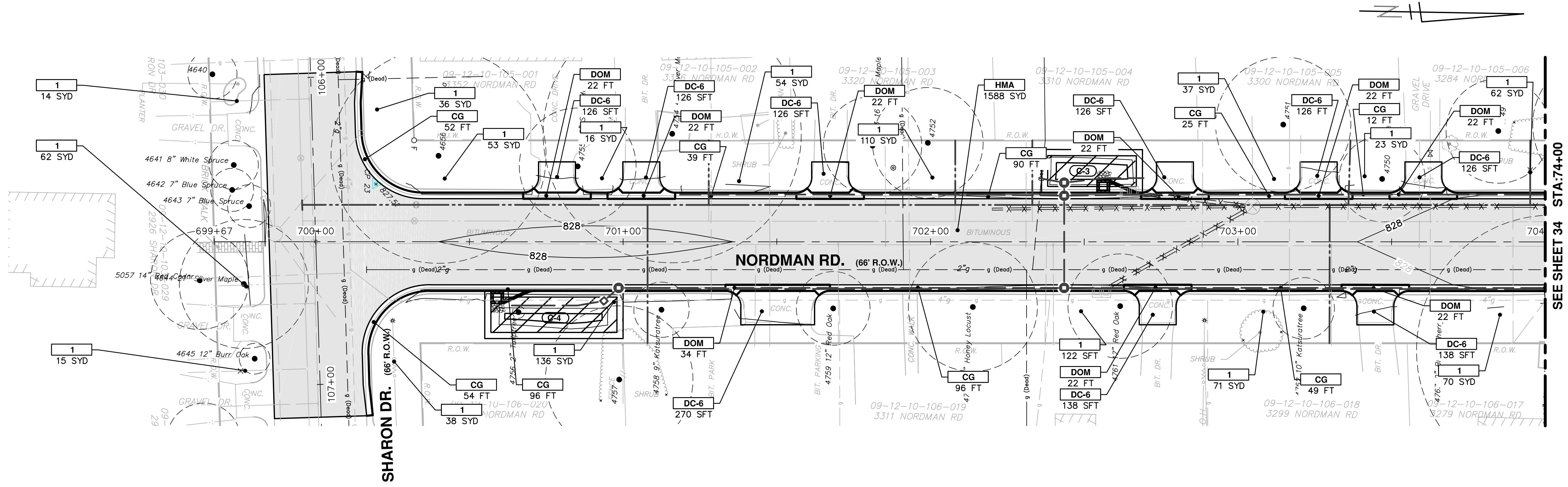
SCALE PLAN: 1" = 20'  
PROFILE: 1" = 2'

DRAWING No.  
**2015018-31**

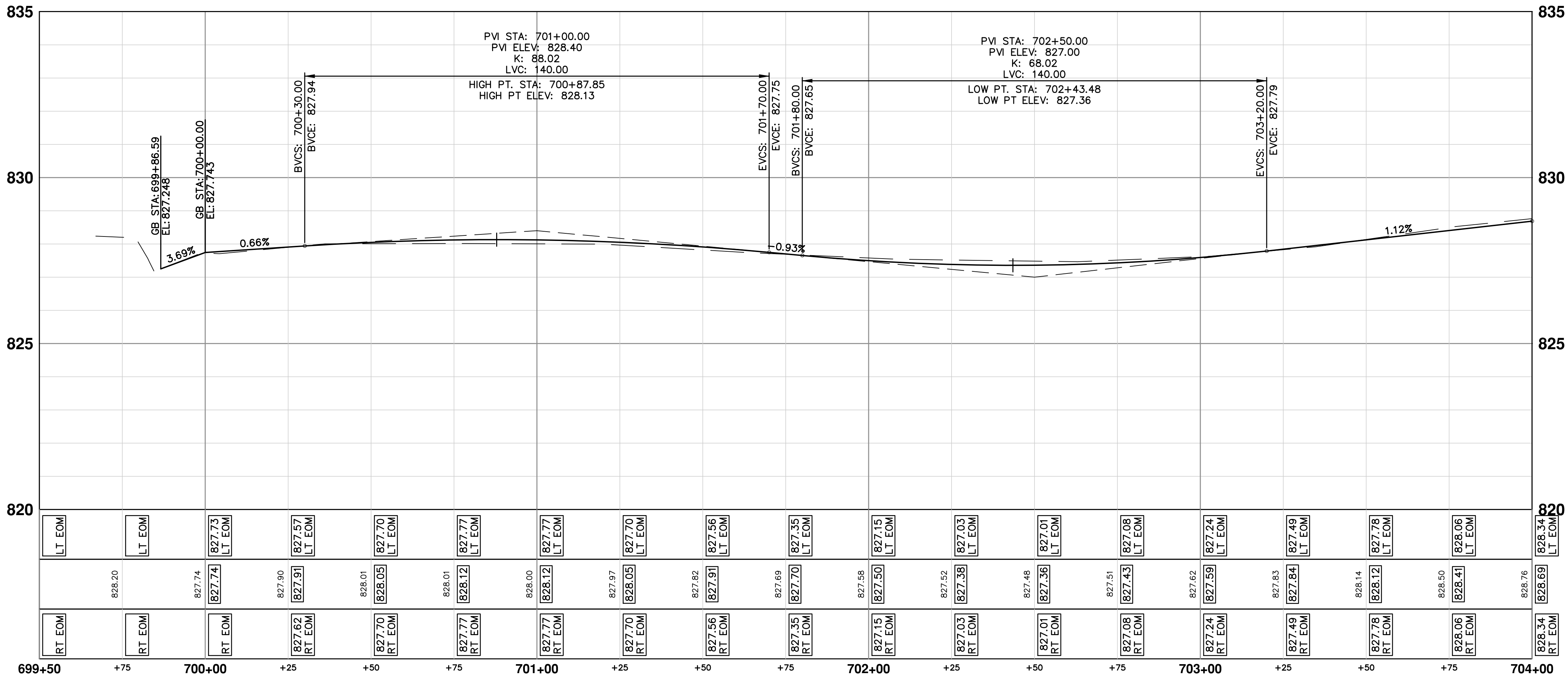
REV.	DESCRIPTION	DATE	BY	CHECKED
00	MOFCO SUBMITTAL	12/04/2015	JKA	AMW

SHEET No. **31 OF 68**





CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CURB AND GUTTER, CONC
DOM-M	DRIVEWAY OPENING, CONC, DET M
DC-6	DRIVEWAY, NONREINF CONC, 6 INCH
SW-4	SIDEWALK, CONC, 4 INCH
SW-6	SIDEWALK, CONC, 6 INCH
SWR-6	SIDEWALK RAMP, CONC, 6 INCH
DWS	DETECTABLE WARNING SURFACE
ABO	ADJUST BY OTHERS
1	SLOPE RESTORATION
2	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
3	ADJUST STRUCTURE COVER
4	DR STRUCTURE, 24 INCH DIA & DR STRUCTURE COVER, TYPE K



699+50	+75	700+00	+25	+50	+75	701+00	+25	+50	+75	702+00	+25	+50	+75	703+00	+25	+50	+75	704+00	
RT EOM	RT EOM	RT EOM	827.62	827.70	827.77	828.12	827.77	828.00	827.97	828.05	827.70	827.56	827.35	827.15	827.08	827.49	827.78	828.06	828.34
LT EOM	LT EOM	827.73	827.57	827.70	827.77	828.12	827.77	828.00	827.97	828.05	827.70	827.56	827.35	827.15	827.08	827.49	827.78	828.06	828.34

Know what's below.  
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**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**

**SPRINGWATER SUBDIVISION - PHASE II**

ROAD PLAN & PROFILES

NORDMAN ROAD POB TO STA. 704+00

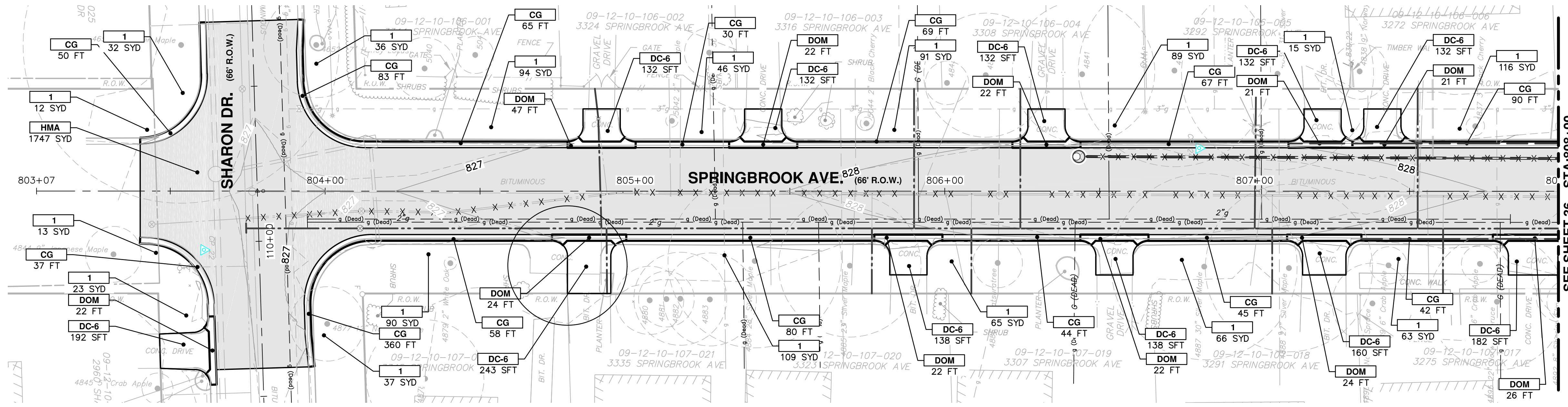
SHEET No.	DRAWING No.	DATE	DESCRIPTION	REV.	CHECKED
32 OF 68	2015018-32	12/04/2015	JKA	AWW	

SCALE PLAN: 1" = 20'    PROFILE: 1" = 2'



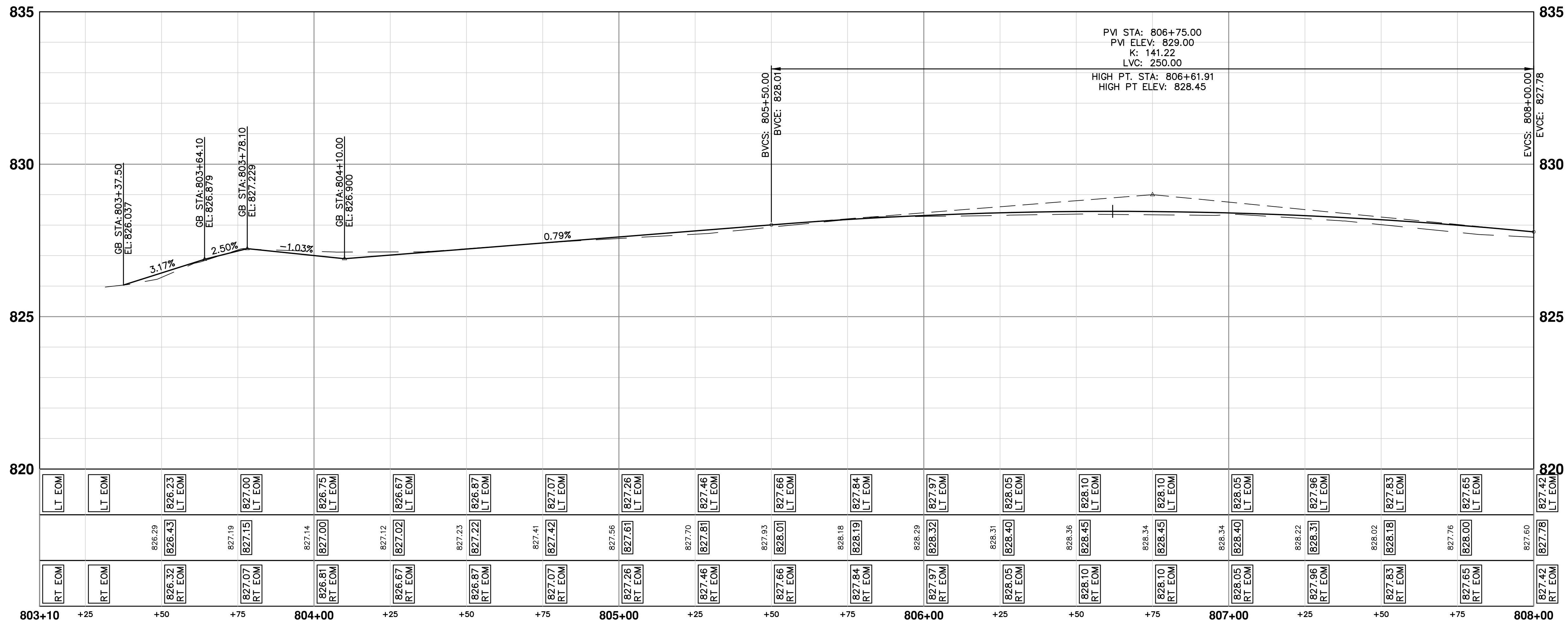




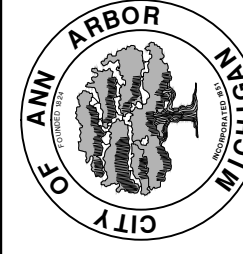


CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CURB AND GUTTER, CONC
DO-M	DRIVEWAY OPENING, CONC, DET M
DC-6	DRIVEWAY, NONREINF CONC, 6 INCH
SW-4	SIDEWALK, CONC, 4 INCH
SW-6	SIDEWALK, CONC, 6 INCH
SWR-6	SIDEWALK RAMP, CONC, 6 INCH
DWS	DETECTABLE WARNING SURFACE
ABO	ADJUST BY OTHERS
1	SLOPE RESTORATION
2	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
3	ADJUST STRUCTURE COVER
4	DR STRUCTURE, 24 INCH DIA & DR STRUCTURE COVER, TYPE K

SEE SHEET 36 STA: 808+00



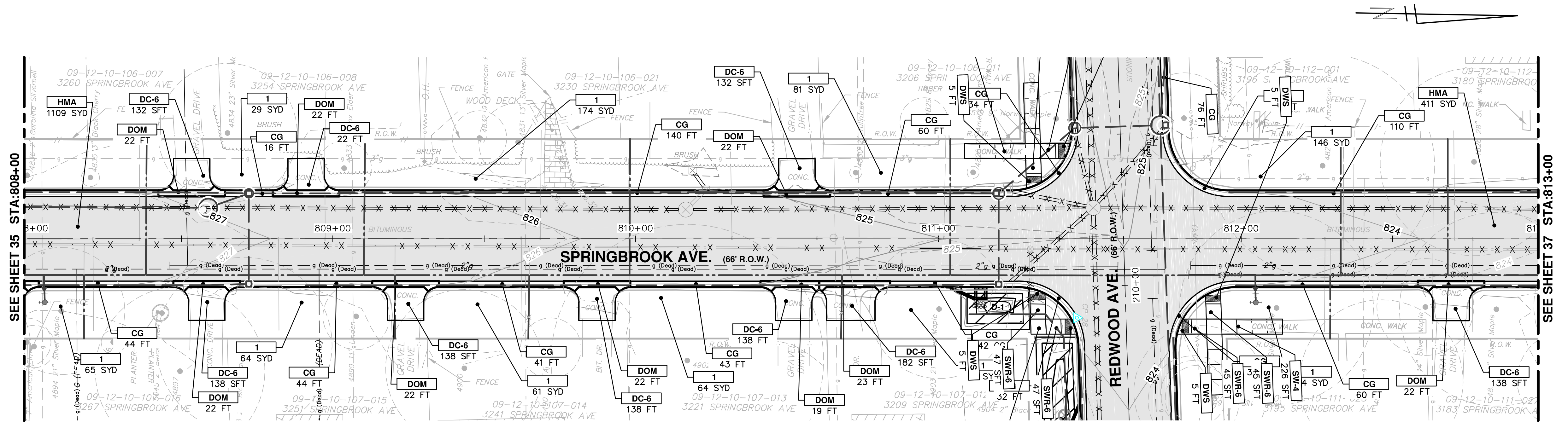
CITY OF ANN ARBOR  
PUBLIC SERVICE  
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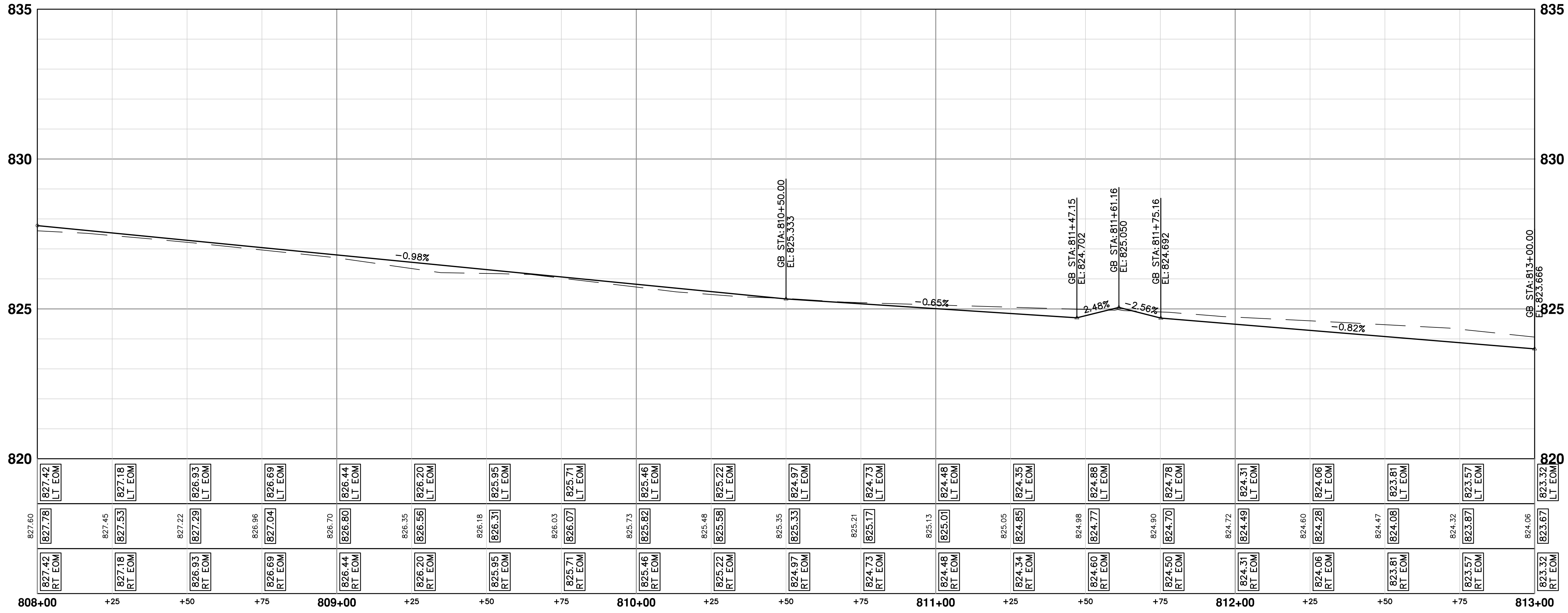
**PROJECT MANAGEMENT - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**  
ROAD PLAN & PROFILES  
SPRINGBROOK AVENUE POB TO STA. 808+00

SCALE PLAN: 1" = 20'  
PROFILE: 1" = 2'  
DRAWING No. 2015018-34





### SPRINGBROOK



CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CURB AND GUTTER, CONC
DO-M	DRIVEWAY OPENING, CONC, DET M
DC-6	DRIVEWAY, NONREINF CONC, 6 INCH
SW-4	SIDEWALK, CONC, 4 INCH
SW-6	SIDEWALK, CONC, 6 INCH
SWR-6	SIDEWALK RAMP, CONC, 6 INCH
DWS	DETECTABLE WARNING SURFACE
ABO	ADJUST BY OTHERS
1	SLOPE RESTORATION
2	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
3	ADJUST STRUCTURE COVER
4	DR STRUCTURE, 24 INCH DIA & DR STRUCTURE COVER, TYPE K

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 ROAD PLAN & PROFILES  
 SPRINGBROOK AVENUE 808+00 TO 813+00

SHEET No. **35 OF 68**

Scale: 1" = 20'  
 Profile: 1" = 2'

DRAWING No. **2015018-35**

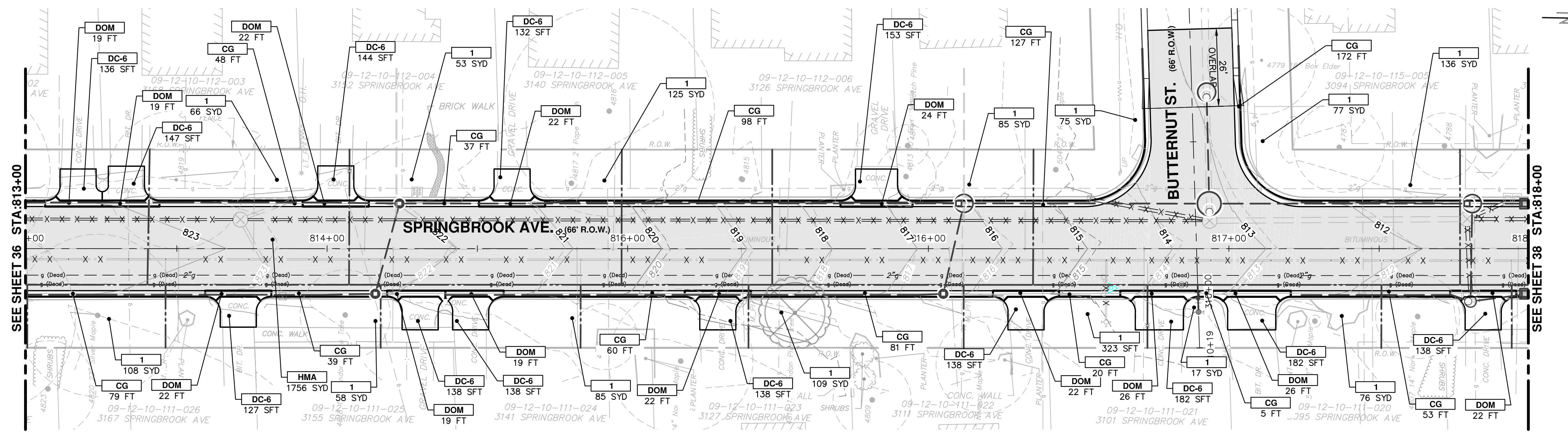
CITY OF ANN ARBOR  
 PUBLIC SERVICE  
 301 EAST HURON STREET  
 ANN ARBOR, MI 48106-0667  
 ANN ARBOR: 734-754-4410  
 WWW.A2GOV.ORG

NO	DATE	DESCRIPTION	BY	CHECKED
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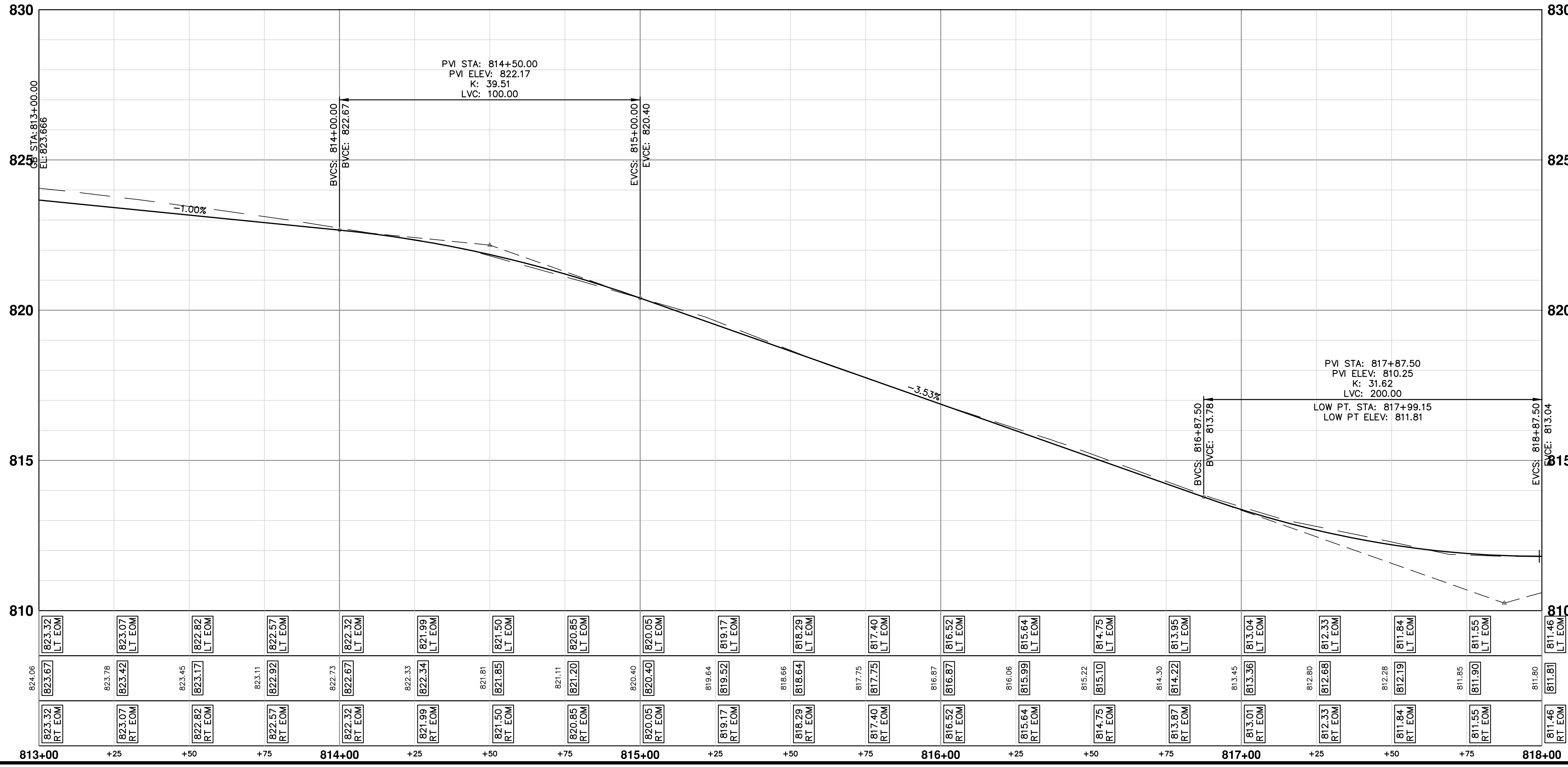




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CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CURB AND GUTTER, CONC
DO-M	DRIVEWAY OPENING, CONC, DET M
DC-6	DRIVEWAY, NONREINF CONC, 6 INCH
SW-4	SIDEWALK, CONC, 4 INCH
SW-6	SIDEWALK, CONC, 6 INCH
SWR-6	SIDEWALK RAMP, CONC, 6 INCH
DWS	DETECTABLE WARNING SURFACE
ABO	ADJUST BY OTHERS
1	SLOPE RESTORATION
2	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
3	ADJUST STRUCTURE COVER
4	DR STRUCTURE, 24 INCH DIA & DR STRUCTURE COVER, TYPE K



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00	12/04/2015	MFCO SUBMITTAL	JKA	AMW

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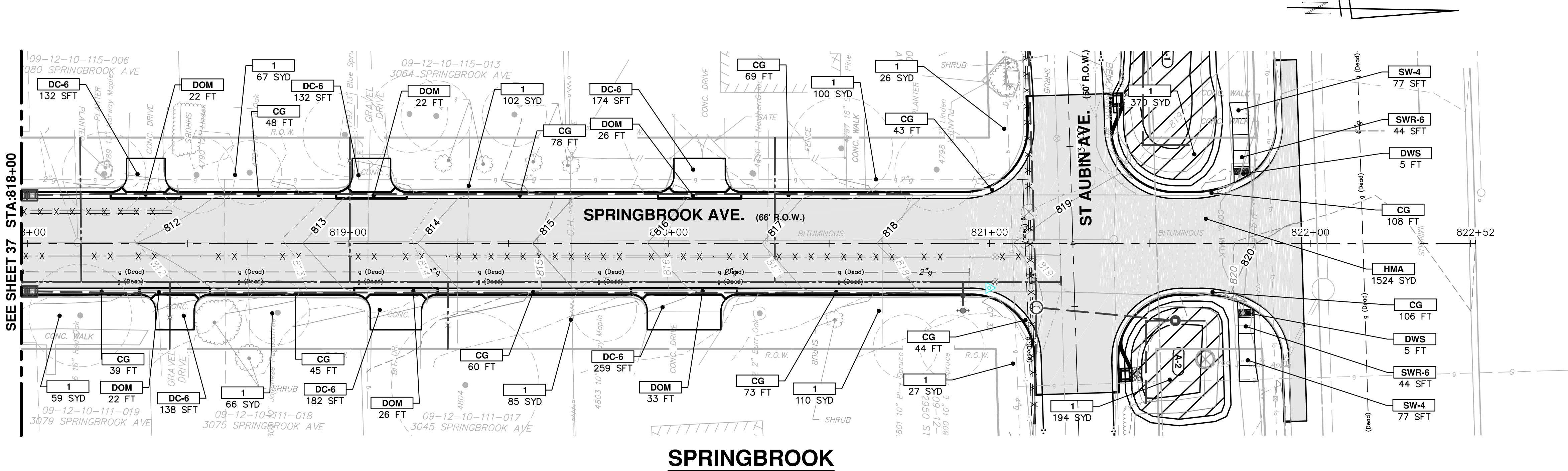
**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**  
ROAD PLAN & PROFILES  
SPRINGBROOK AVENUE STA. 813+00 TO STA. 818+00

SCALE PLAN: 1" = 20'  
PROFILE: 1" = 2'

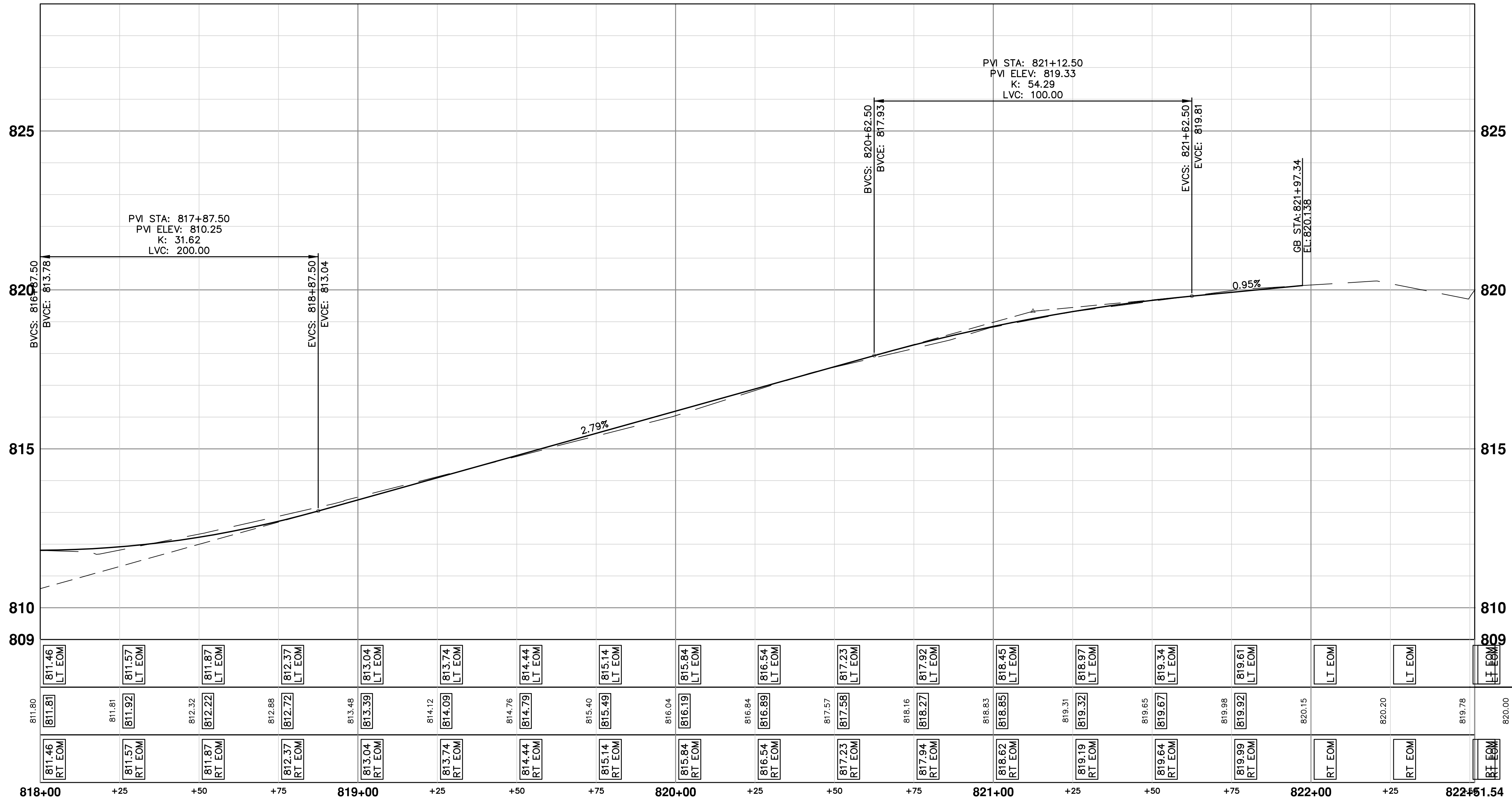
DRAWING NO.  
**2015018-36**

SHEET NO. **36 OF 68**





CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CURB AND GUTTER, CONC
DO-M	DRIVEWAY OPENING, CONC, DET M
DC-6	DRIVEWAY, NONREINF CONC, 6 INCH
SW-4	SIDEWALK, CONC, 4 INCH
SW-6	SIDEWALK, CONC, 6 INCH
SWR-6	SIDEWALK RAMP, CONC, 6 INCH
DWS	DETECTABLE WARNING SURFACE
ABO	ADJUST BY OTHERS
1	SLOPE RESTORATION
2	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
3	ADJUST STRUCTURE COVER
4	DR STRUCTURE, 24 INCH DIA & DR STRUCTURE COVER, TYPE K



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00	WPCO SUBMITTAL	12/04/2015	JKA	AMW

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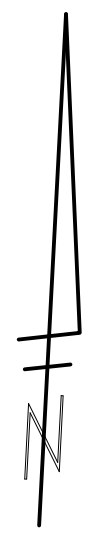
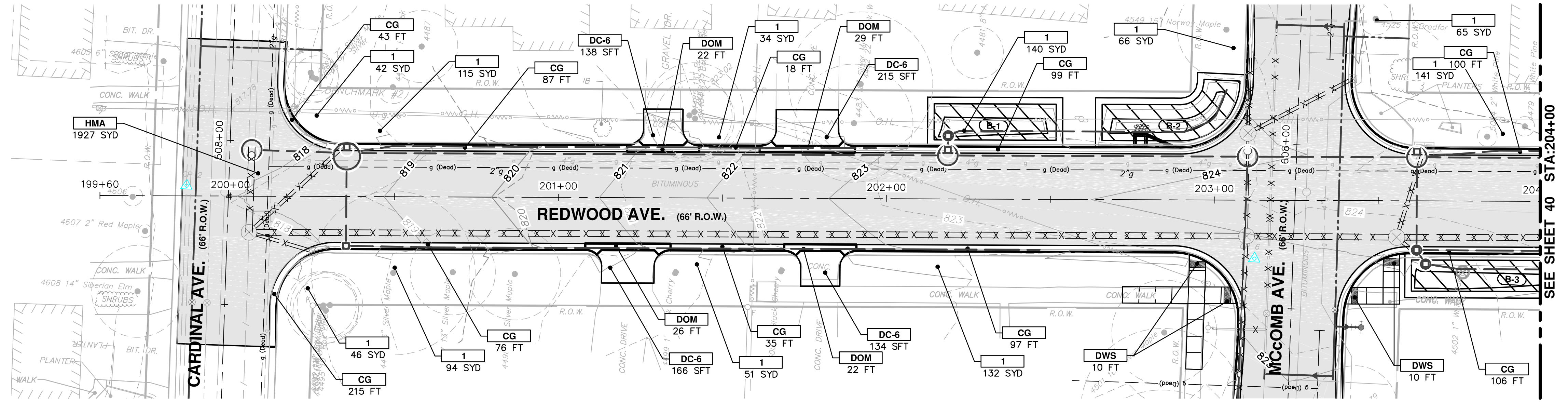
**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**  
ROAD PLAN & PROFILES  
SPRINGBROOK AVENUE STA. 818+00 TO POE

SCALE PLAN: 1" = 20'  
PROFILE: 1" = 2'

DRAWING No.  
**2015018-37**

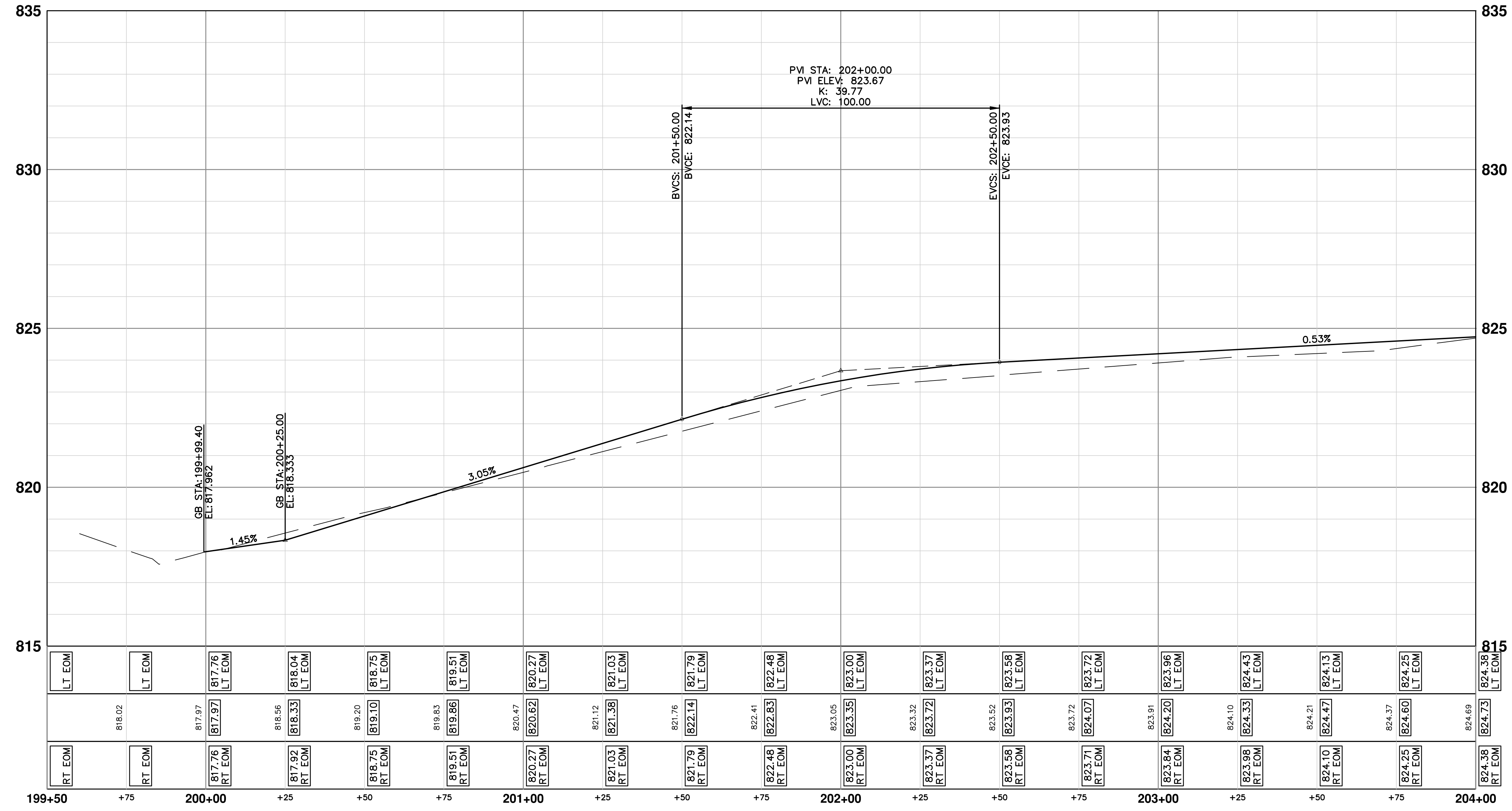
SHEET No.  
**37 OF 68**





CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CURB AND GUTTER, CONC
DO-M	DRIVEWAY OPENING, CONC, DET M
DC-6	DRIVEWAY, NONREINF CONC, 6 INCH
SW-4	SIDEWALK, CONC, 4 INCH
SW-6	SIDEWALK, CONC, 6 INCH
SWR-6	SIDEWALK RAMP, CONC, 6 INCH
DWS	DETECTABLE WARNING SURFACE
ABO	ADJUST BY OTHERS
1	SLOPE RESTORATION
2	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
3	ADJUST STRUCTURE COVER
4	DR STRUCTURE, 24 INCH DIA & DR STRUCTURE COVER, TYPE K

**REDWOOD**



REV.	DATE	DESCRIPTION
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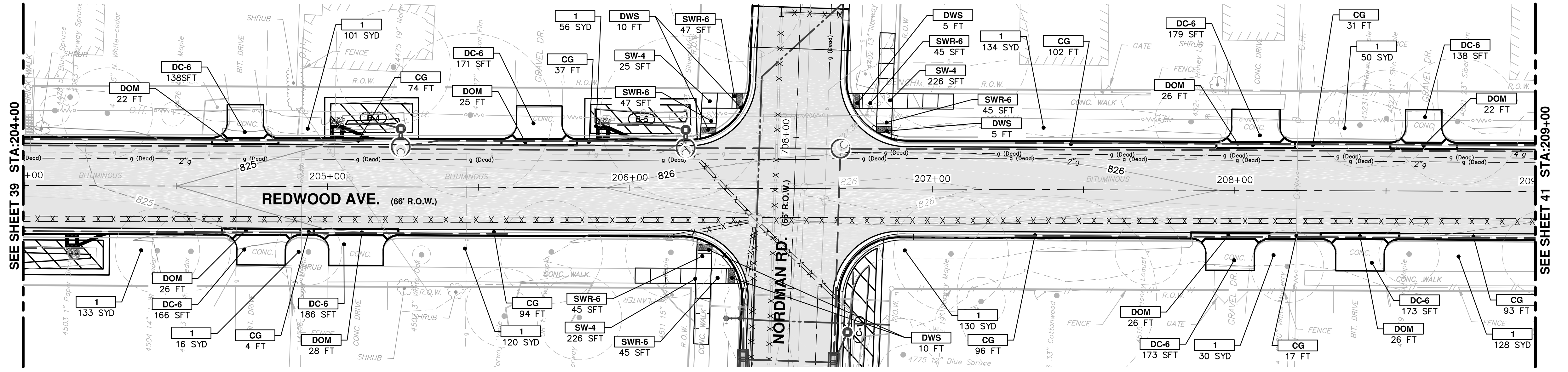
**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
ROAD PLAN & PROFILES  
SPRINGWATER SUBDIVISION - PHASE II  
REDWOOD AVENUE POB TO STA. 204+00

SHEET No. **38 OF 68**

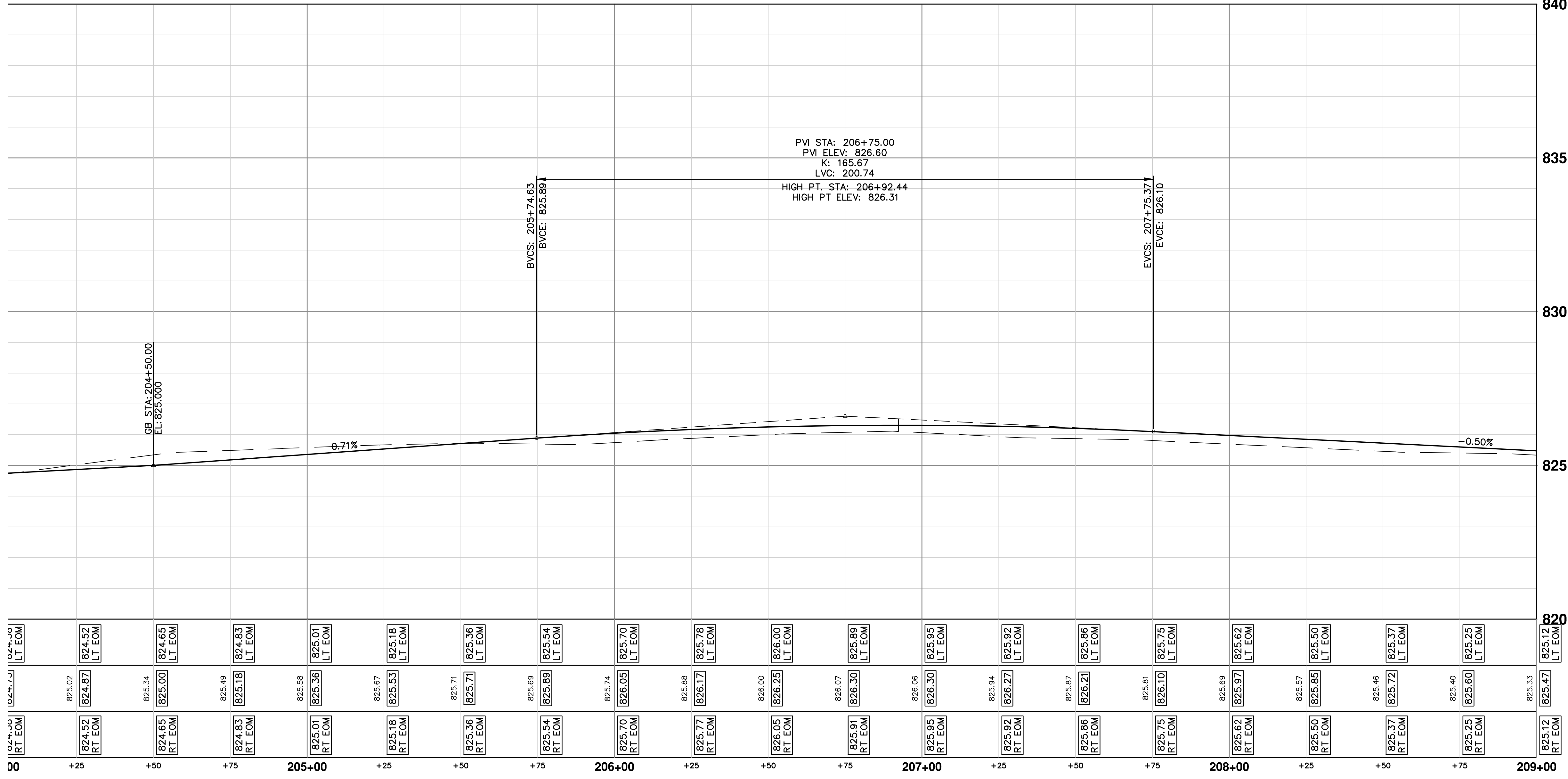
SCALE PLAN: 1" = 20'  
PROFILE: 1" = 2'  
DRAWING No. **2015018-38**



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**REDWOOD**



CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CURB AND GUTTER, CONC
DO-M	DRIVEWAY OPENING, CONC, DET M
DC-6	DRIVEWAY, NONREINF CONC, 6 INCH
SW-4	SIDEWALK, CONC, 4 INCH
SW-6	SIDEWALK, CONC, 6 INCH
SWR-6	SIDEWALK RAMP, CONC, 6 INCH
DWS	DETECTABLE WARNING SURFACE
ABO	ADJUST BY OTHERS
1	SLOPE RESTORATION
2	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
3	ADJUST STRUCTURE COVER
4	DR STRUCTURE, 24 INCH DIA & DR STRUCTURE COVER, TYPE K

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REV.	DESCRIPTION	DATE	BY	CHECKED
00	WPCO SUBMITTAL	12/04/2015	JKA	AMW

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ROAD PLAN & PROFILES  
SPRINGWATER SUBDIVISION - PHASE II

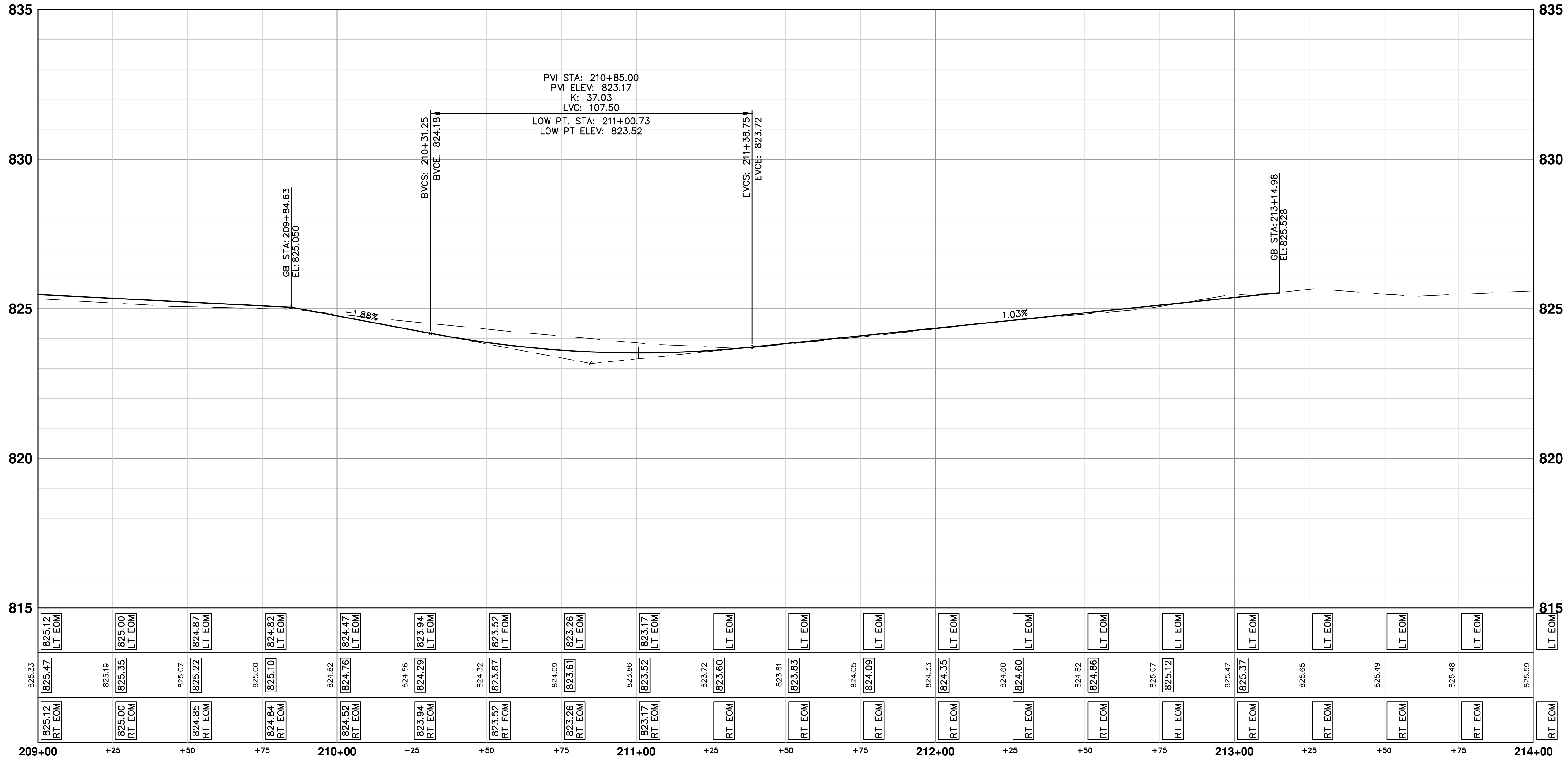
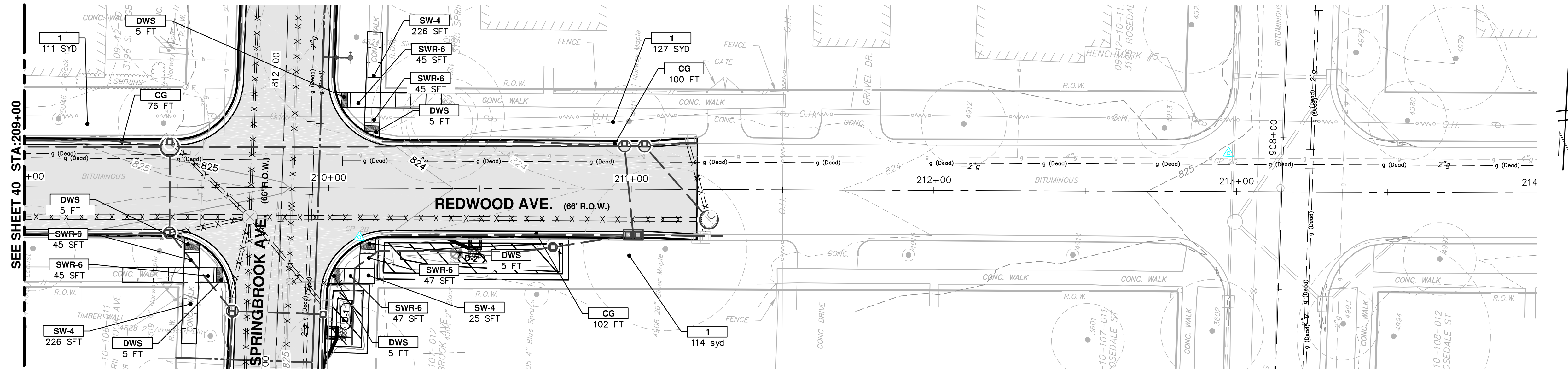
REDWOOD AVENUE STA. 204+00 TO 208+00

SCALE PLAN: 1" = 20'  
PROFILE: 1" = 2'

DRAWING NO. 2015018-39

SHEET NO. 39 OF 68





CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CURB AND GUTTER, CONC
DO-M	DRIVEWAY OPENING, CONC, DET M
DC-6	DRIVEWAY, NONREINF CONC, 6 INCH
SW-4	SIDEWALK, CONC, 4 INCH
SW-6	SIDEWALK, CONC, 6 INCH
SWR-6	SIDEWALK RAMP, CONC, 6 INCH
DWS	DETECTABLE WARNING SURFACE
ABO	ADJUST BY OTHERS
1	SLOPE RESTORATION
2	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
3	ADJUST STRUCTURE COVER
4	DR STRUCTURE, 24 INCH DIA & DR STRUCTURE COVER, TYPE K

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**SPRINGWATER SUBDIVISION - PHASE II**  
ROAD PLAN & PROFILES  
REDWOOD AVENUE 208+00 TO POE

SHEET No. **40 OF 68**

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SCALE PLAN: 1" = 20'  
PROFILE: 1" = 2'

DRAWING No. **2015018-40**

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DATE: 12/04/2015

DATE: 12/04/2015

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DESCRIPTION: MFCO SUBMITTAL

DESCRIPTION: MFCO SUBMITTAL

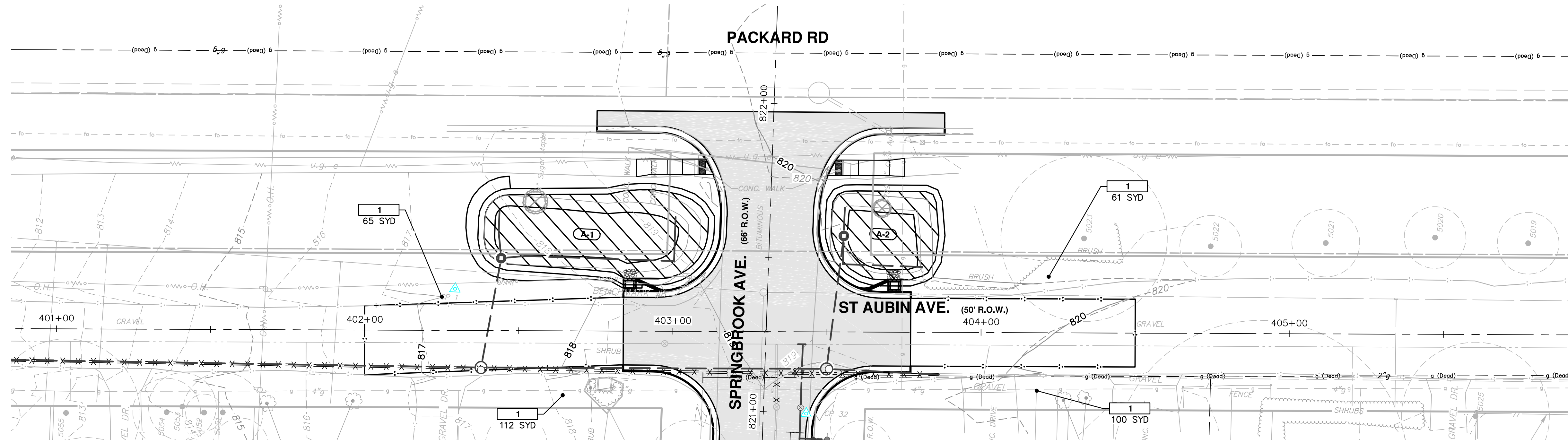
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REV. 00

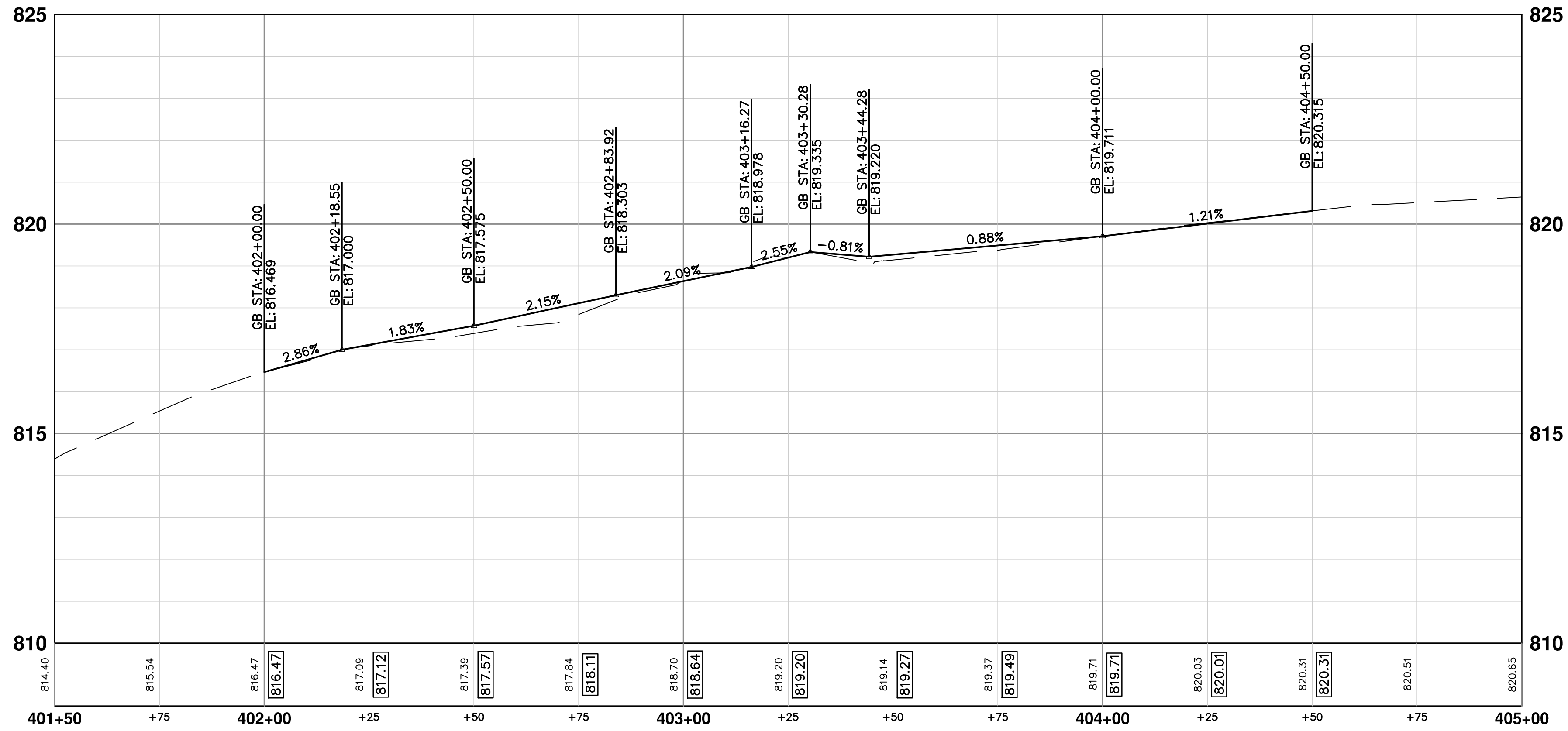
REV. 00




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**ST AUBIN**



CONSTRUCTION KEY	
KEY	DESCRIPTION
HMA	SURFACE AREA FOR HMA
CG	CURB AND GUTTER, CONC
DO-M	DRIVEWAY OPENING, CONC, DET M
DC-6	DRIVEWAY, NONREINF CONC, 6 INCH
SW-4	SIDEWALK, CONC, 4 INCH
SW-6	SIDEWALK, CONC, 6 INCH
SWR-6	SIDEWALK RAMP, CONC, 6 INCH
DWS	DETECTABLE WARNING SURFACE
ABO	ADJUST BY OTHERS
1	SLOPE RESTORATION
2	ADJUST GATE VALVE BOX, MONUMENT BOX, OR GAS BOX.
3	ADJUST STRUCTURE COVER
4	DR STRUCTURE, 24 INCH DIA & DR STRUCTURE COVER, TYPE K



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Public Service  
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Key: Write below.  
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ROAD PLAN & PROFILES  
SPRINGWATER SUBDIVISION - PHASE II  
ST AUBIN AVE. POB TO POE

DATE: 12/04/2015  
DRAWN: JKA  
CHECKED: AMW

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SCALE PLAN: 1" = 20'  
PROFILE: 1" = 2'

DRAWING No. 2015018-41

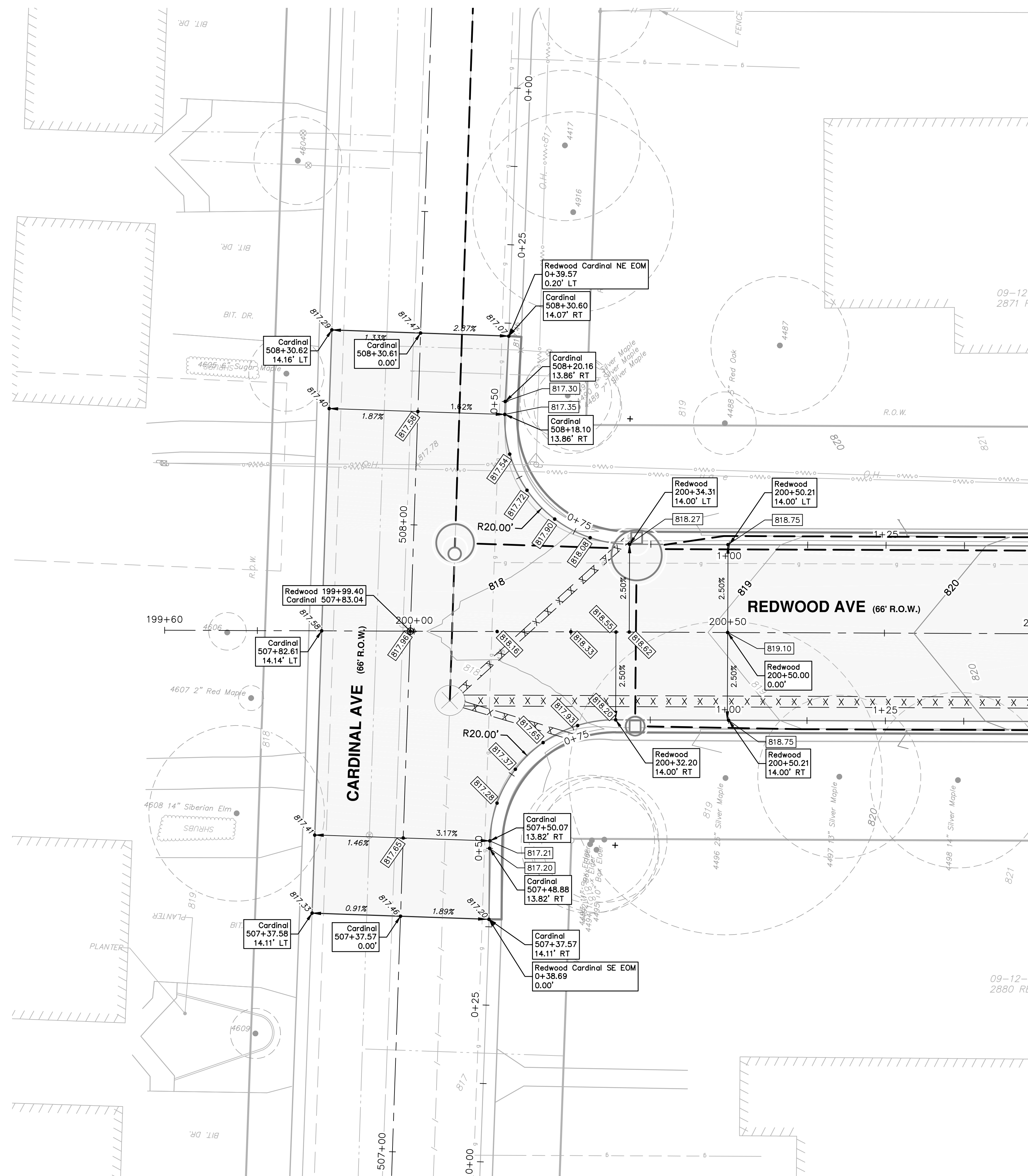
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SHEET No. 41 OF 68

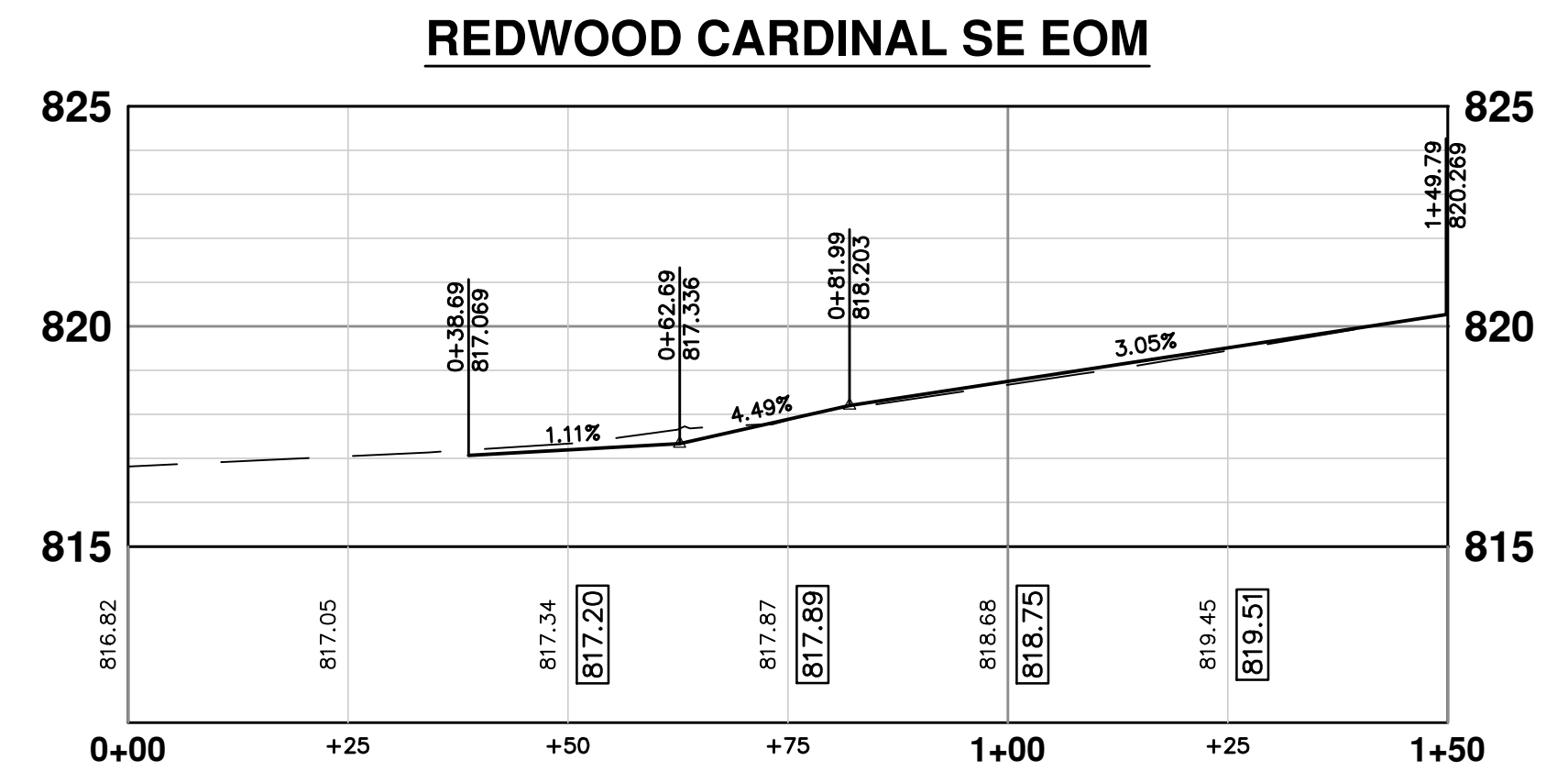
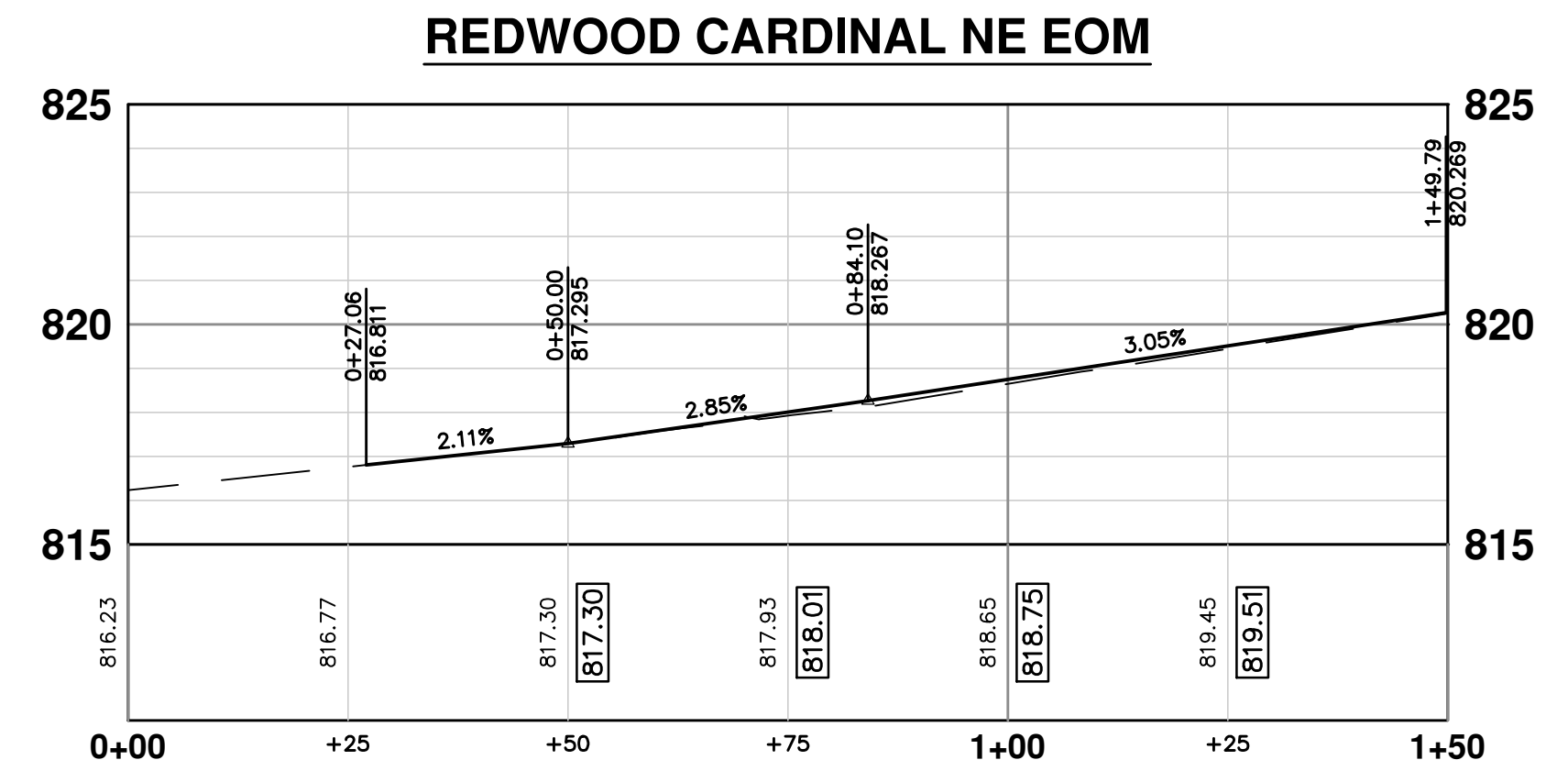
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PLAN: 1" = 10'

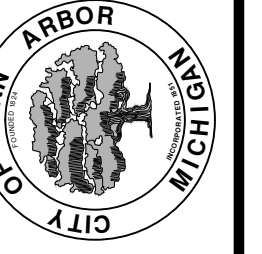


PLAN: 1" = 20'  
PROFILE: 1" = 4'



REV.	DESCRIPTION	DATE	DRAWN	CHECKED

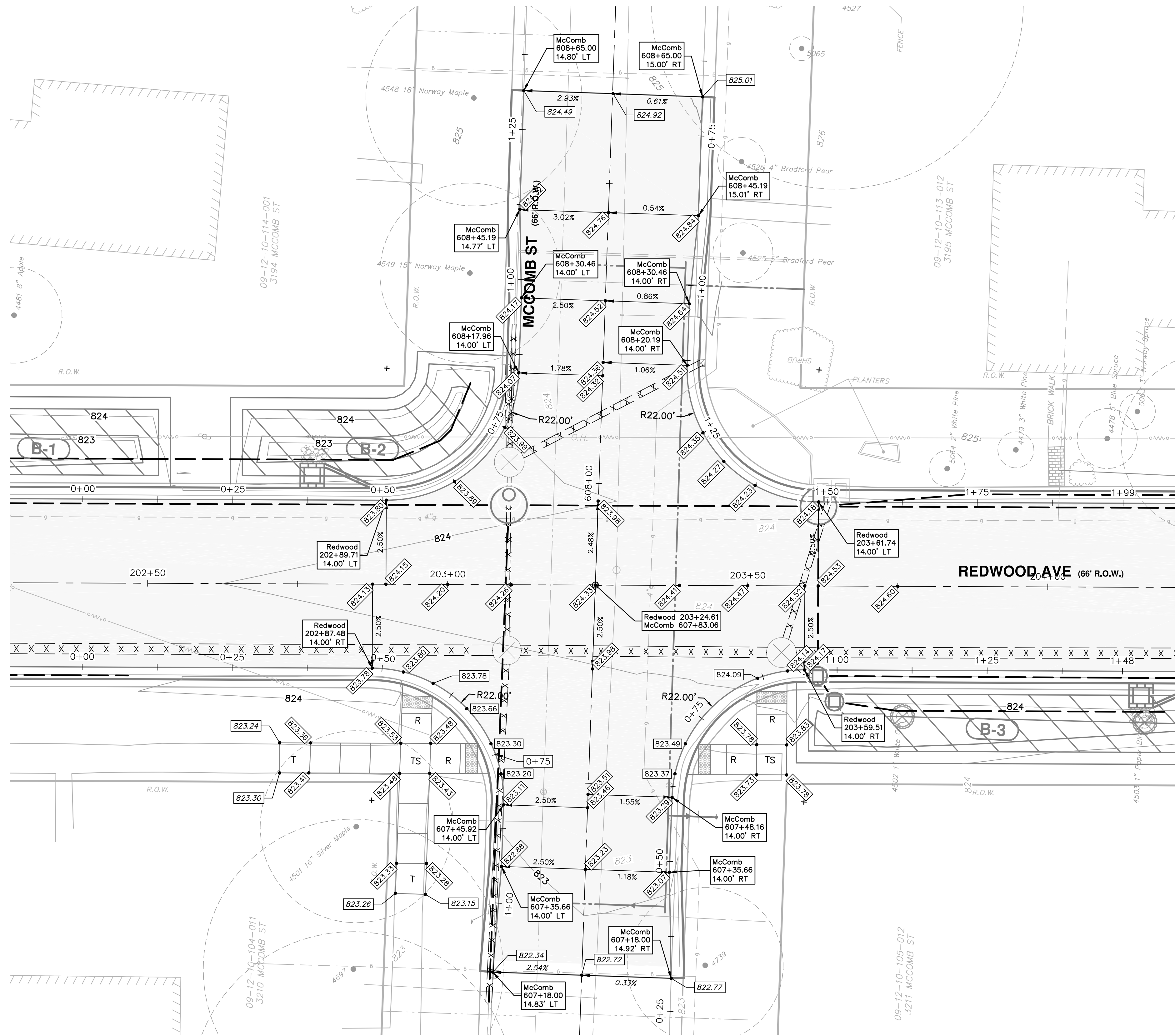
CITY OF ANN ARBOR  
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ANN ARBOR, MI 48106-0647  
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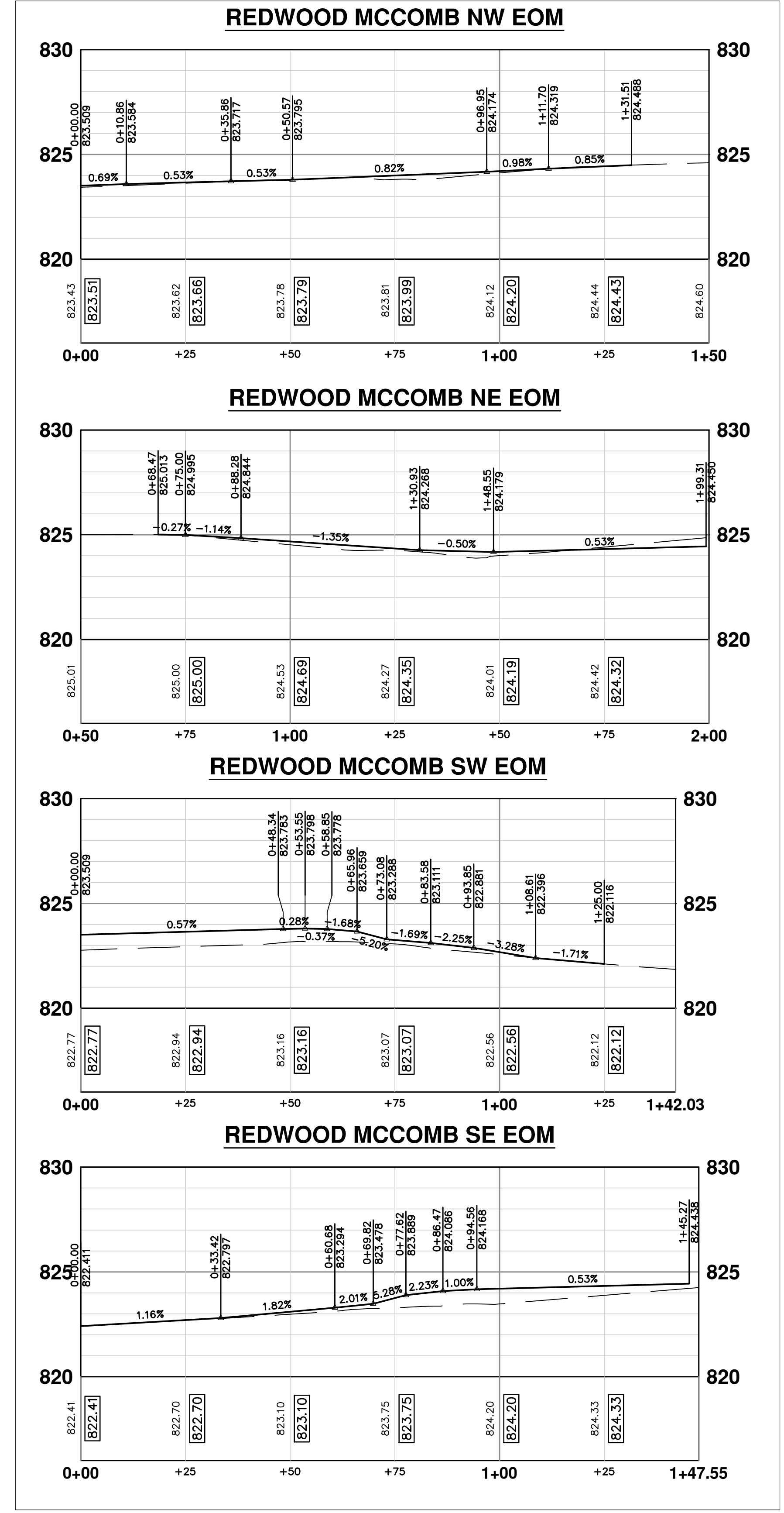
**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**  
INTERSECTION GRADES  
CARDINAL AVE. & REDWOOD AVE.

SCALE PLAN: 1" = 10'  
PROFILE: 1" = 4'  
DRAWING No. 2015018-42





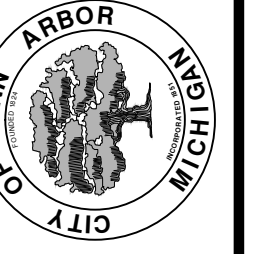
PLAN: 1" = 10'



PLAN: 1" = 20'  
PROFILE: 1" = 4'



CITY OF ANN ARBOR  
PUBLIC SERVICE  
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ANN ARBOR MI 48106-0667  
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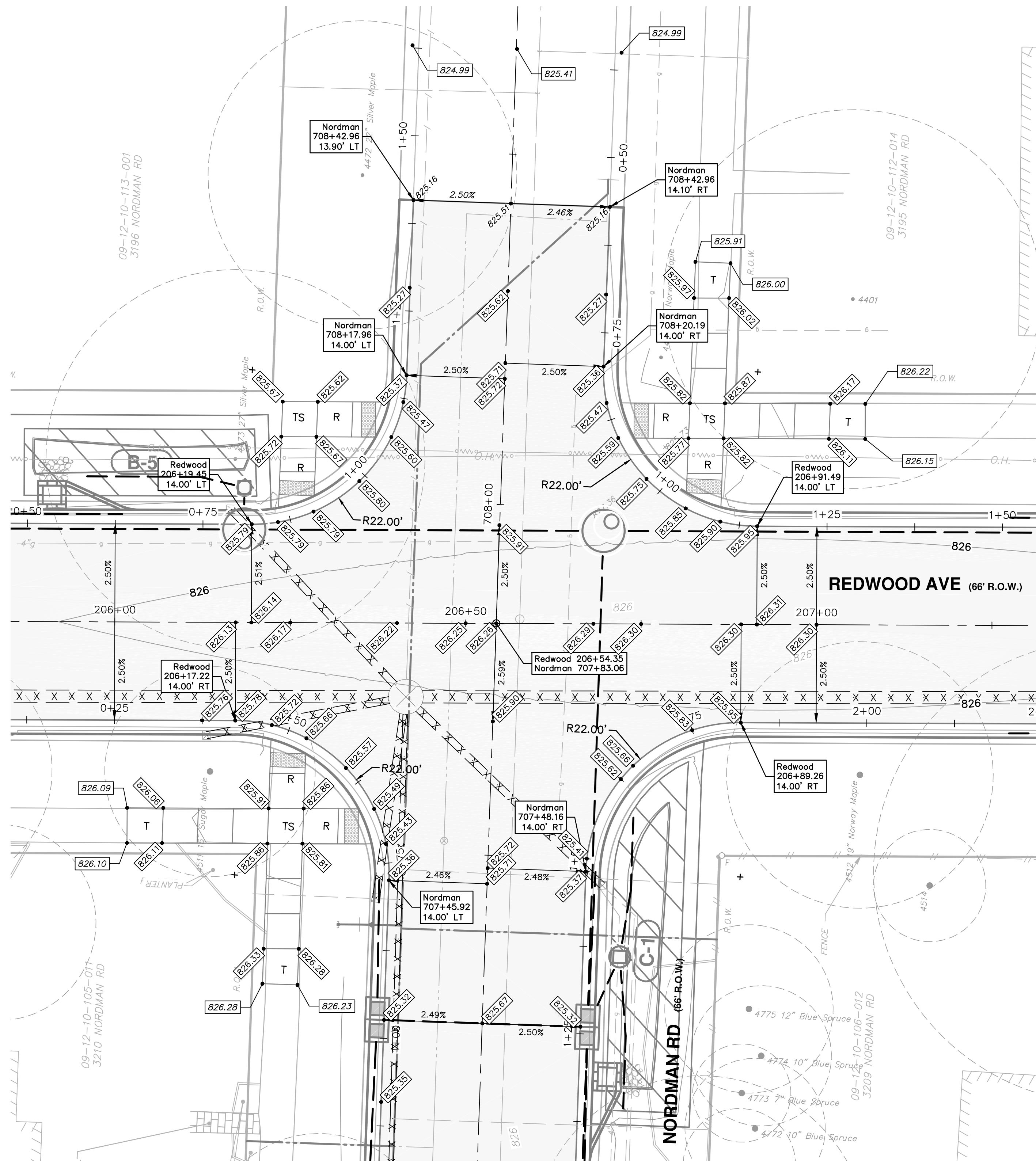


PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR  
SPRINGWATER SUBDIVISION - PHASE II  
INTERSECTION GRADES  
MCCOMB ST. & REDWOOD AVE.

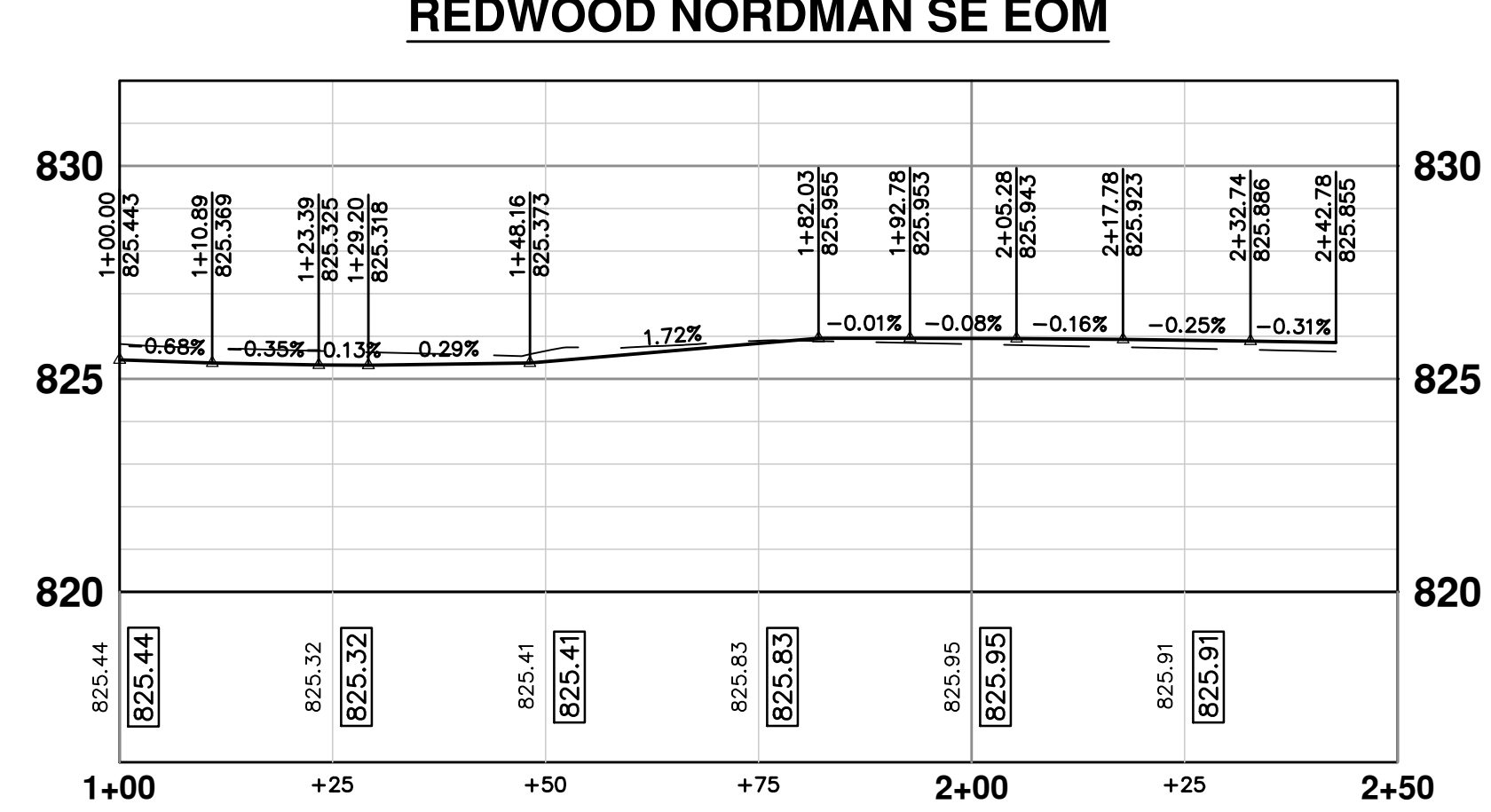
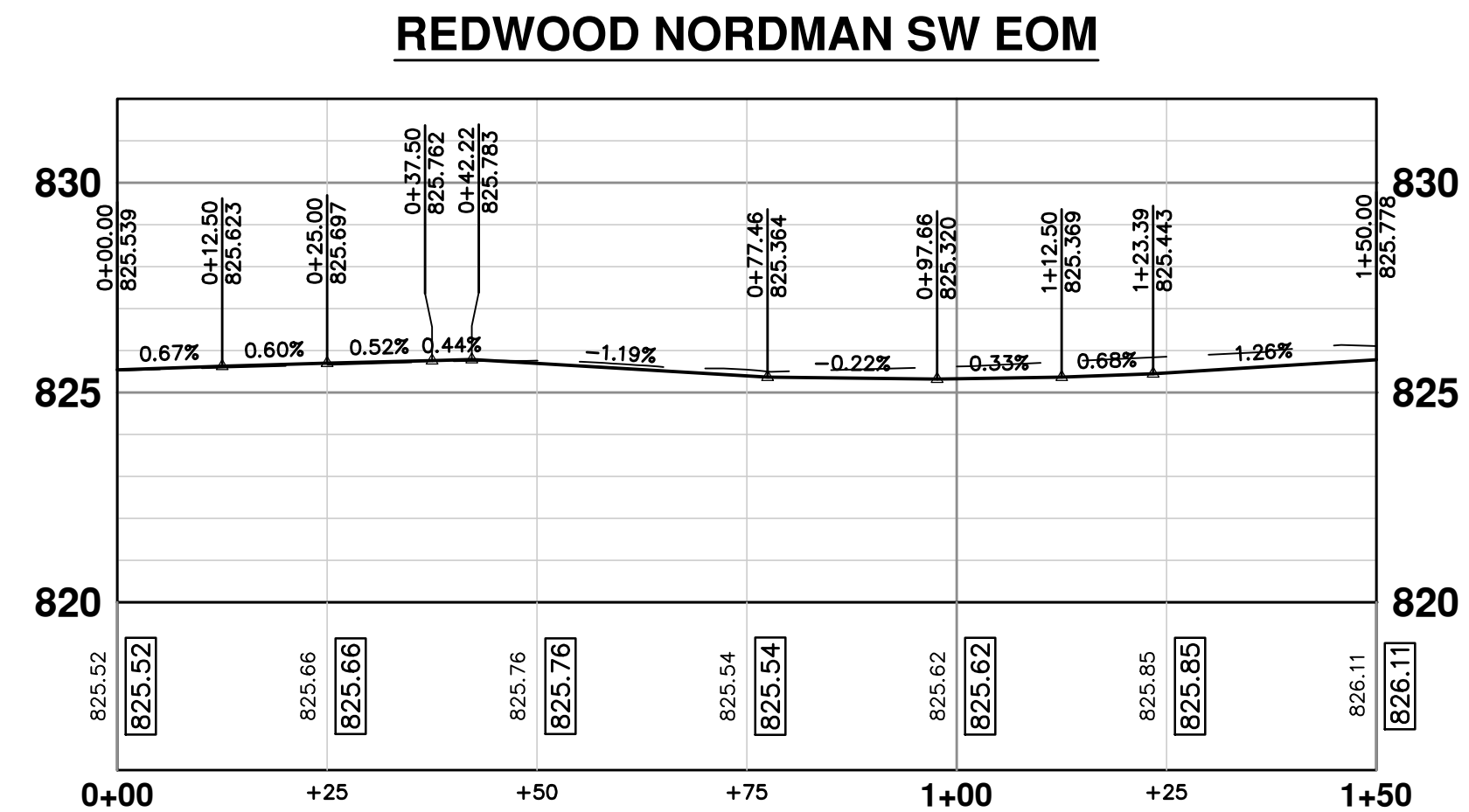
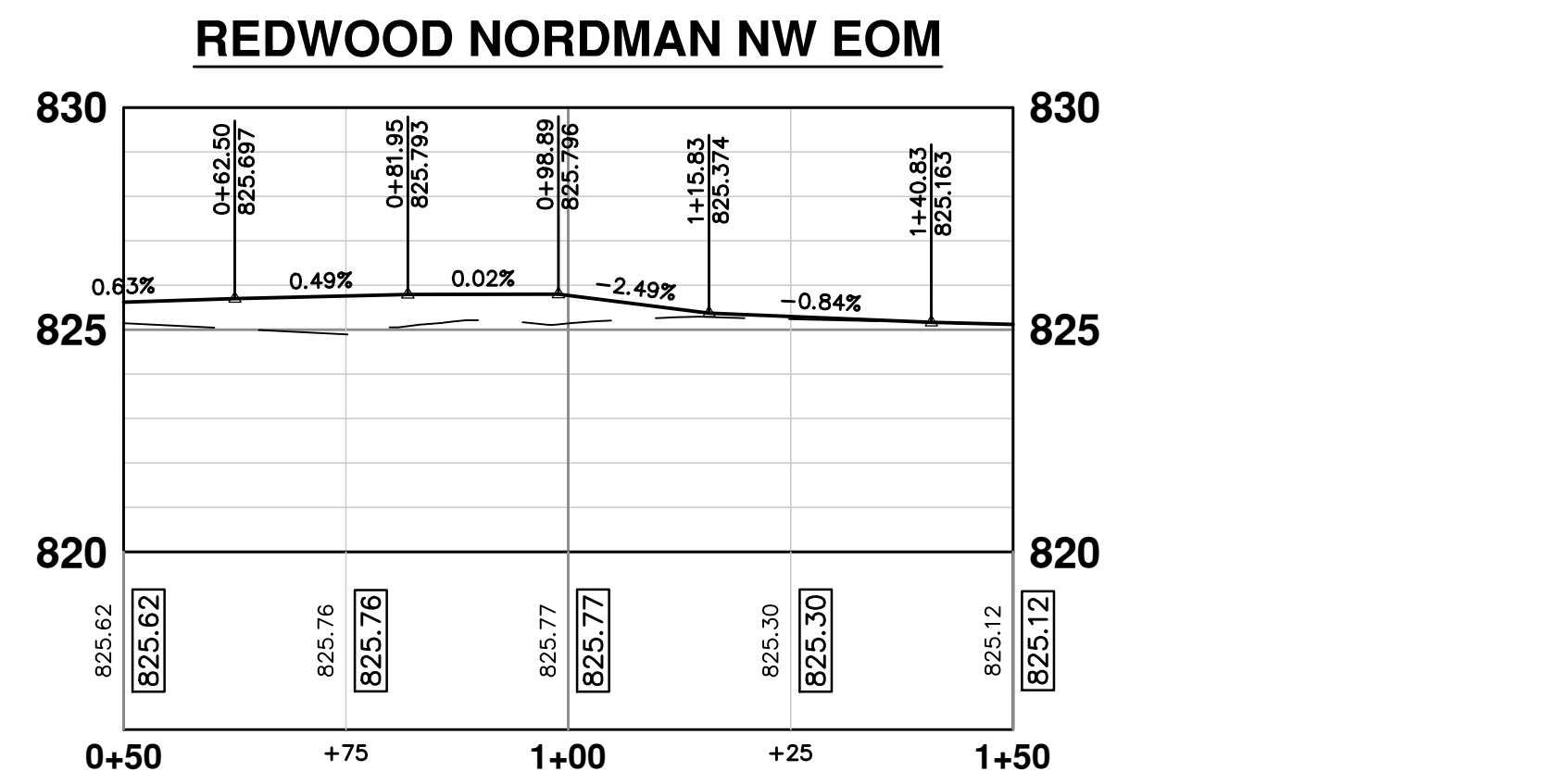
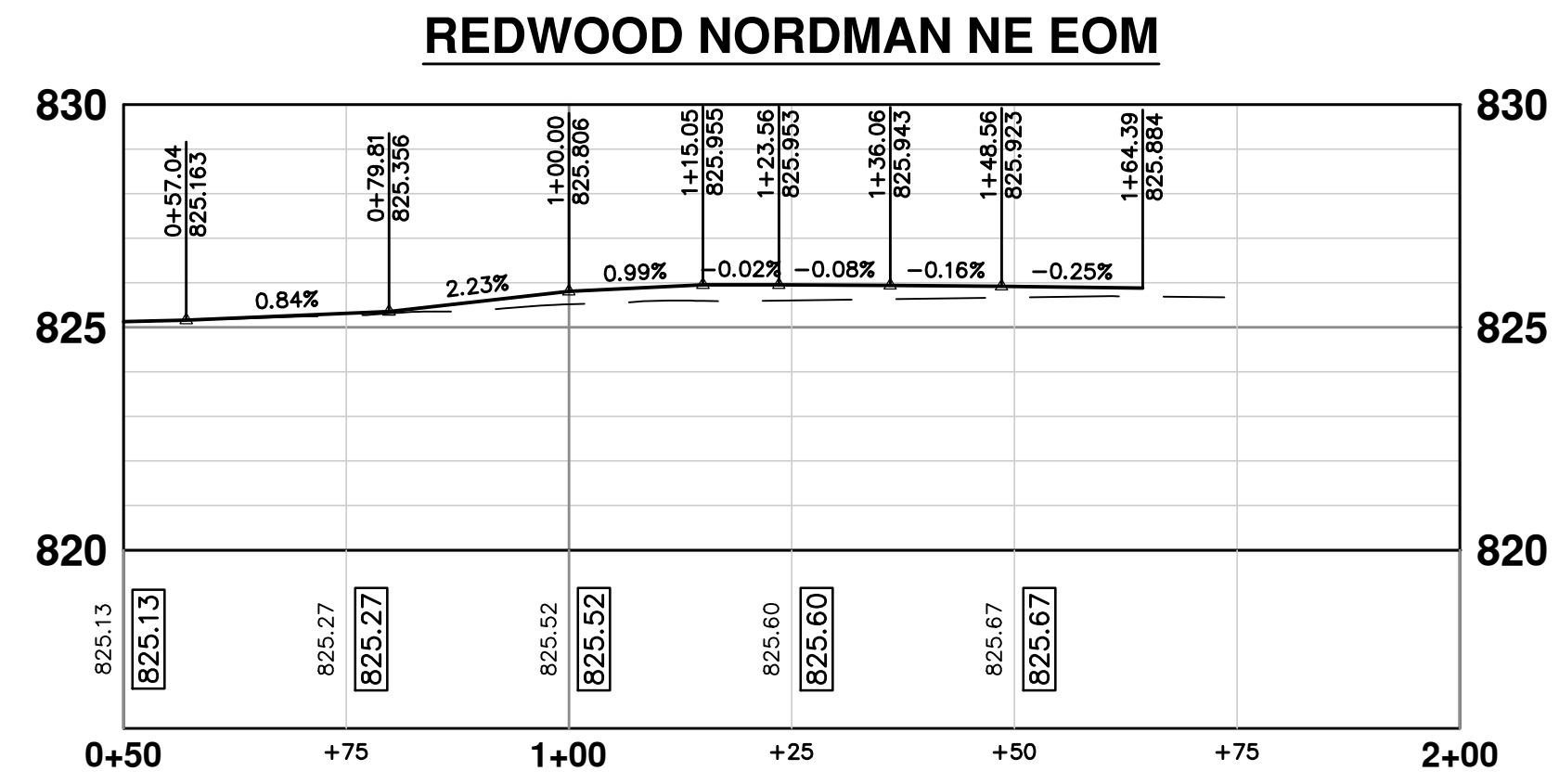
SHEET No. 43 OF 68  
DRAWING No. 2015018-43  
PROFILE: 1" = 4'

REV.	DESCRIPTION	DATE	DRAWN	CHECKED





PLAN: 1" = 10'



PLAN: 1" = 20'  
PROFILE: 1" = 4'



REV.	DESCRIPTION	DATE	DRAWN	CHECKED

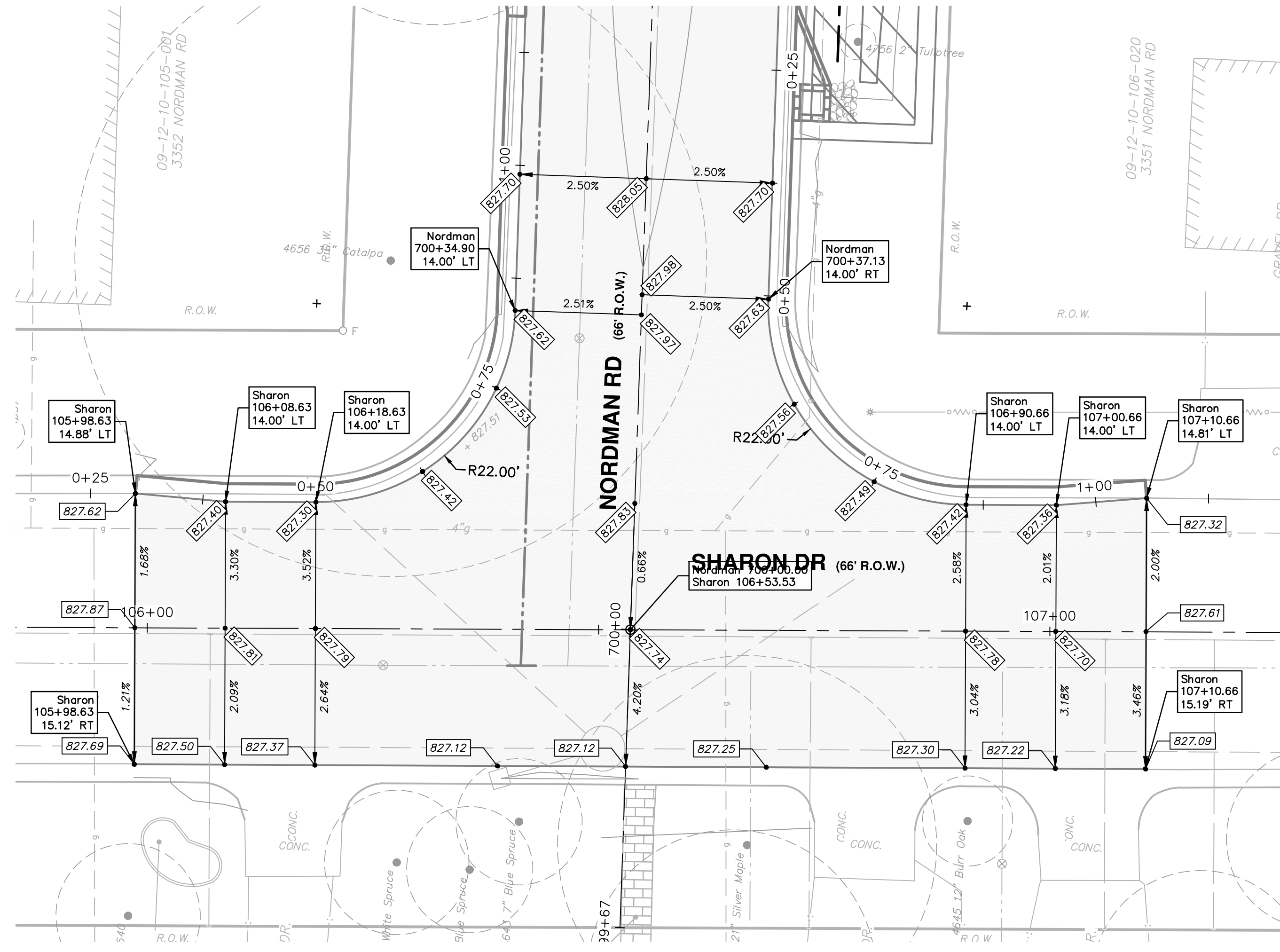
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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR  
SPRINGWATER SUBDIVISION - PHASE II  
INTERSECTION GRADES  
NORDMAN RD. & REDWOOD AVE.

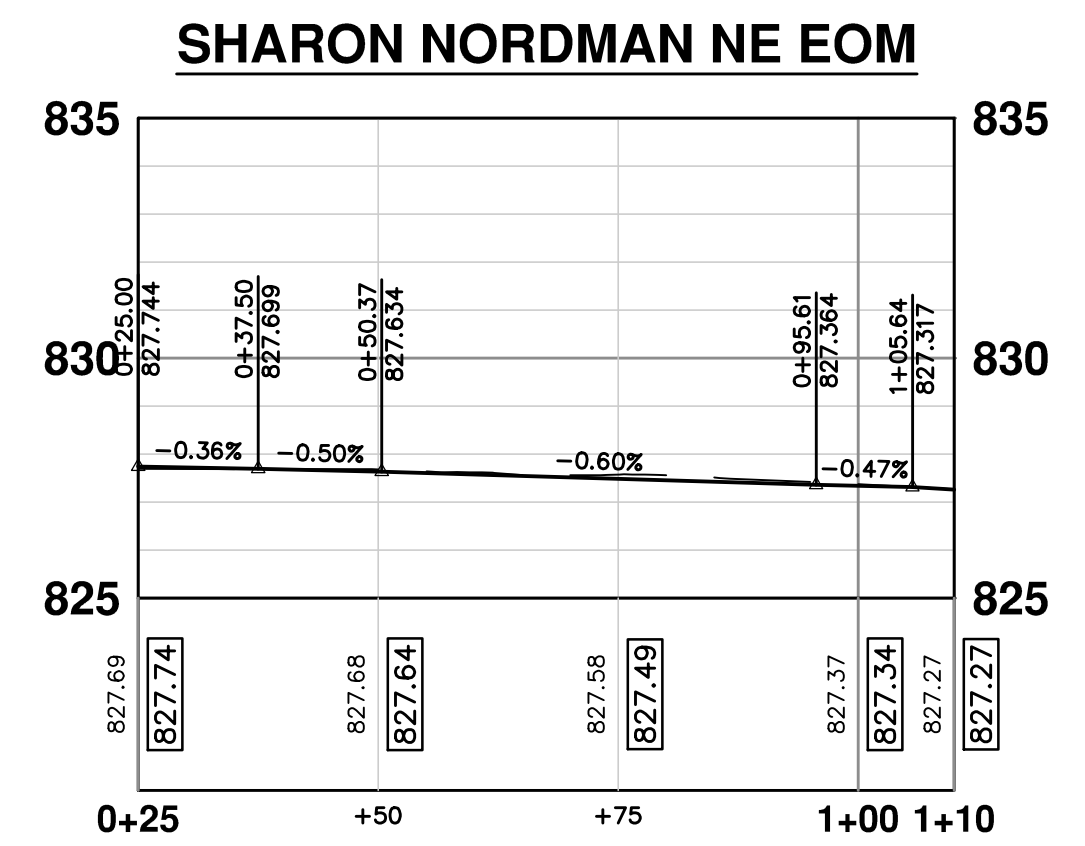
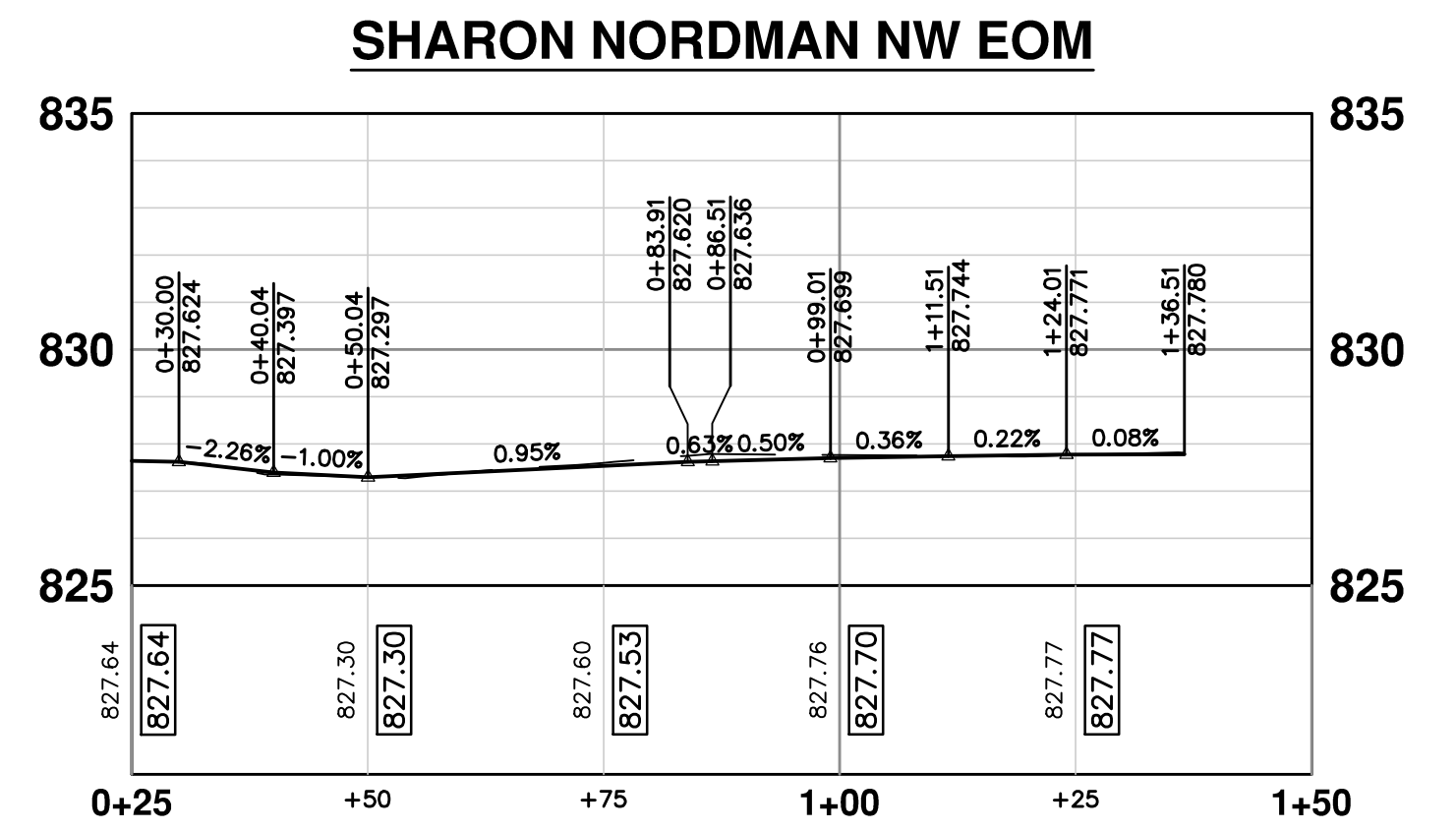
SCALE PLAN: 1" = 10' PROFILE: 1" = 4'

DRAWING No. 2015018-44





PLAN: 1" = 10'



PLAN: 1" = 20'  
PROFILE: 1" = 4'



REV.	DESCRIPTION	DATE	DRAWN	CHECKED

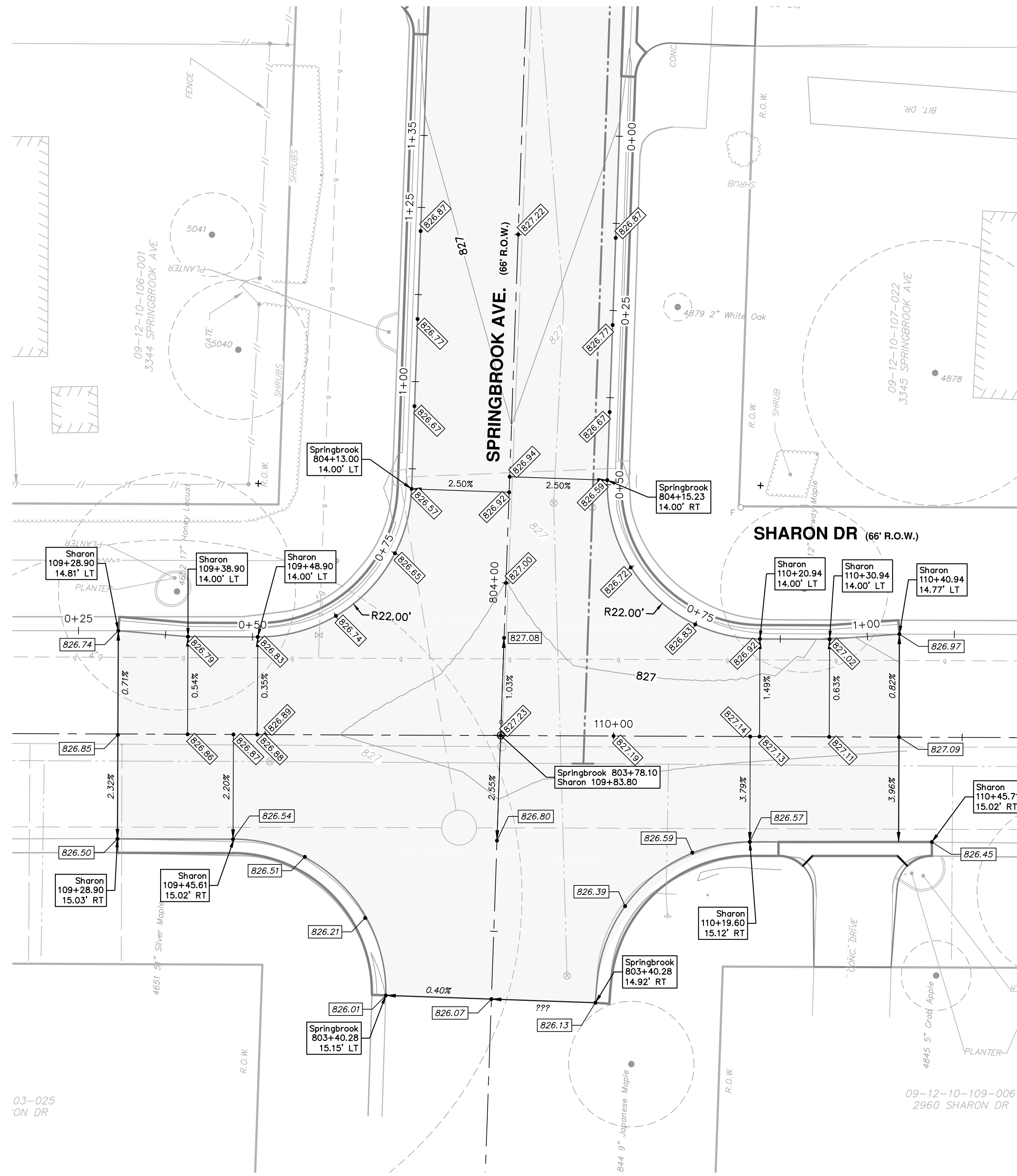
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PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR  
SPRINGWATER SUBDIVISION - PHASE II  
INTERSECTION GRADES  
NORDMAN RD. & SHARON DR.

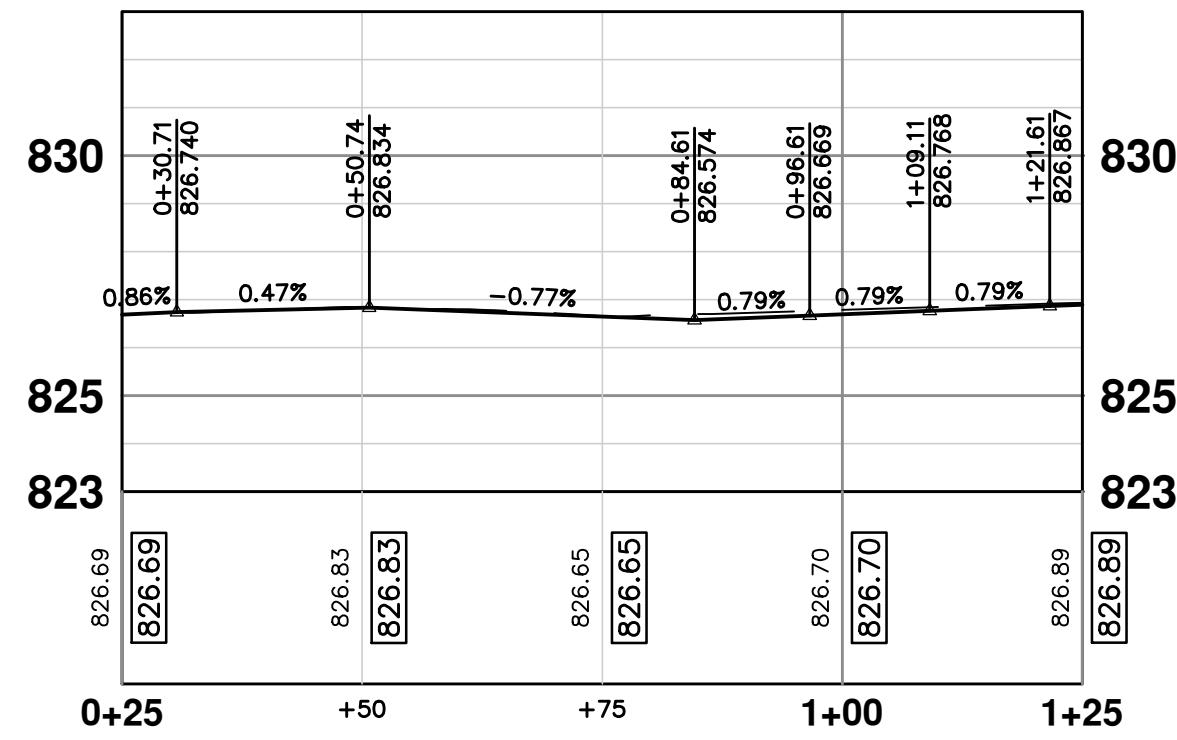
SCALE PLAN: 1" = 10'  
PROFILE: 1" = 4'  
DRAWING No.  
2015018-45



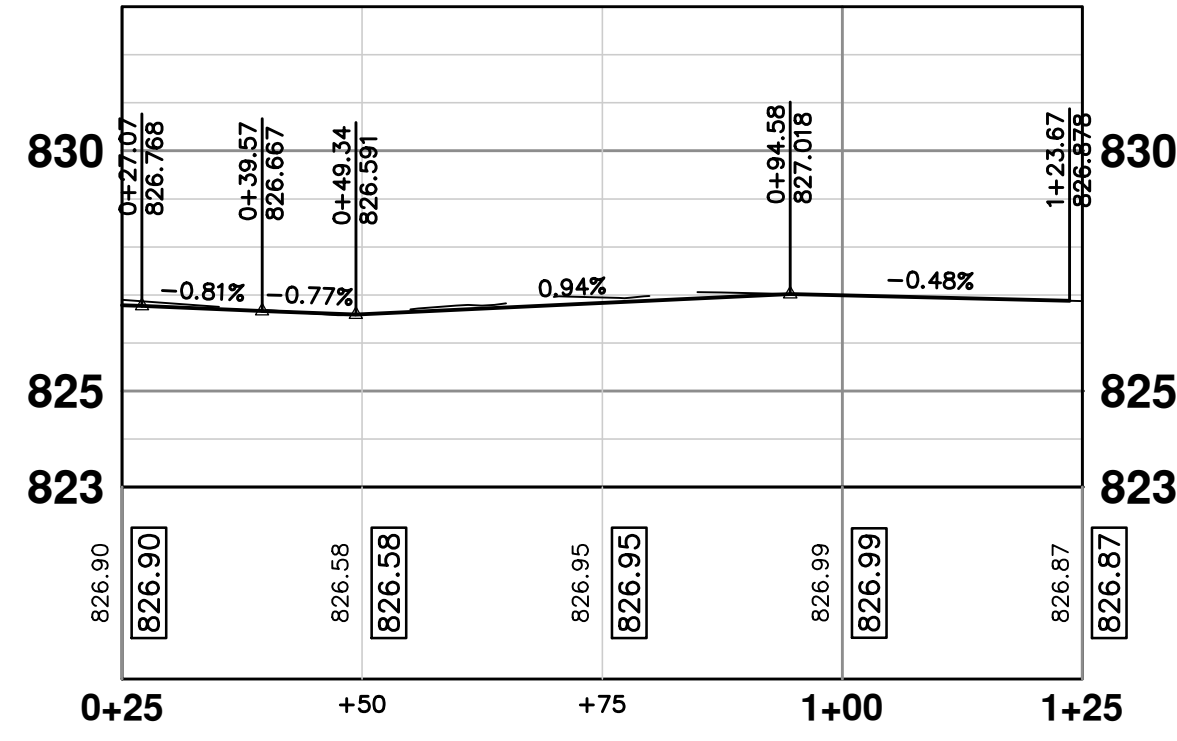


PLAN: 1" = 10'

SHARON SPRINGBROOK NW EOM



SHARON SPRINGBROOK NE EOM



PLAN: 1" = 20'  
PROFILE: 1" = 4'

**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**  
 INTERSECTION GRADES  
 SPRINGBROOK AVE. & SHARON DR.

SHEET No. **46 OF 68**

SCALE PLAN: 1" = 10'  
 PROFILE: 1" = 4'

DRAWING No. **2015018-46**

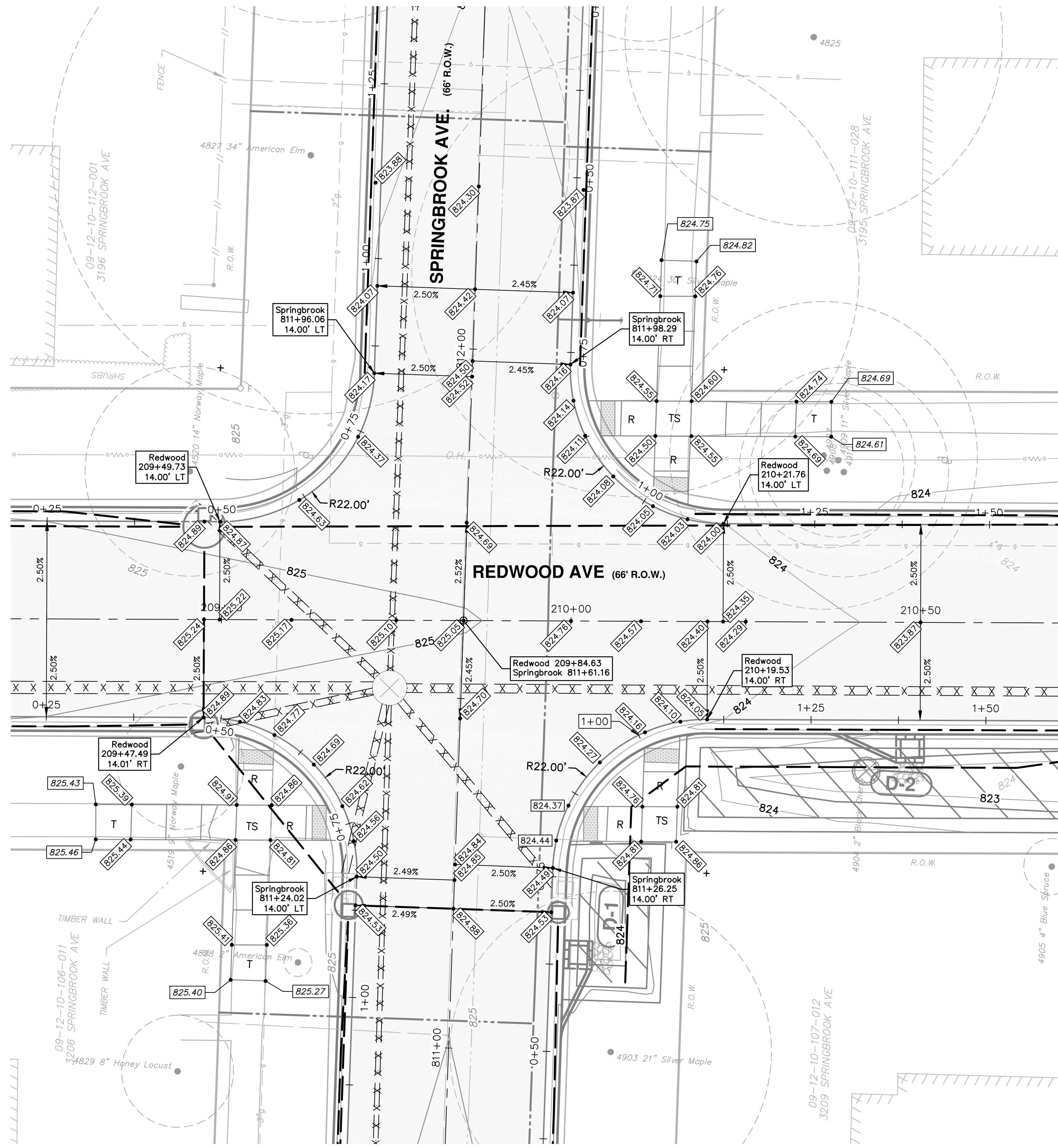
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 ANN ARBOR, MI 48106-0667  
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REV.	DESCRIPTION	DATE	DRAWN	CHECKED

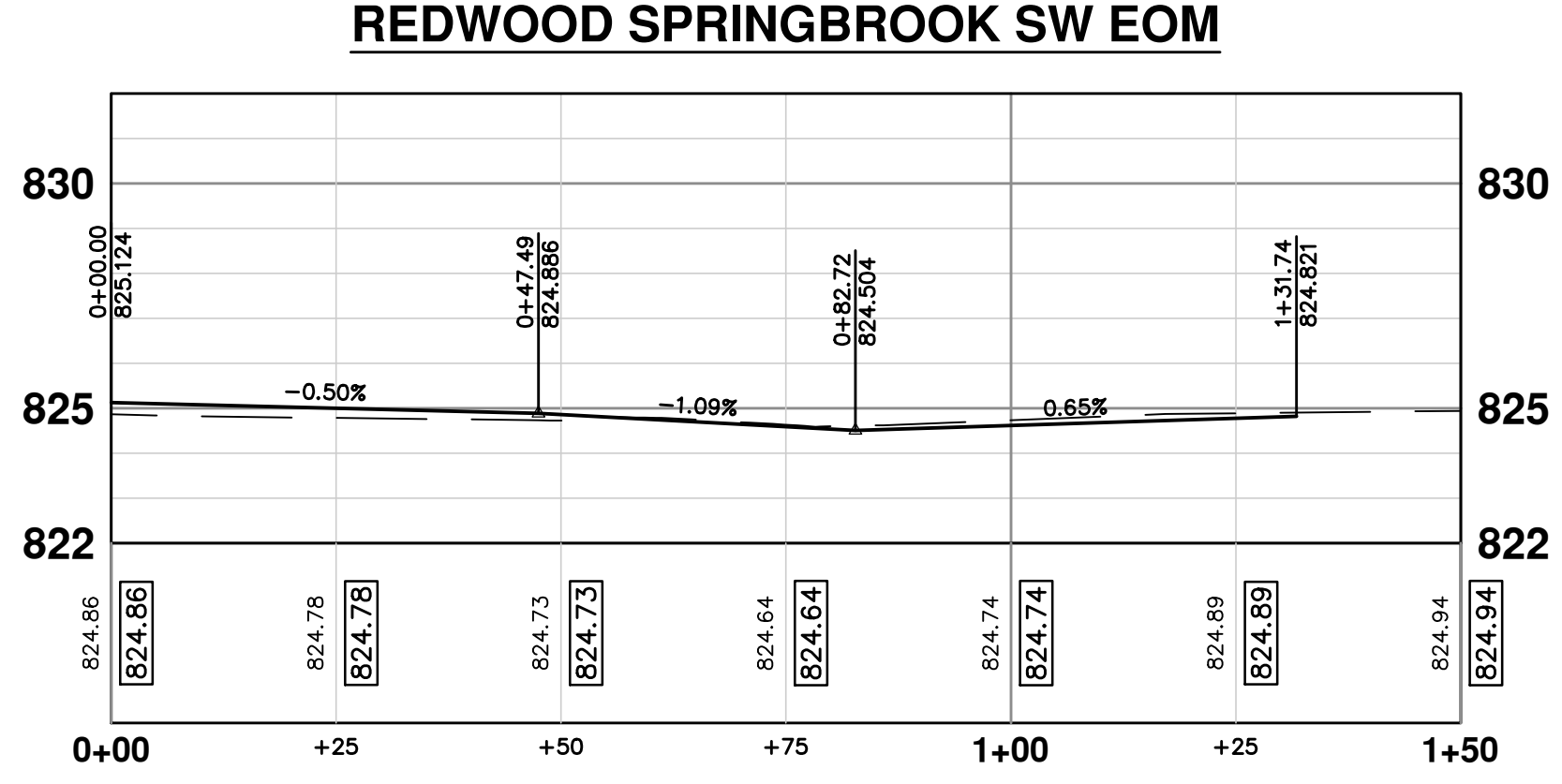
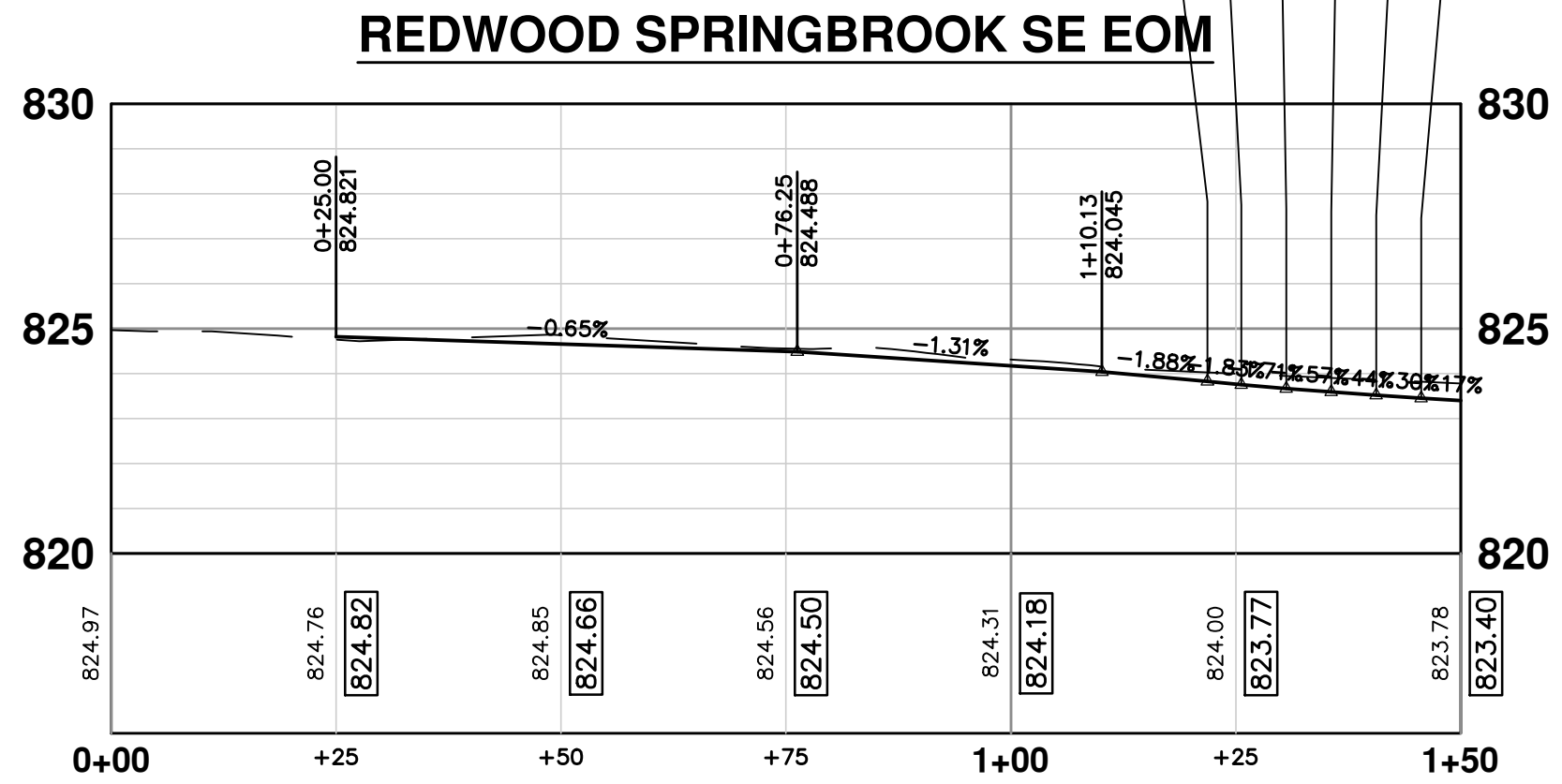
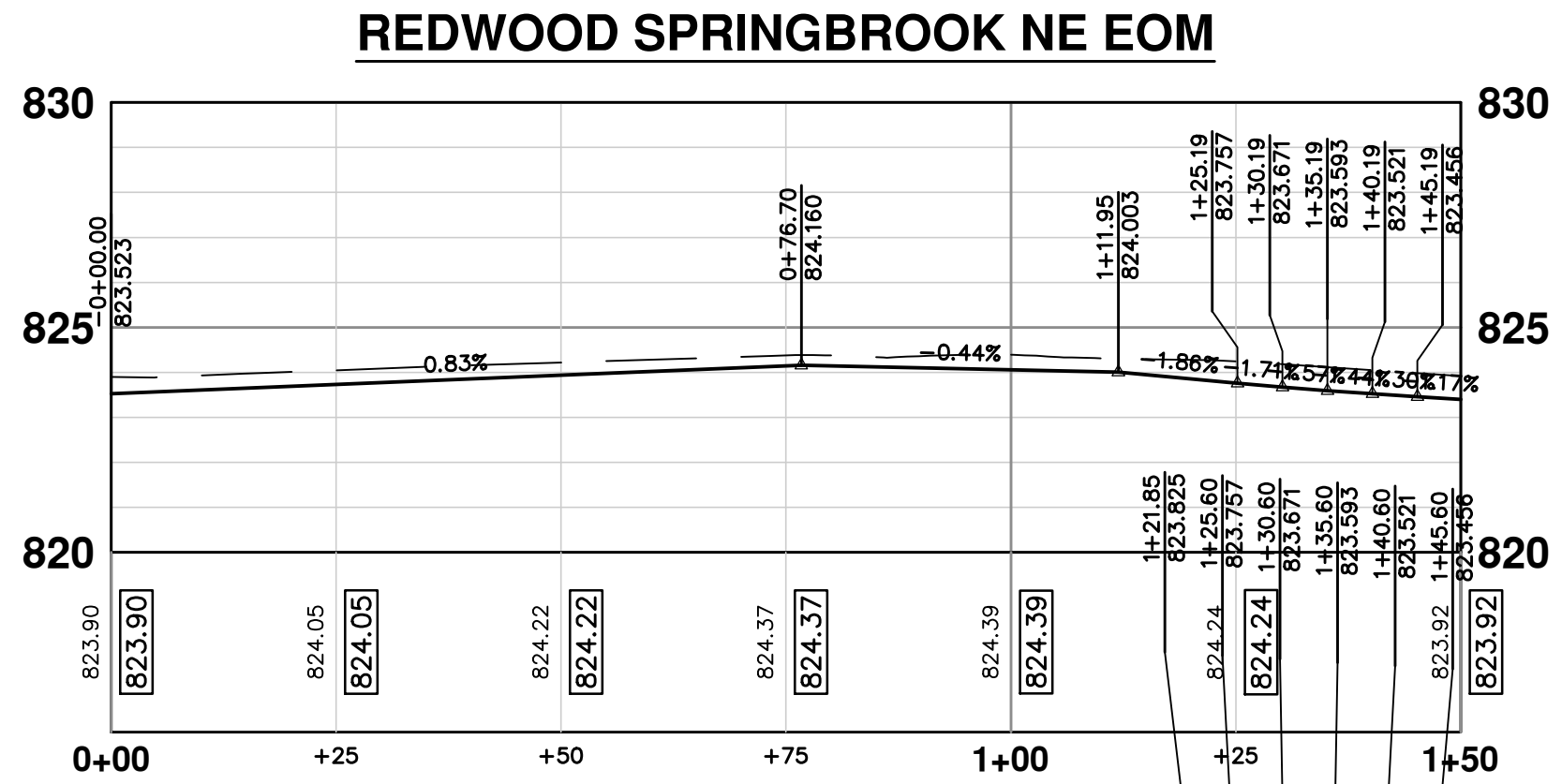
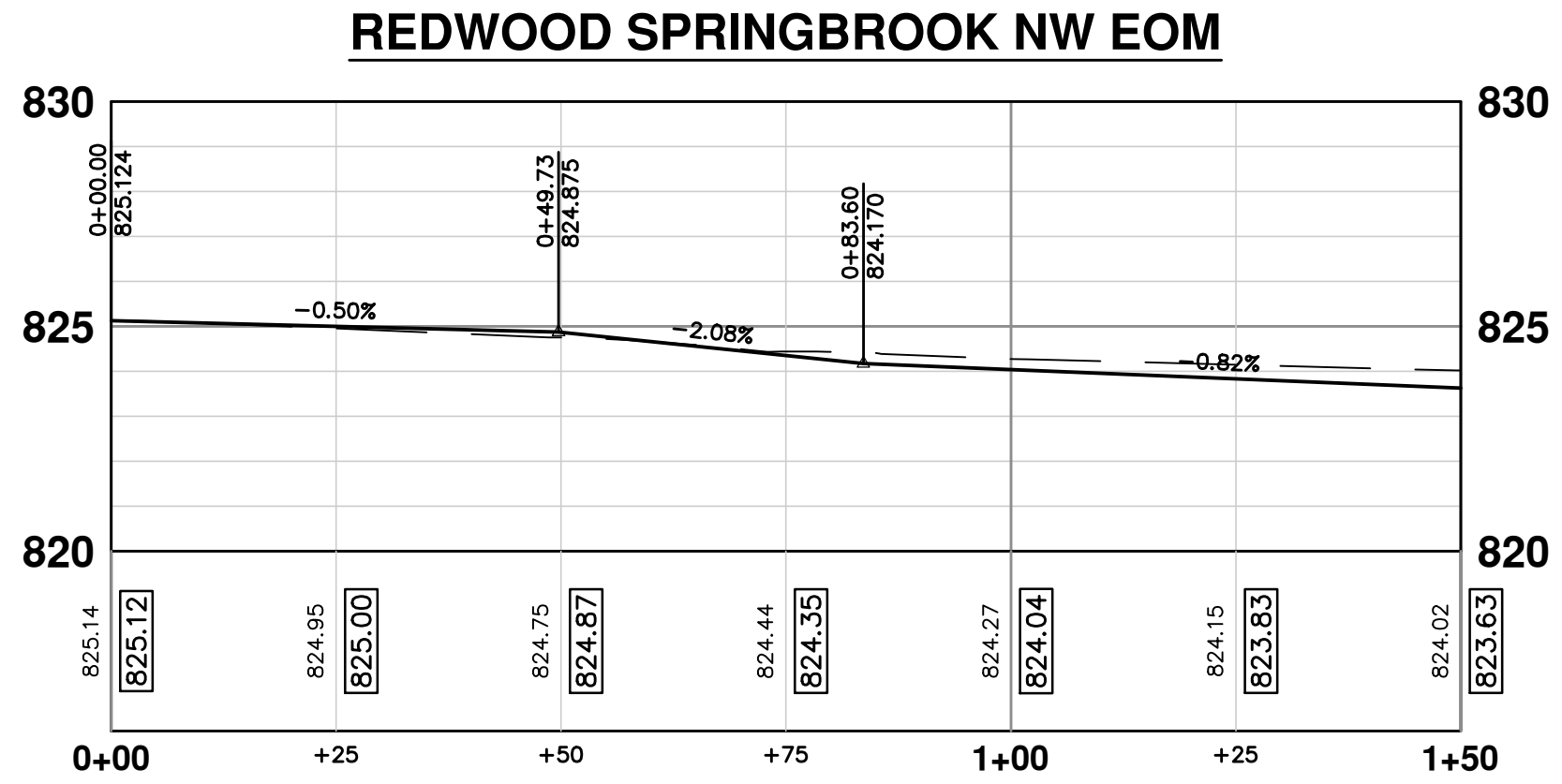
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S:\Project Management\Design\2014018 Springwater Sub Ph II\Plan Production\Primary\2014018INT.dwg Dwg Created: 8-Dec-15 - a2 standard bw.stb - Plot Date: 8-Mar-16



PLAN: 1" = 10'

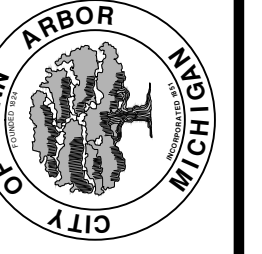


PLAN: 1" = 20'  
PROFILE: 1" = 4'



REV.	DESCRIPTION	DATE	DRAWN	CHECKED

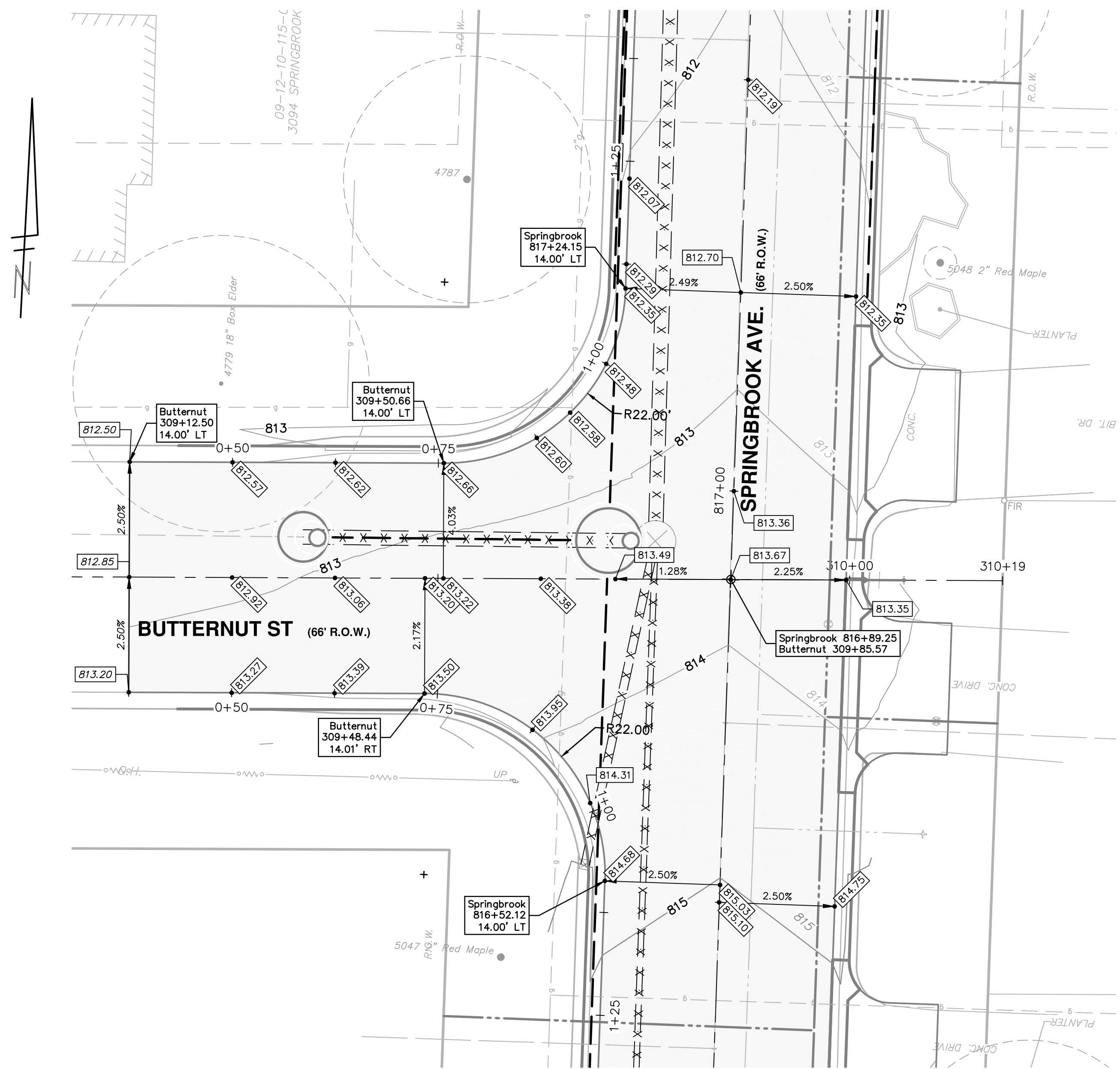
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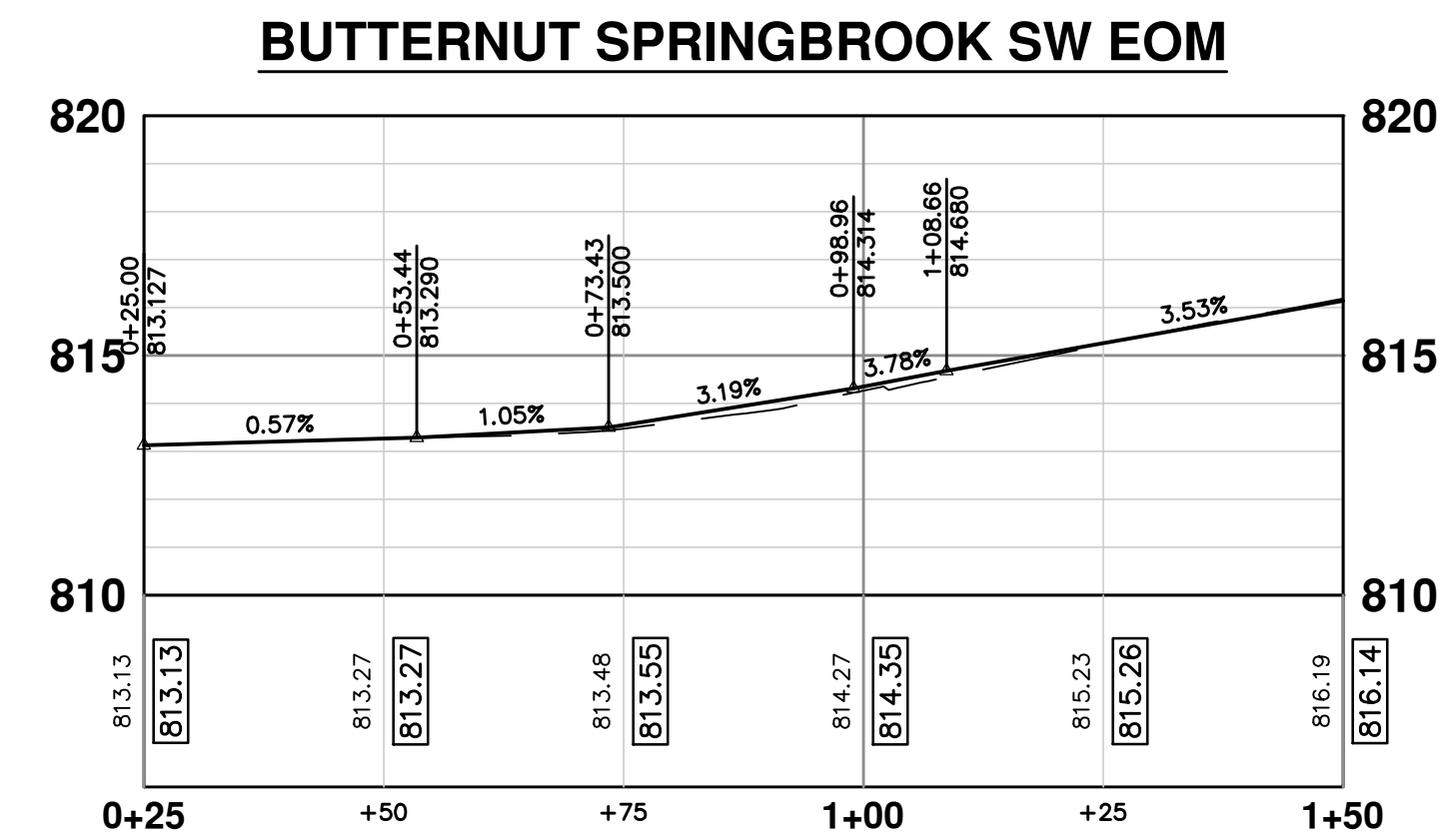
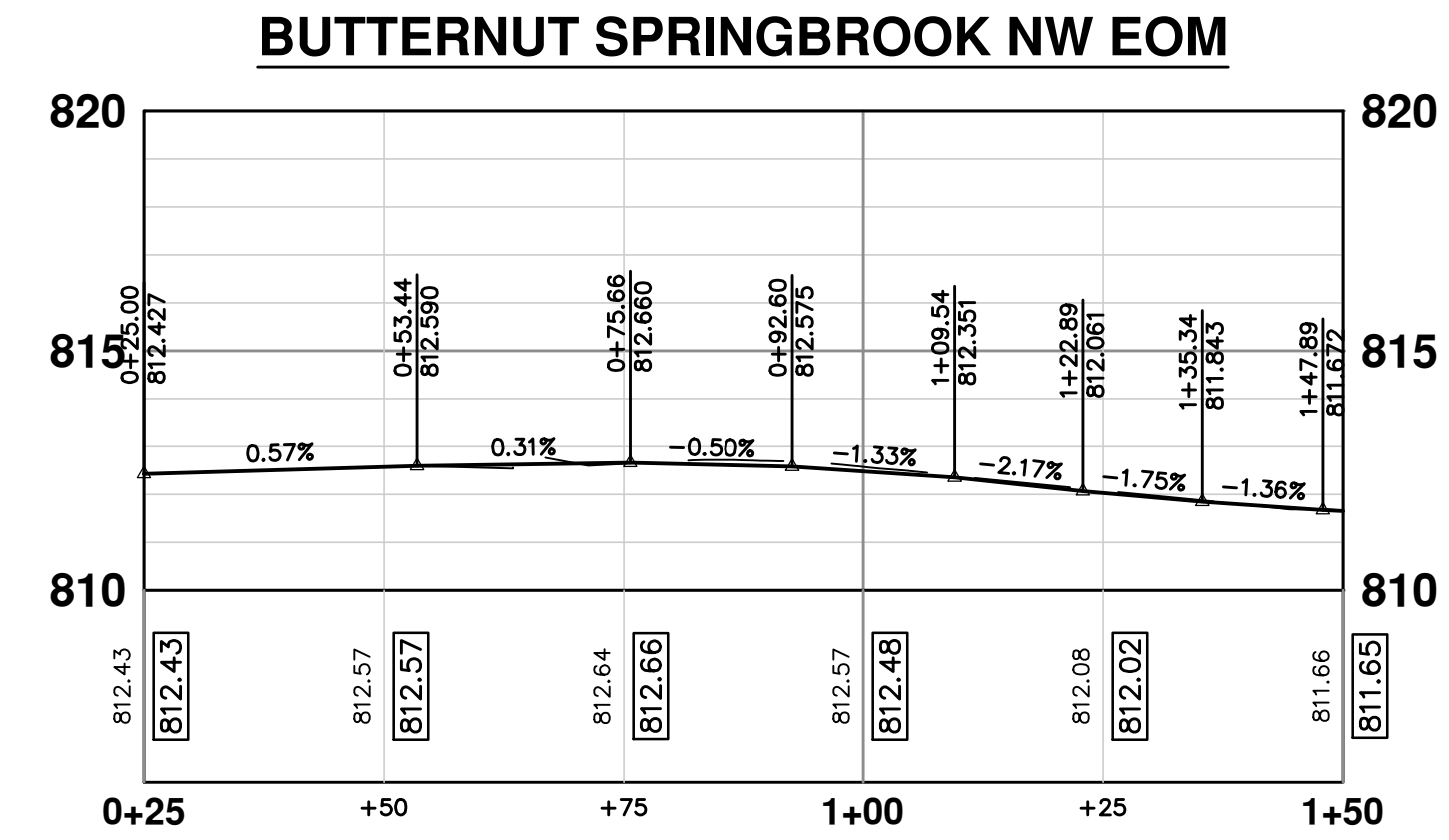
**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**  
INTERSECTION GRADES  
SPRINGBROOK AVE. & REDWOOD AVE.

SCALE PLAN: 1" = 10'  
PROFILE: 1" = 4'  
DRAWING No. 2015018-47





PLAN: 1" = 10'



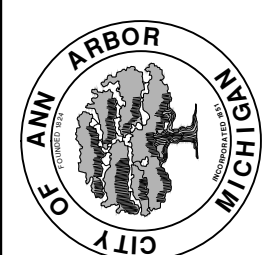
PLAN: 1" = 20'  
PROFILE: 1" = 4'

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**SPRINGWATER SUBDIVISION - PHASE II**  
 INTERSECTION GRADES  
 SPRINGBROOK AVE. & BUTTERNUT ST.

SCALE PLAN: 1" = 10'    PROFILE: 1" = 4'

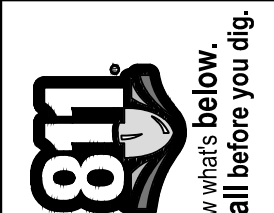
DRAWING No. 2015018-48

SHEET No. 48 OF 68



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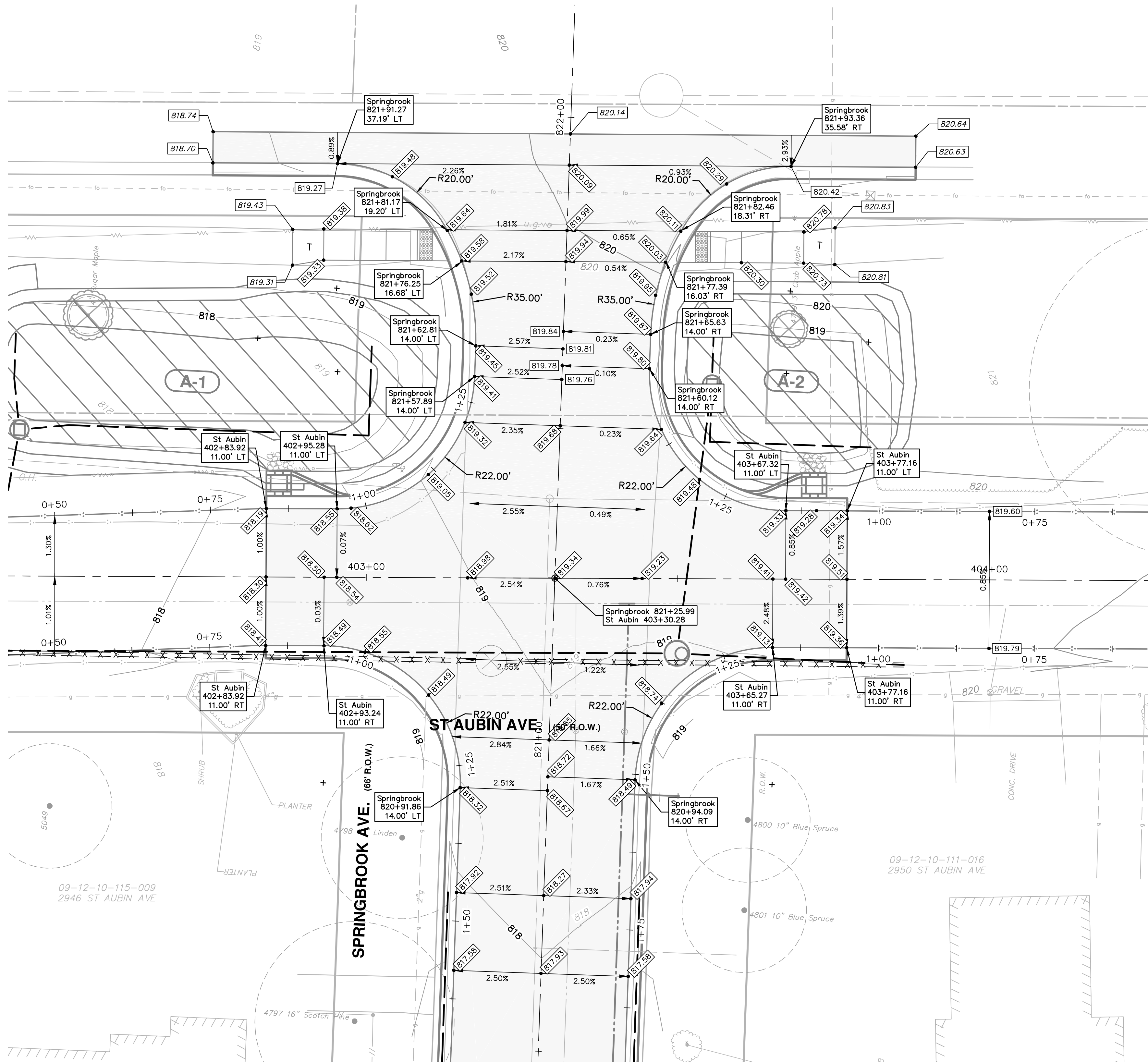
REV.	DESCRIPTION	DATE	DRAWN	CHECKED



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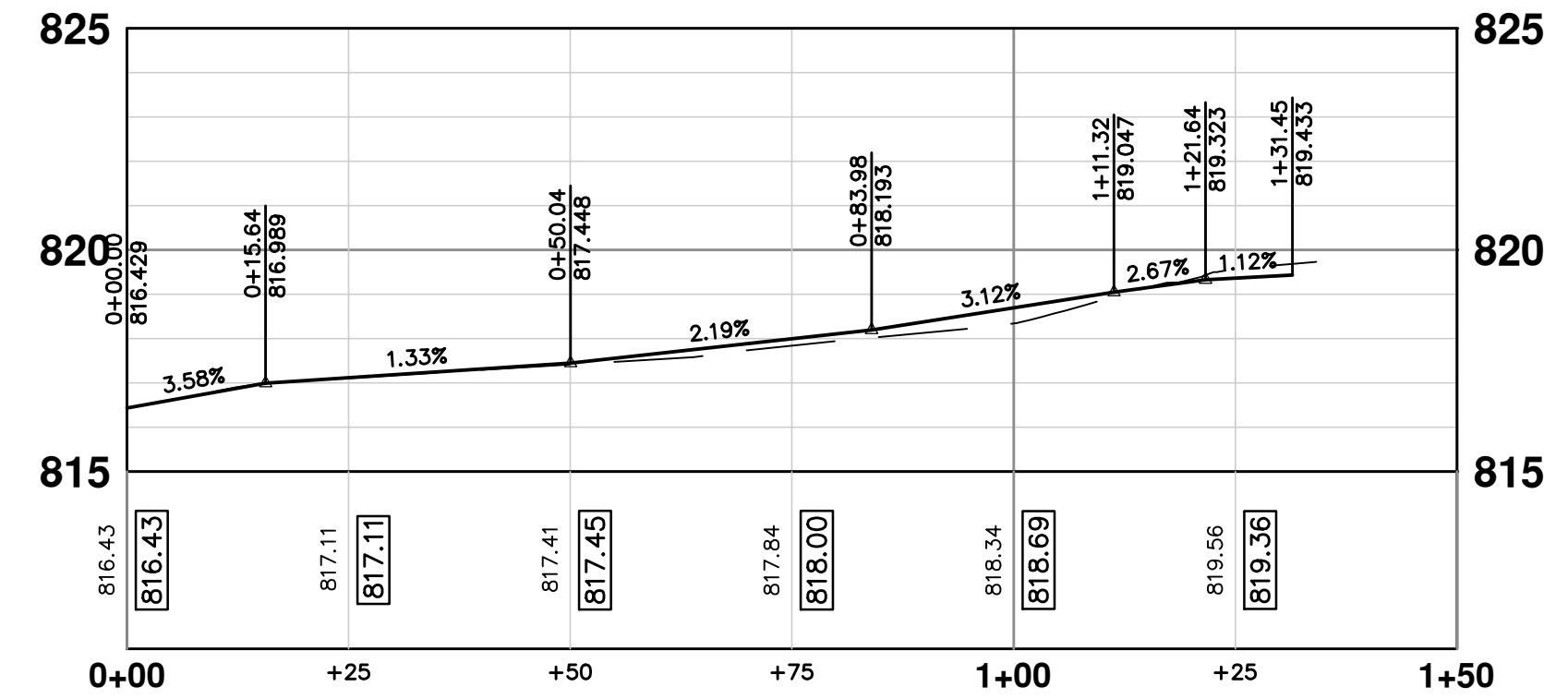


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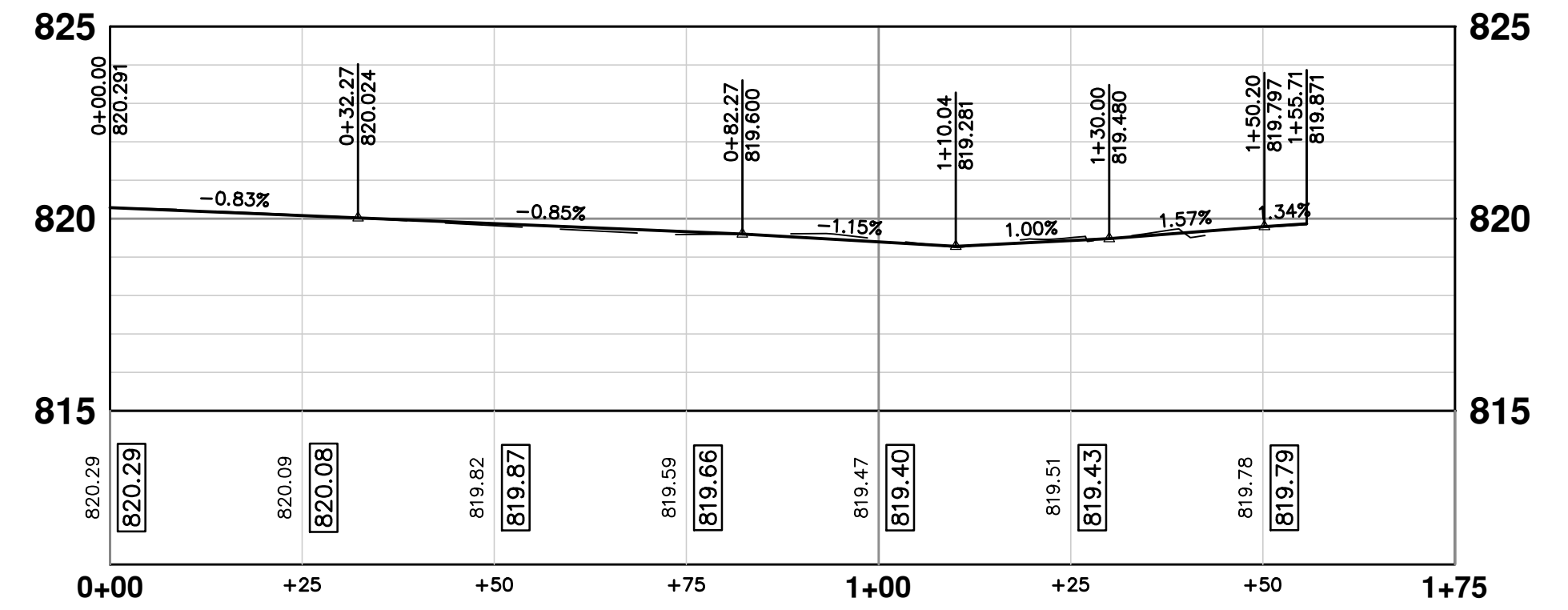


PLAN: 1" = 10'

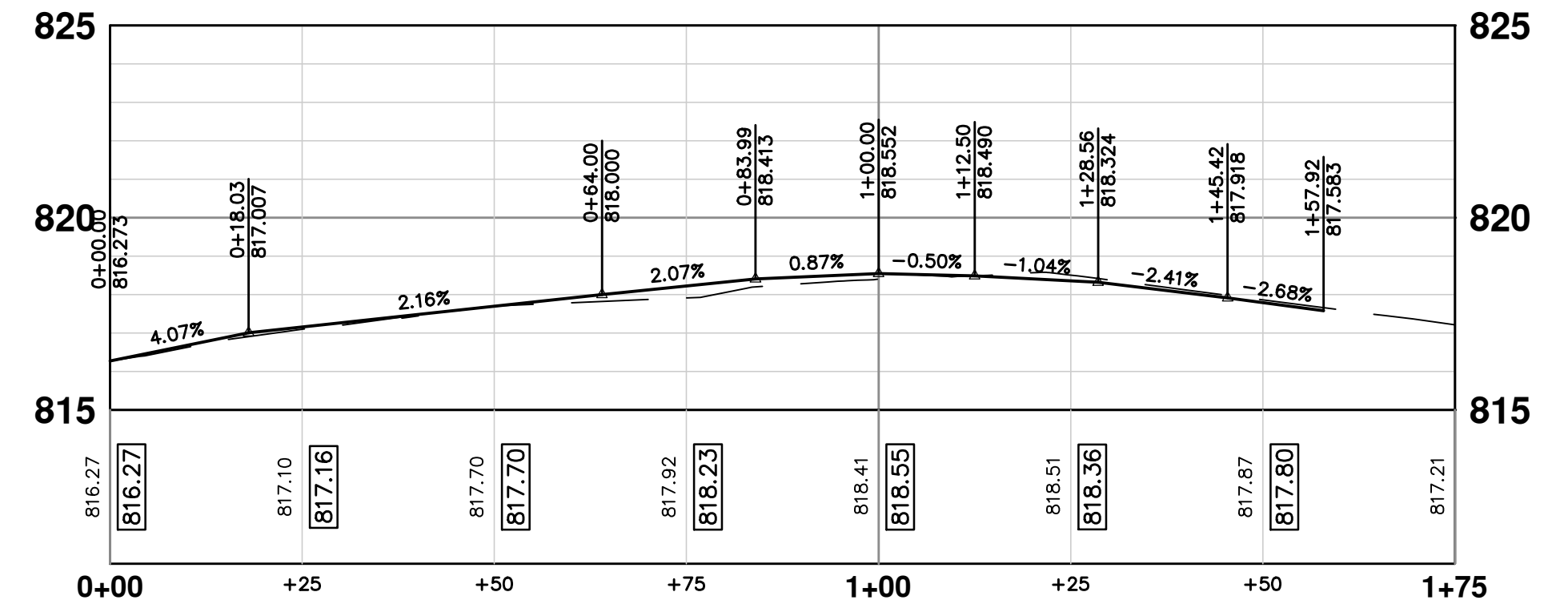
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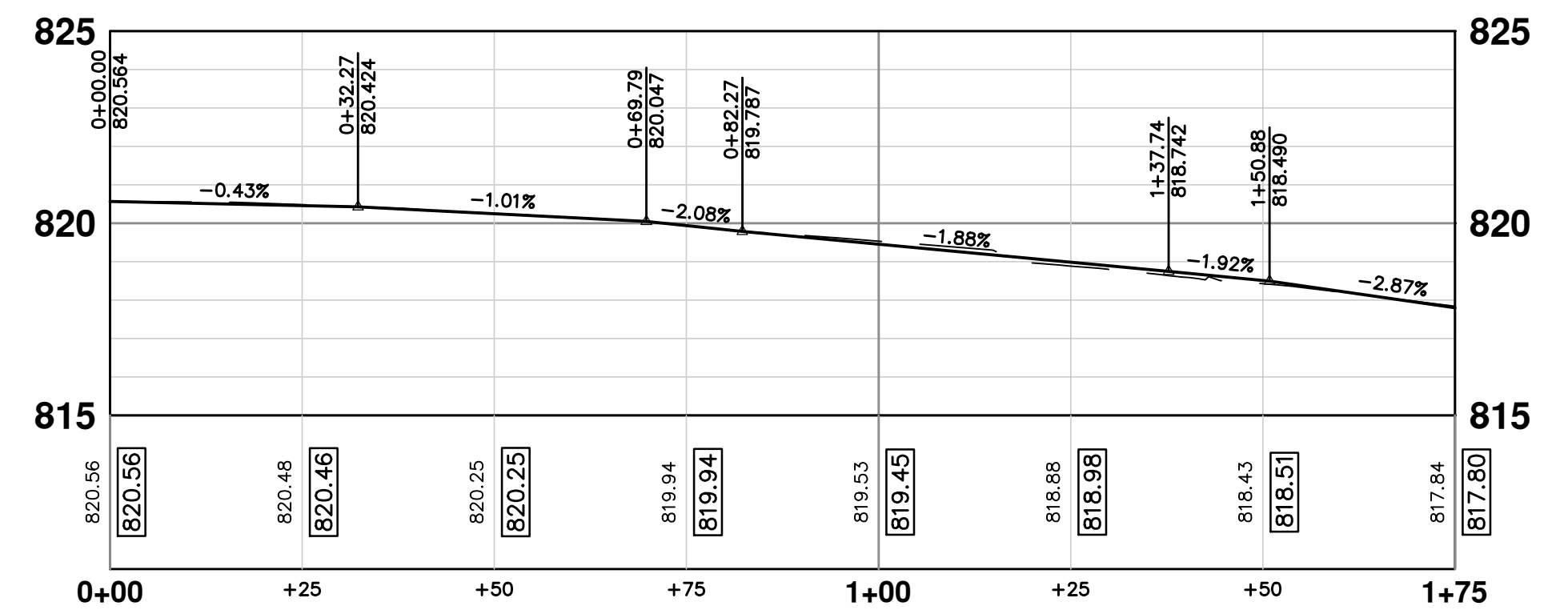
ST AUBIN SPRINGBROOK NE EOM



ST AUBIN SPRINGBROOK SW EOM



ST AUBIN SPRINGBROOK SE EOM

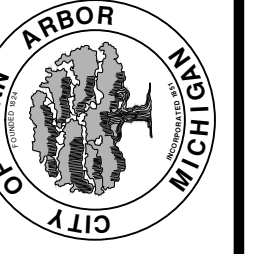


PLAN: 1" = 20'  
PROFILE: 1" = 4'



REV.	DESCRIPTION	DATE	DRAWN	CHECKED

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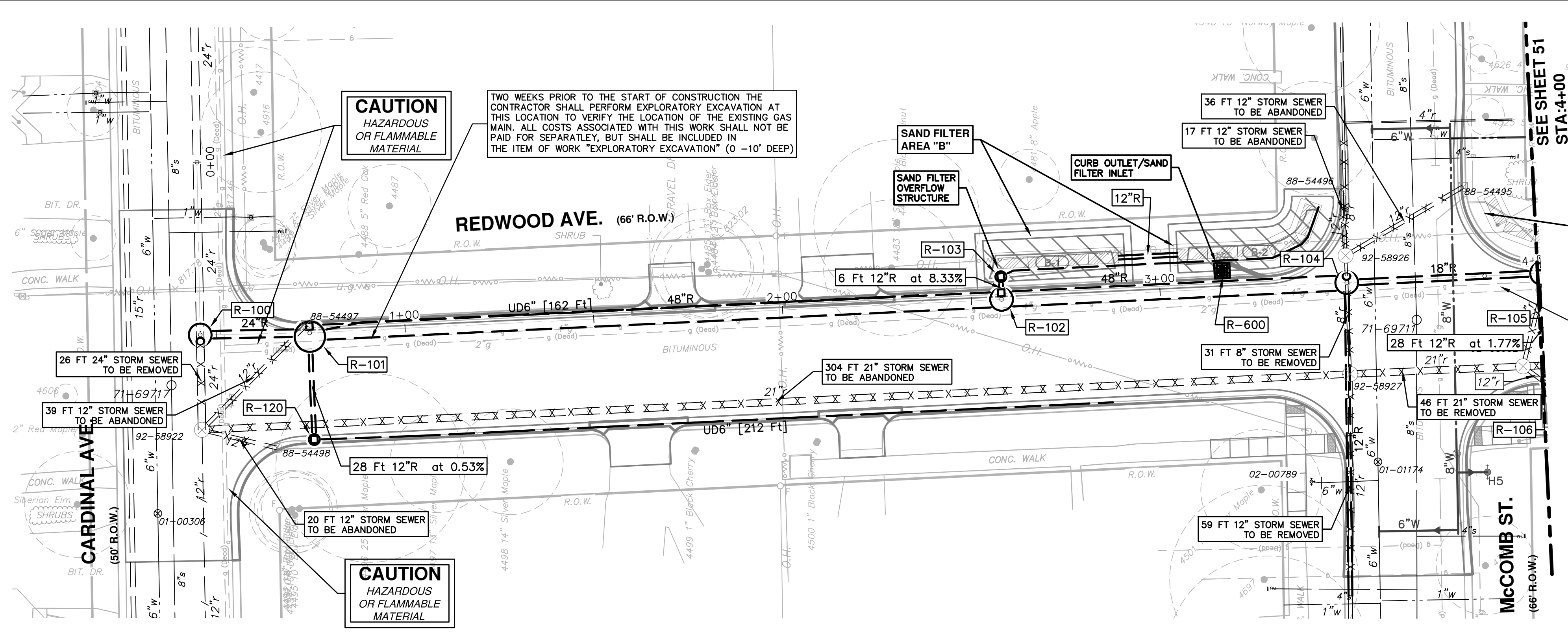


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SPRINGWATER SUBDIVISION - PHASE II  
INTERSECTION GRADES  
SPRINGBROOK AVE. & ST. AUBIN AVE.

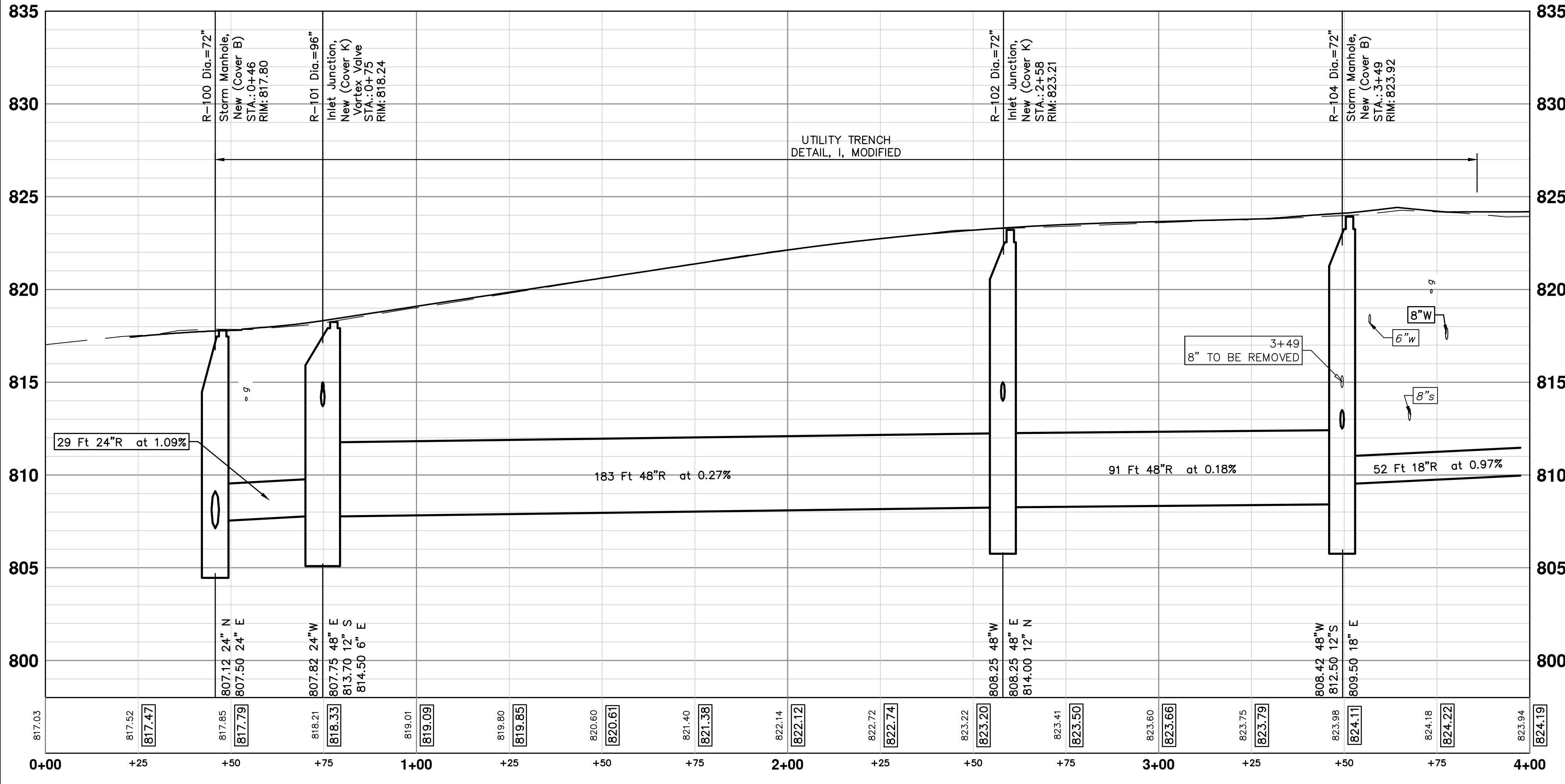
SHEET No. 49 OF 68  
DRAWING No. 2015018-49  
SCALE PLAN: 1" = 10' PROFILE: 1" = 4'



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STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DEPTH (Feet)	SIZE	APPLICATION/CONSTRUCTION
R-100	0+46	24" N 807.12 24" E 807.50	817.80	12.68	72" Dia.	Storm Manhole, New (Cover B)
R-101	0+75	48" E 807.75 12" S 813.70 6" E 814.50 24" W 807.82	818.24	12.49	96" Dia.	Inlet Junction, New (Cover K) Vortex Valve
R-102	2+58	48" E 808.25 12" N 814.00 48" W 808.25	823.21	16.96	72" Dia.	Inlet Junction, New (Cover K)
R-103	2+58	12" S 814.50 6" NE 815.00	823.50	11.00	36" Dia.	Sandfilter Overflow
R-104	3+49	18" E 809.50 48" W 808.42 12" S 812.50	823.92	17.51	72" Dia.	Storm Manhole, New (Cover B)
R-105	4+01	18" E 810.00 12" S 817.00 6" E 820.25 18" W 810.00	824.10	16.10	72" Dia.	Inlet Junction, New (Cover K)
R-106	4+01	12" SE 817.50 6" E 820.33 12" N 817.50	824.10	8.60	36" Dia.	Inlet Junction, New (Cover K)
R-120	0+75	6" E 814.50 12" N 813.85	818.21	6.36	36" Dia.	Inlet, New (Cover K)



**811**  
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DATE: 12/04/2015  
DRAWN: JKA  
CHECKED: AMW

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REV. 00  
DESCRIPTION: MFCO SUBMITTAL

DATE: 12/04/2015  
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**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
SPRINGWATER SUBDIVISION - PHASE II

STORM SEWER - REDWOOD AVENUE  
R100 - STA. 0+00 TO STA. 4+00

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SCALE PLAN: 1" = 20'  
PROFILE: 1" = 4'

DRAWING No. 2015018-50

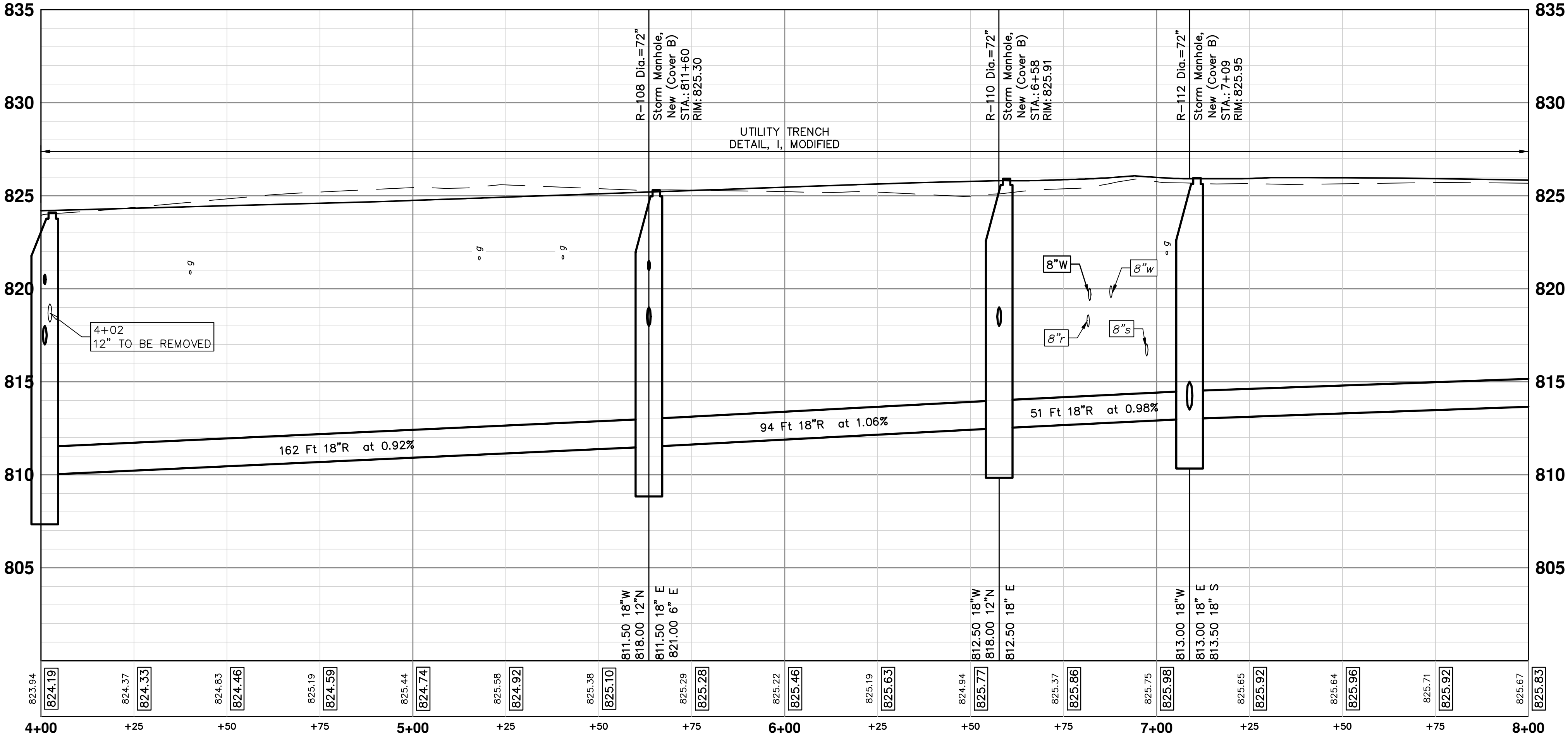
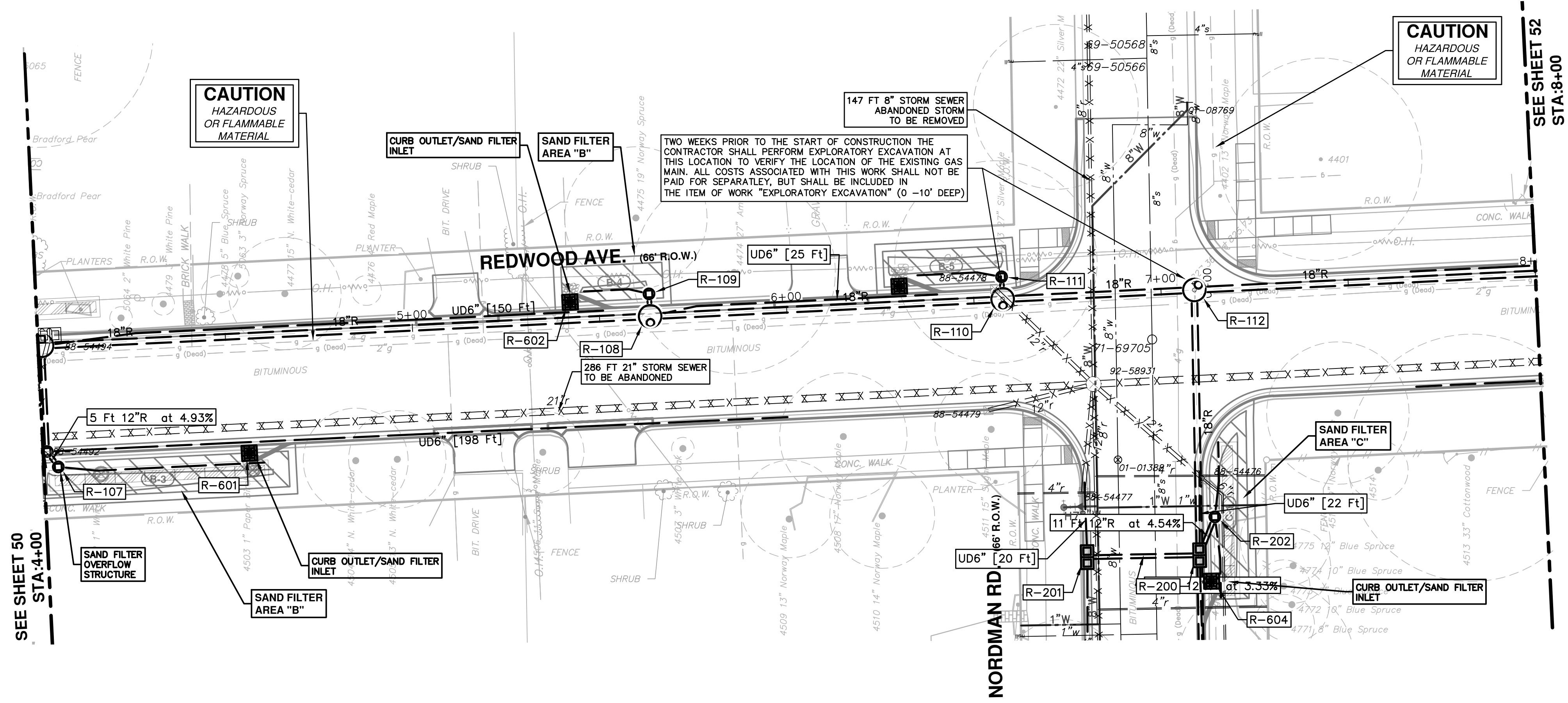
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SHEET No. 50 OF 68


50 OF 68



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STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DEPTH (Feet)	SIZE	APPLICATION/CONSTRUCTION
R-107	4+04	12" NW 817.75 6" E 818.25	824.50	8.75	36" Dia.	Sandfilter Overflow
R-108	811+60	18" E 811.50 6" E 821.00 18" W 811.50 12" N 818.00	825.30	15.80	72" Dia.	Storm Manhole, New (Cover B)
R-109	811+66	12" S 818.50 6" W 819.00	825.40	8.90	36" Dia.	Sandfilter Overflow
R-110	6+58	18" E 812.50 18" W 812.50 12" N 818.00	825.91	15.41	72" Dia.	Storm Manhole, New (Cover B)
R-111	811+69	12" S 818.50 6" W 819.00	825.75	9.25	36" Dia.	Sandfilter Overflow
R-112	7+09	18" E 813.00 18" S 813.50 18" W 813.00	825.95	14.95	72" Dia.	Storm Manhole, New (Cover B)



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01	WDCO SUBMITTAL	12/04/2015	JKA	AMW					



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**SPRINGWATER SUBDIVISION - PHASE II**  
 STORM SEWER - REDWOOD AVENUE  
 R100 - STA. 4+00 TO STA. 8+00

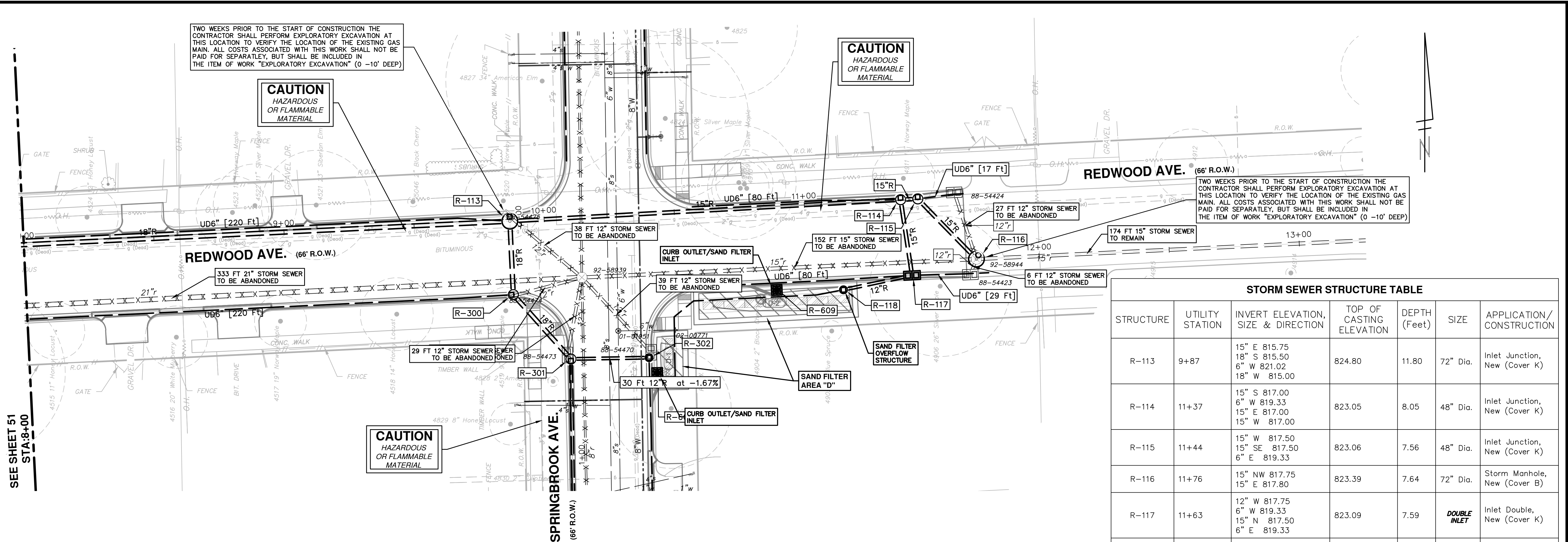
SCALE PLAN: 1" = 20'  
PROFILE: 1" = 4'

DRAWING No.  
**2015018-51**

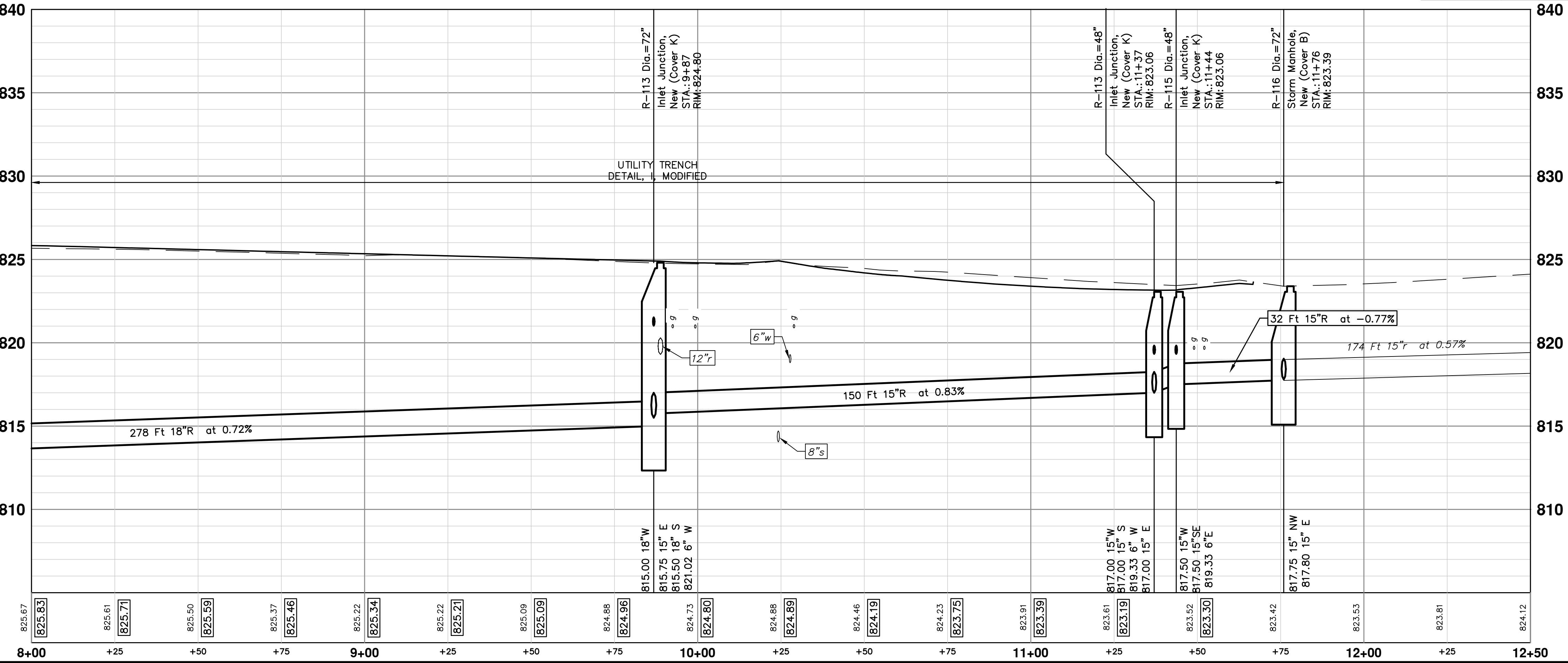
SHEET No.  
**51 OF 68**



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STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DEPTH (Feet)	SIZE	APPLICATION/CONSTRUCTION
R-113	9+87	15" E 815.75 18" S 815.50 6" W 821.02 18" W 815.00	824.80	11.80	72" Dia.	Inlet Junction, New (Cover K)
R-114	11+37	15" S 817.00 6" W 819.33 15" E 817.00 15" W 817.00	823.05	8.05	48" Dia.	Inlet Junction, New (Cover K)
R-115	11+44	15" W 817.50 15" SE 817.50 6" E 819.33	823.06	7.56	48" Dia.	Inlet Junction, New (Cover K)
R-116	11+76	15" NW 817.75 15" E 817.80	823.39	7.64	72" Dia.	Storm Manhole, New (Cover B)
R-117	11+63	12" W 817.75 6" W 819.33 15" N 817.50 6" E 819.33	823.09	7.59	DOUBLE INLET	Inlet Double, New (Cover K)
R-118	11+13	6" W 818.50 12" E 818.00	823.75	7.75	36" Dia.	Sandfilter Overflow



TWO WEEKS PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATION AT THIS LOCATION TO VERIFY THE LOCATION OF THE EXISTING GAS MAIN. ALL COSTS ASSOCIATED WITH THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "EXPLORATORY EXCAVATION" (0 -10' DEEP)

CAUTION  
HAZARDOUS  
OR FLAMMABLE  
MATERIAL

CAUTION  
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OR FLAMMABLE  
MATERIAL

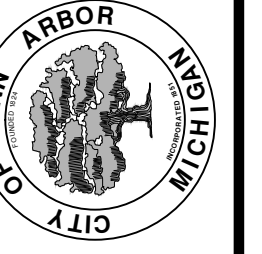
TWO WEEKS PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATION AT THIS LOCATION TO VERIFY THE LOCATION OF THE EXISTING GAS MAIN. ALL COSTS ASSOCIATED WITH THIS WORK SHALL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE ITEM OF WORK "EXPLORATORY EXCAVATION" (0 -10' DEEP)

SEE SHEET 51  
STA: 8+00



NO	DATE	DESCRIPTION
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		MECO SUBMITTAL
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		CHECKED

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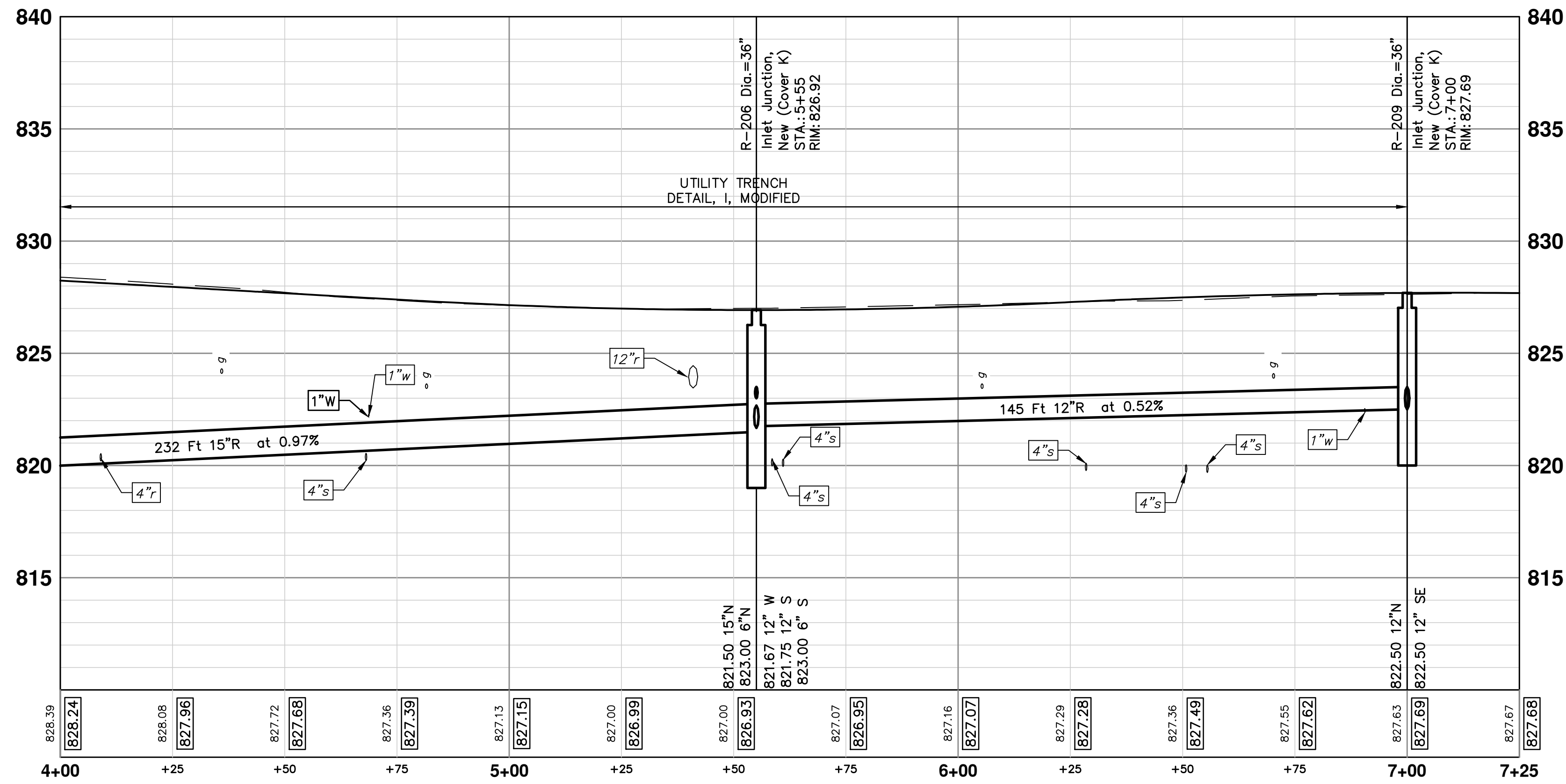
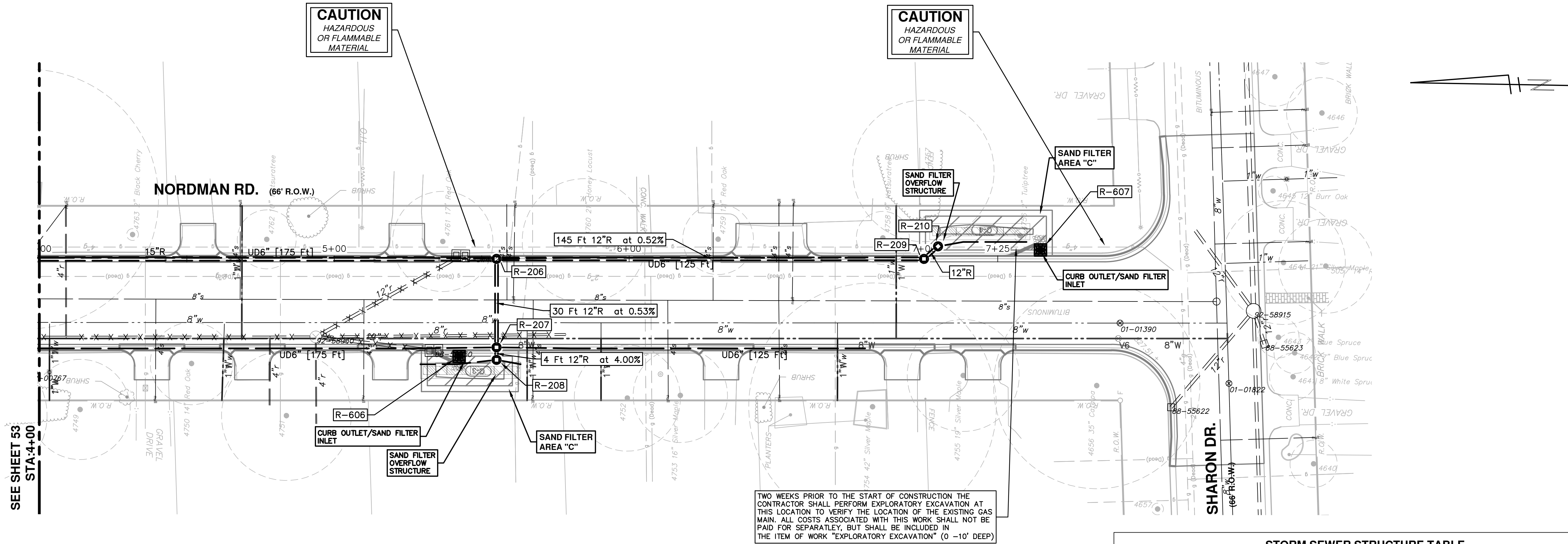
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR  
SPRINGWATER SUBDIVISION - PHASE II  
STORM SEWER - REDWOOD AVENUE  
R100 - STA. 8+00 TO STA. 12+50

SCALE PLAN: 1" = 20'  
PROFILE: 1" = 4'  
DRAWING NO.  
2015018-52









STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DEPTH (Feet)	SIZE	APPLICATION/ CONSTRUCTION
R-206	5+55	12" W 821.67 12" S 821.75 6" S 823.00 15" N 821.50 6" N 823.00	826.92	7.42	36" Dia.	Inlet Junction, New (Cover K)
R-207	5+55	12" W 821.83 6" S 823.00 12" E 821.83 6" N 823.00	826.92	7.09	36" Dia.	Inlet Junction, New (Cover K)
R-208	5+55	6" N 822.17 12" E 822.00 6" S 822.17	827.00	7.00	36" Dia.	Sandfilter Overflow
R-209	7+00	12" SE 822.50 12" N 822.50	827.69	7.19	36" Dia.	Inlet Junction, New (Cover K)
R-210	804+62	6" S 822.71 12" NW 823.00	827.50	6.79	36" Dia.	Sandfilter Overflow



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	WDCO SUBMITTAL	12/04/2015	JKA	AMW

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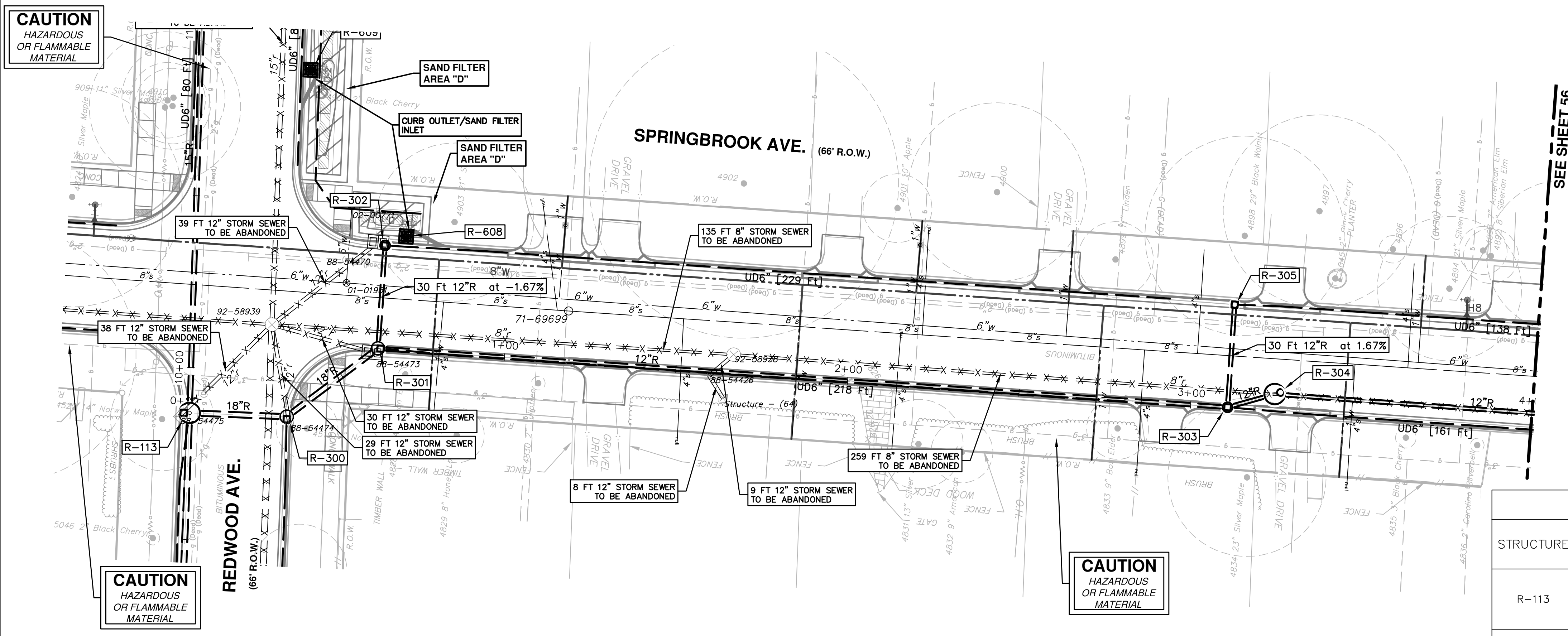


**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**  
STORM SEWER - NORDMAN ROAD  
R-112 STA. 4+00 TO STA. 7+25

SCALE PLAN: 1" = 20'  
PROFILE: 1" = 4'  
DRAWING No. 2015018-54



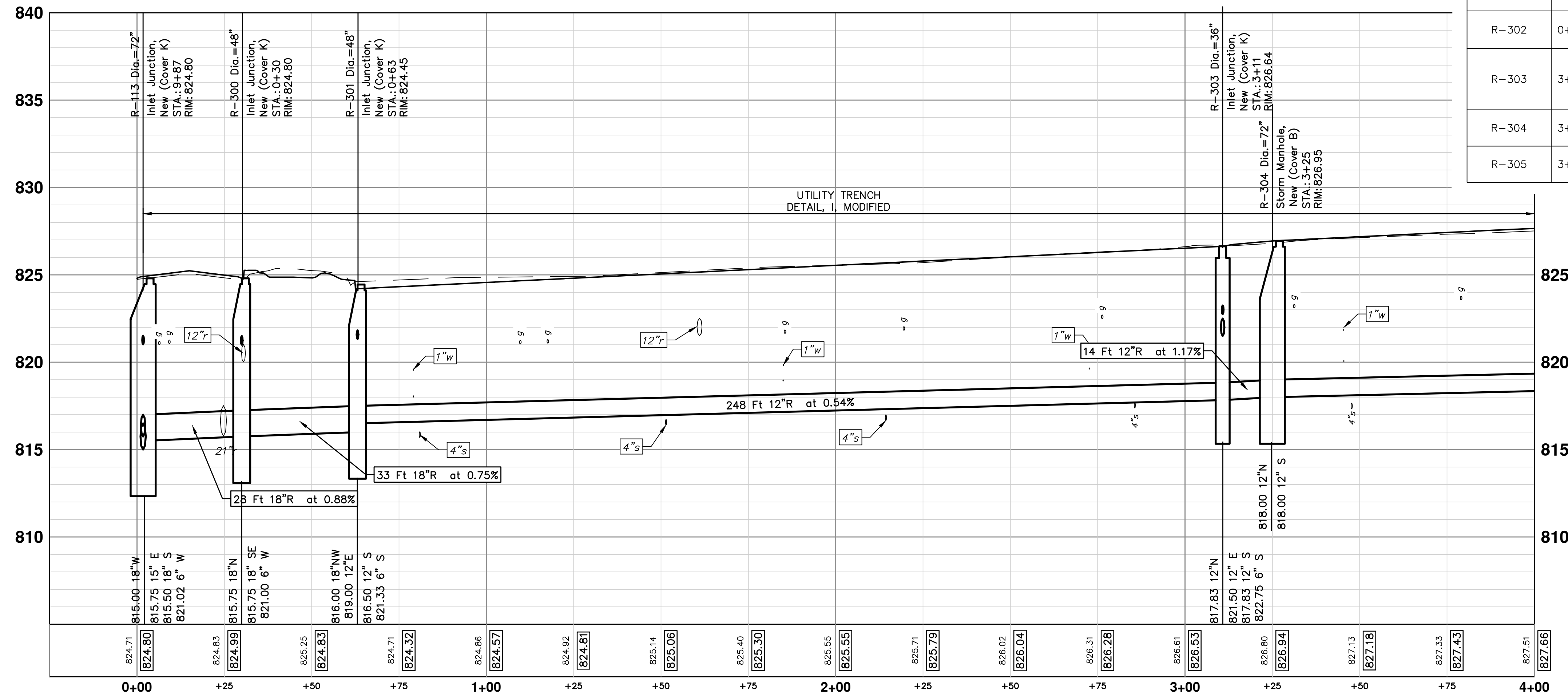
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SEE SHEET 56  
STA:4+00



STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DEPTH (Feet)	SIZE	APPLICATION/CONSTRUCTION
R-113	9+87	15" E 815.75 18" S 815.50 6" W 821.02 18" W 815.00	824.80	11.80	72" Dia.	Inlet Junction, New (Cover K)
R-300	0+30	18" SE 815.75 6" W 821.00 18" N 815.75	824.80	11.05	48" Dia.	Inlet Junction, New (Cover K)
R-301	0+63	12" S 816.50 6" S 821.33 18" NW 816.00 12" E 819.00	824.45	10.45	48" Dia.	Inlet Junction, New (Cover K)
R-302	0+63	12" W 819.50 6" S 820.33	824.45	6.95	36" Dia.	Inlet, New (Cover K)
R-303	3+11	12" E 821.50 12" S 817.83 6" S 822.75 12" N 817.83	826.64	10.80	36" Dia.	Inlet Junction, New (Cover K)
R-304	3+25	12" S 818.00 12" N 818.00	826.95	10.95	72" Dia.	Storm Manhole, New (Cover B)
R-305	3+21	6" S 823.00 12" W 822.00	826.64	6.64	24" Dia.	Inlet Junction, New (Cover K)



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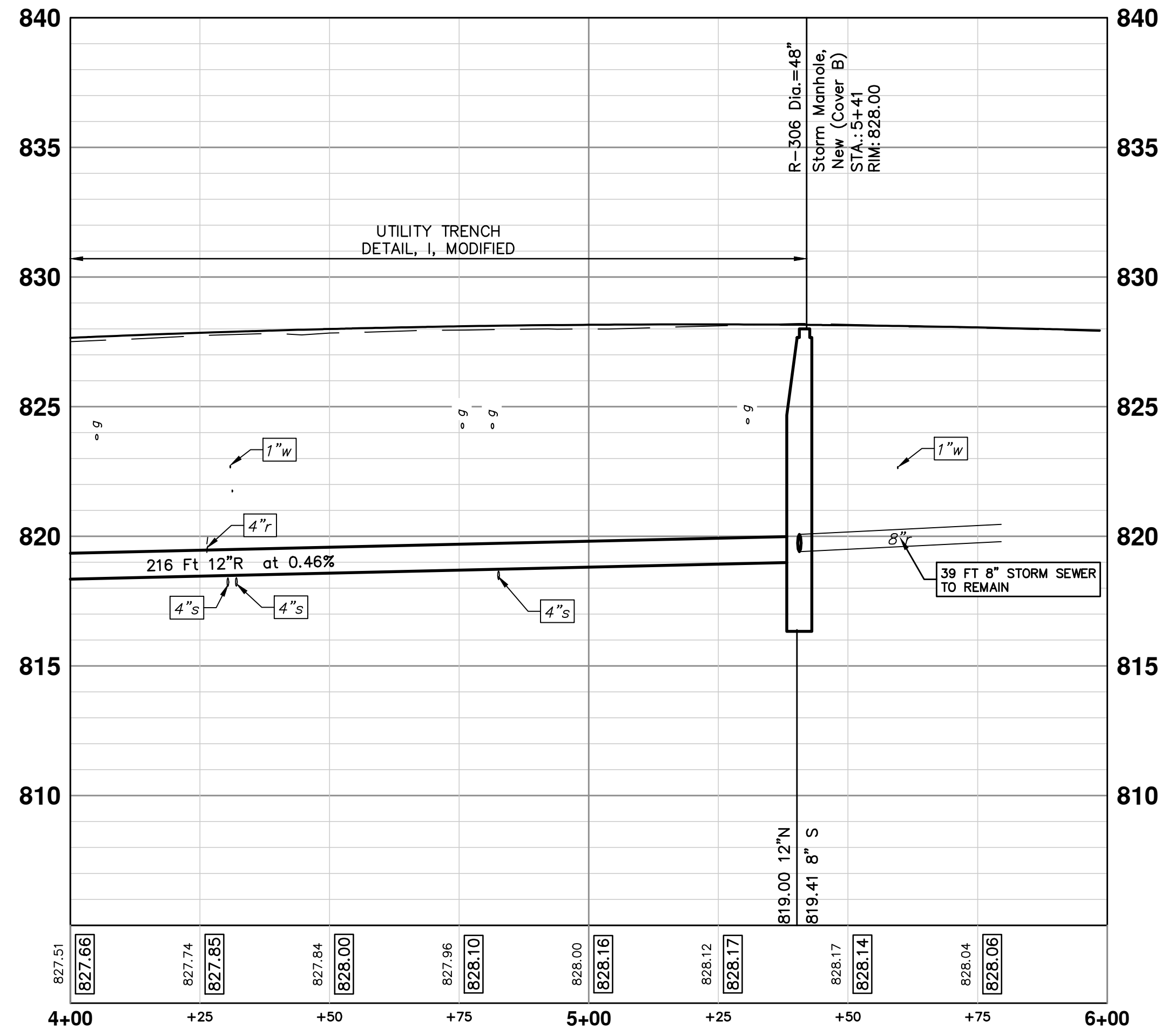
**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
SCALE PLAN: 1" = 20'  
PROFILE: 1" = 4'

**SPRINGWATER SUBDIVISION - PHASE II**  
STORM SEWER - SPRINGBROOK AVENUE  
R-113 STA. 0+00 TO STA. 4+00

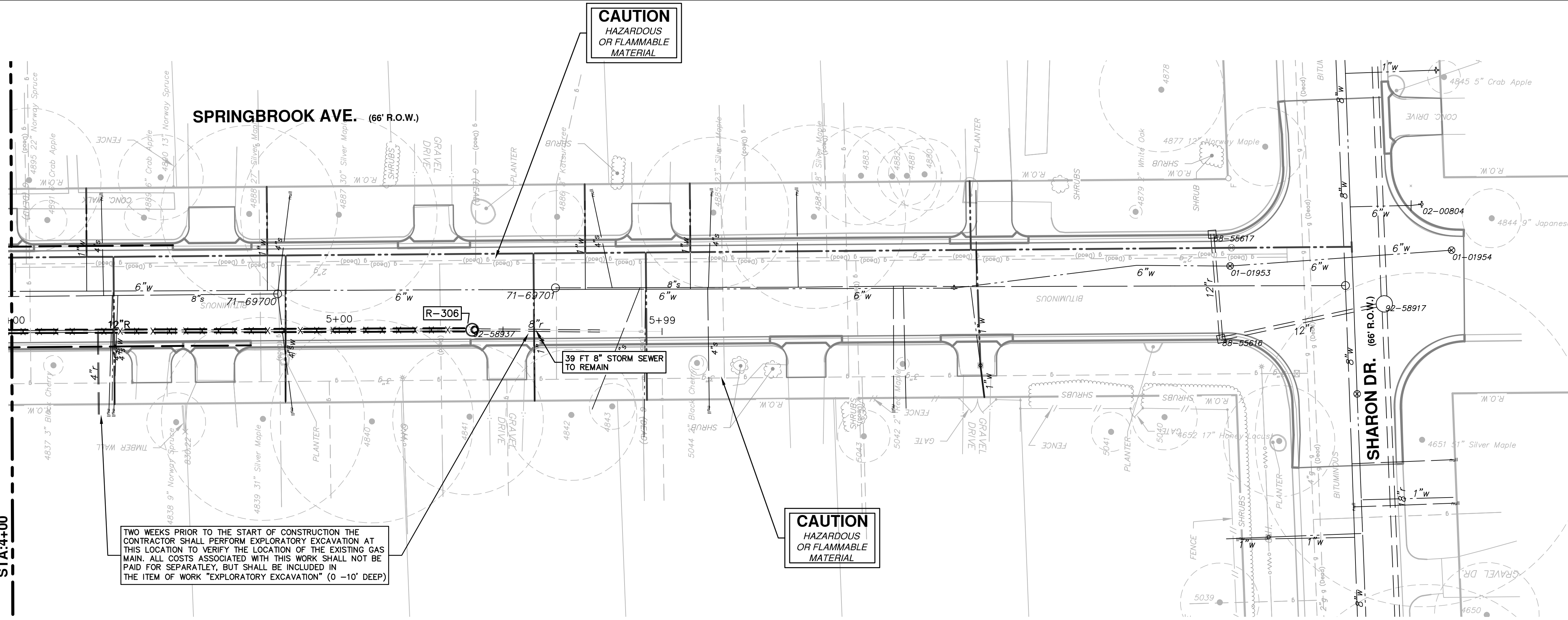
DRAWING No.  
**2015018-55**

SHEET No.  
**55 OF 68**

SEE SHEET 55  
STA: 4+00



STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DEPTH (Feet)	SIZE	APPLICATION / CONSTRUCTION
R-306	5+41	8" S 819.41 12" N 819.00	828.00	11.00	48" Dia.	Storm Manhole, New (Cover B)



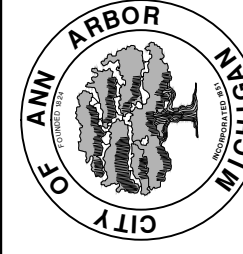
**CAUTION**  
HAZARDOUS  
OR FLAMMABLE  
MATERIAL

**CAUTION**  
HAZARDOUS  
OR FLAMMABLE  
MATERIAL



REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	INFO SUBMITTAL	12/04/2015	JKA	AMW

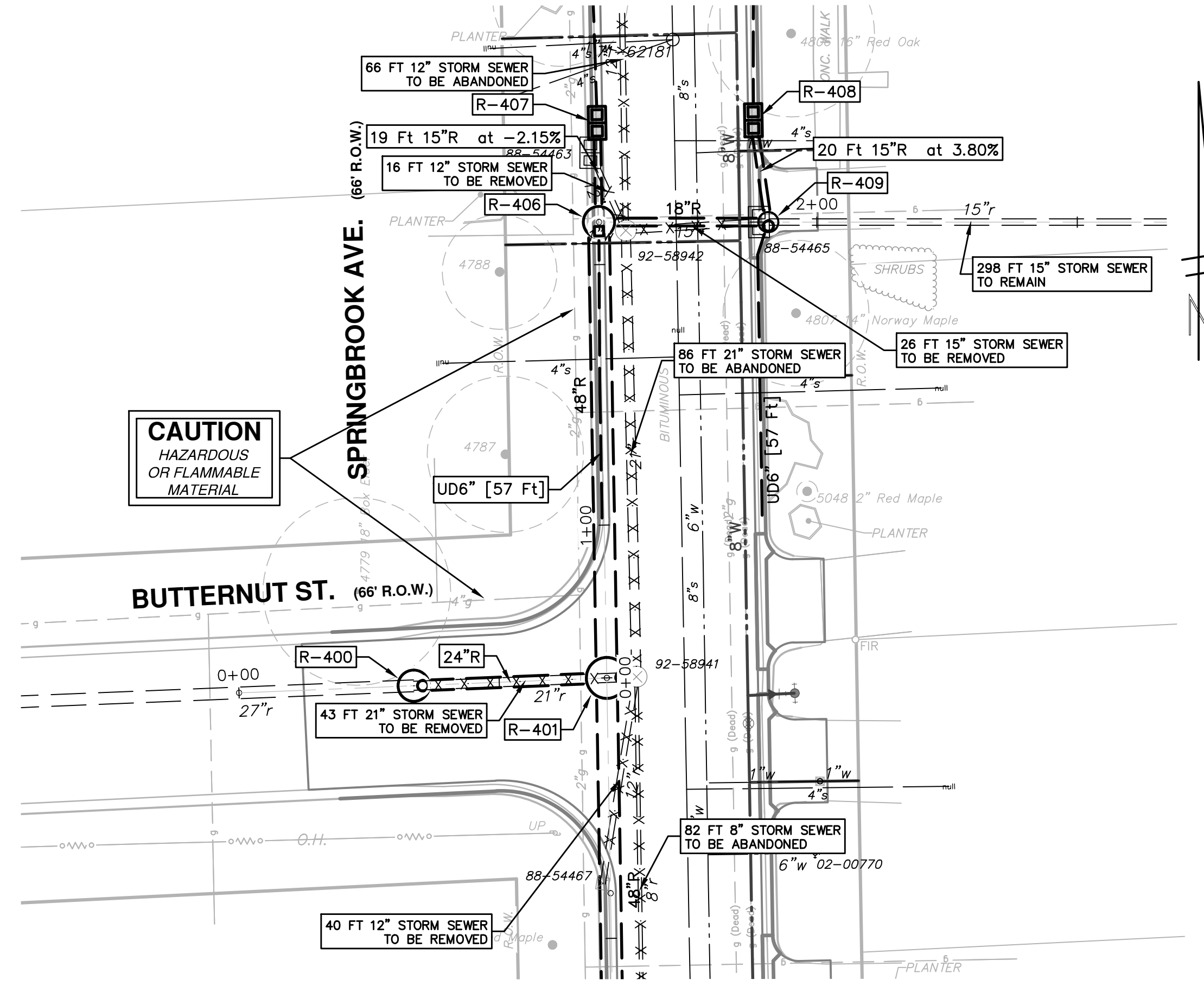
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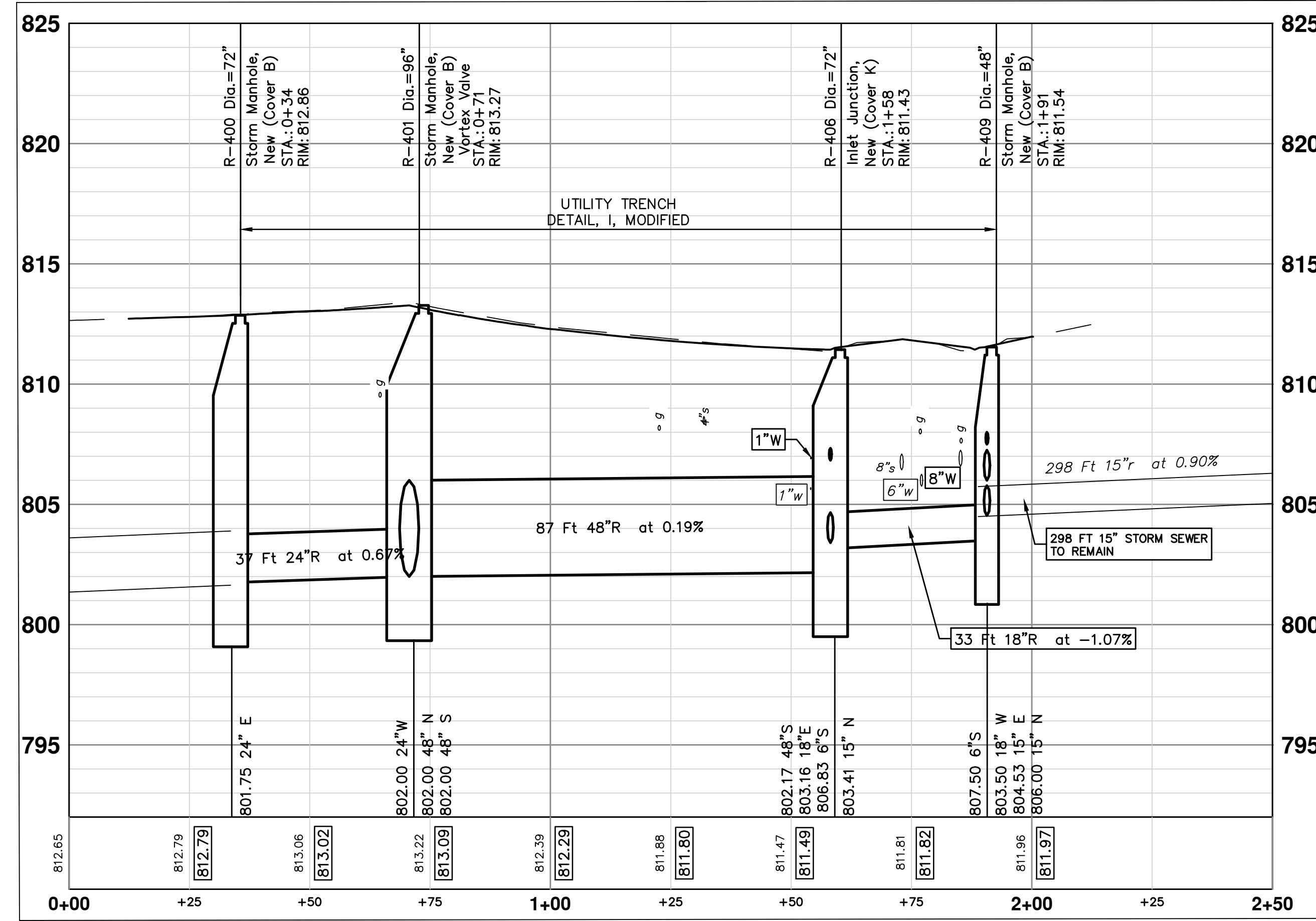
PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR  
SPRINGWATER SUBDIVISION - PHASE II  
STORM SEWER - SPRINGBROOK AVENUE  
R-113 STA. 4+00 TO STA. 5+42

SHEET No. 56 OF 68  
SCALE PLAN: 1" = 20'  
PROFILE: 1" = 4'  
DRAWING No. 2015018-56





STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DEPTH (Feet)	SIZE	APPLICATION/CONSTRUCTION
R-400	0+34	24" E 801.75	812.86	13.11	72" Dia.	Storm Manhole, New (Cover B)
R-401	0+71	48" N 802.00 48" S 802.00 24" W 802.00	813.27	13.27	96" Dia.	Storm Manhole, New (Cover B) Vortex Valve
R-406	1+58	15" N 803.41 48" S 802.17 18" E 803.16 6" S 806.83	811.43	11.26	72" Dia.	Inlet Junction, New (Cover K)
R-407	1+58	6" N 807.50 15" S 803.00	811.38	10.38	DOUBLE INLET	Inlet Double, New (Cover K)
R-408	1+88	6" N 807.50 15" S 806.75	811.38	6.63	DOUBLE INLET	Inlet Double, New (Cover K)
R-409	1+91	18" W 803.50 15" E 804.53 15" N 806.00 6" S 807.50	811.54	10.04	48" Dia.	Storm Manhole, New (Cover B)



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**SPRINGWATER SUBDIVISION - PHASE II**

SCALE PLAN: 1" = 20'  
 PROFILE: 1" = 4'

DRAWING No. **2015018-57**

SHEET No. **57 OF 68**

**STORM SEWER**  
**R-400 STA. 0+00 TO STA. 1+91**

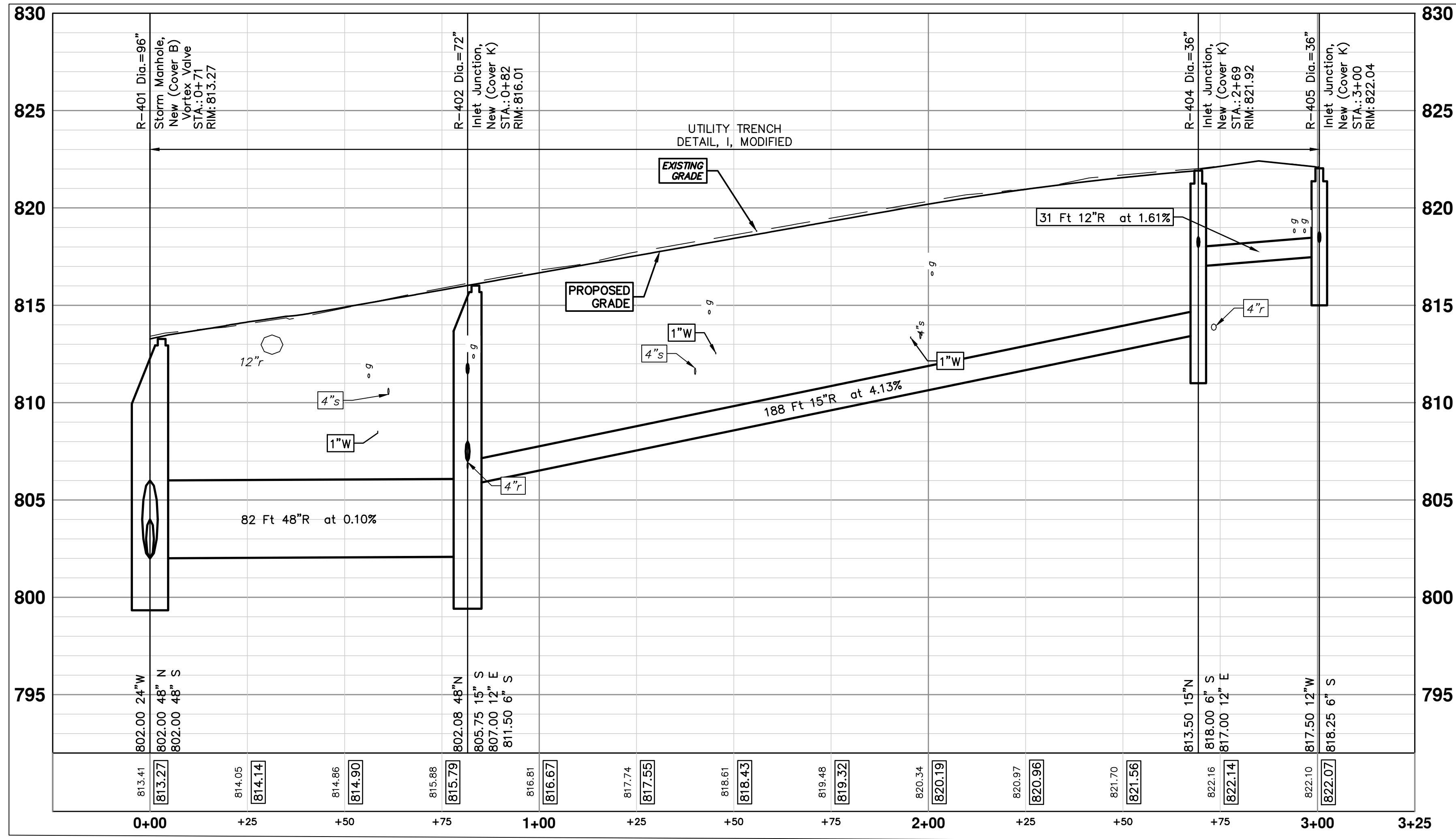
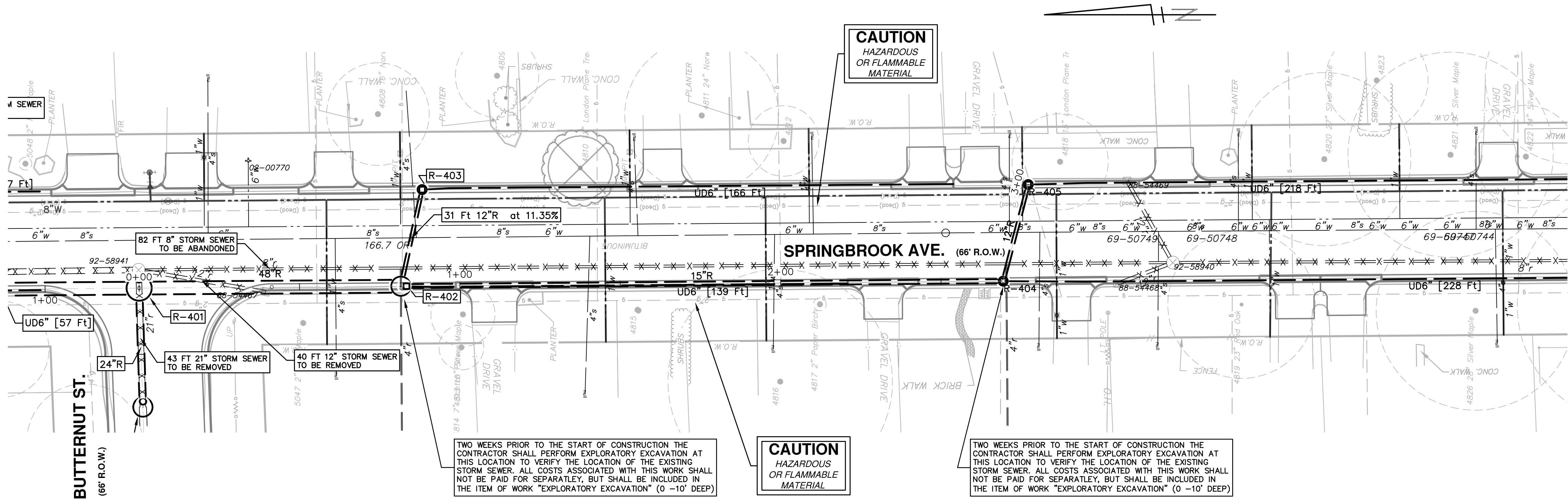
ANN ARBOR MICHIGAN CITY

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 301 EAST HURON STREET  
 P.O. BOX 8667  
 ANN ARBOR MI 48106-8667  
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DATE: 12/04/2015  
 DRAWN: JKA  
 CHECKED: AMW

REV. 00 MDCO SUBMITTAL DESCRIPTION

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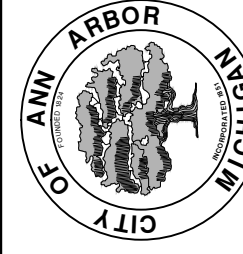


STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DEPTH (Feet)	SIZE	APPLICATION/CONSTRUCTION
R-401	0+71	48" N 802.00 48" S 802.00 24" W 802.00	813.27	13.27	96" Dia.	Storm Manhole, New (Cover B) Vortex Valve
R-402	0+82	15" S 805.75 12" E 807.00 6" S 811.50 48" N 802.08	816.01	15.93	72" Dia.	Inlet Junction, New (Cover K)
R-403	0+88	6" S 811.83 12" W 810.50	816.26	7.76	36" Dia.	Inlet Junction, New (Cover K)
R-404	2+69	6" S 818.00 12" E 817.00 15" N 813.50	821.92	10.42	36" Dia.	Inlet Junction, New (Cover K)
R-405	3+00	6" S 818.25 12" W 817.50	822.04	6.54	36" Dia.	Inlet Junction, New (Cover K)



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SPRINGWATER SUBDIVISION - PHASE II

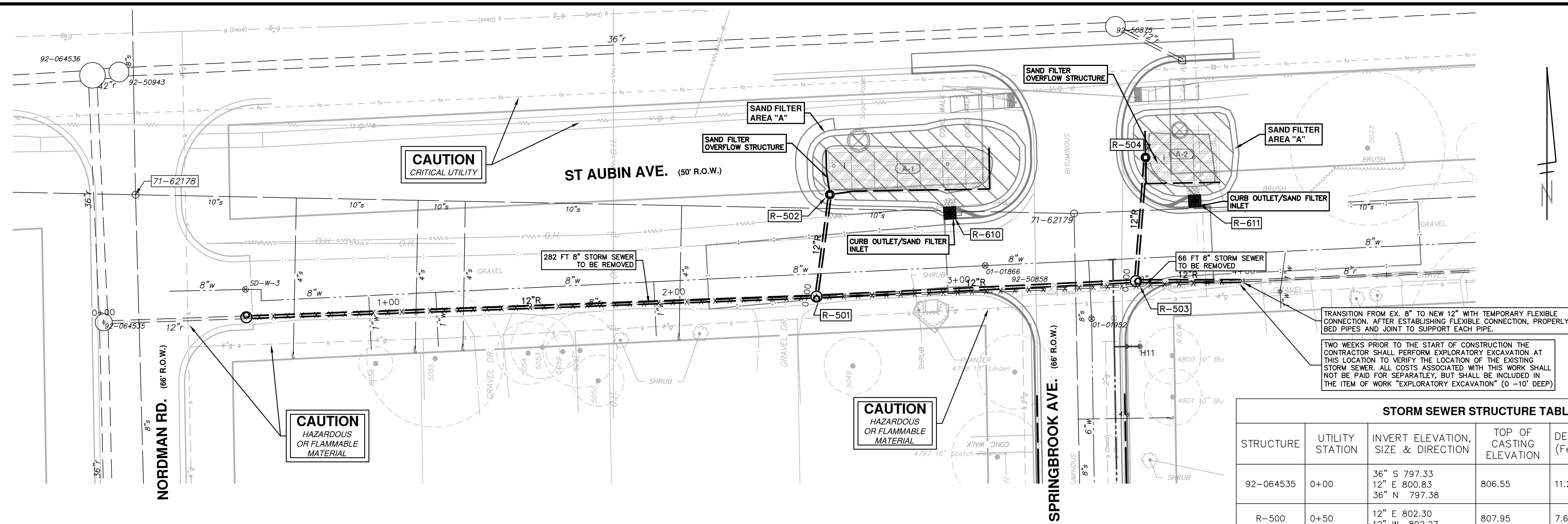
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PROFILE: 1" = 4'  
DRAWING No. 2015018-58

REV.	DESCRIPTION	DATE	DRAWN	CHECKED
00	WDCO SUBMITTAL	12/04/2015	JKA	AMW

STORM SEWER  
R-401 STA. 0+00 TO STA. 3+00

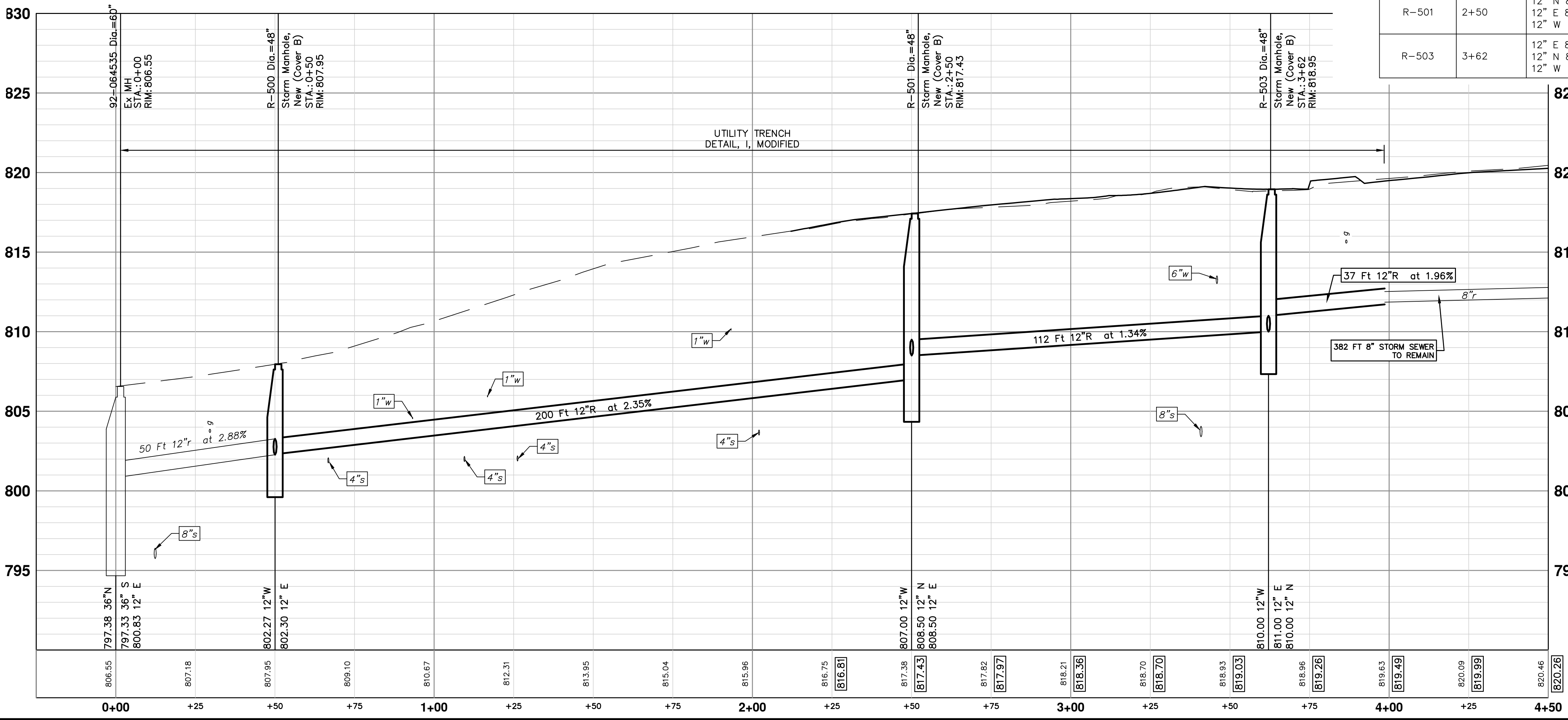


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**STORM SEWER STRUCTURE TABLE**

STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DEPTH (Feet)	SIZE	APPLICATION/CONSTRUCTION
92-064535	0+00	36" S 797.33 12" E 800.83 36" N 797.38	806.55	11.22	60" Dia.	Ex MH
R-500	0+50	12" E 802.30 12" W 802.27	807.95	7.68	48" Dia.	Storm Manhole, New (Cover B)
R-501	2+50	12" N 808.50 12" E 808.50 12" W 807.00	817.43	12.43	48" Dia.	Storm Manhole, New (Cover B)
R-503	3+62	12" E 811.00 12" N 810.00 12" W 810.00	818.95	10.95	48" Dia.	Storm Manhole, New (Cover B)



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**CITY OF ANN ARBOR**  
MICHIGAN

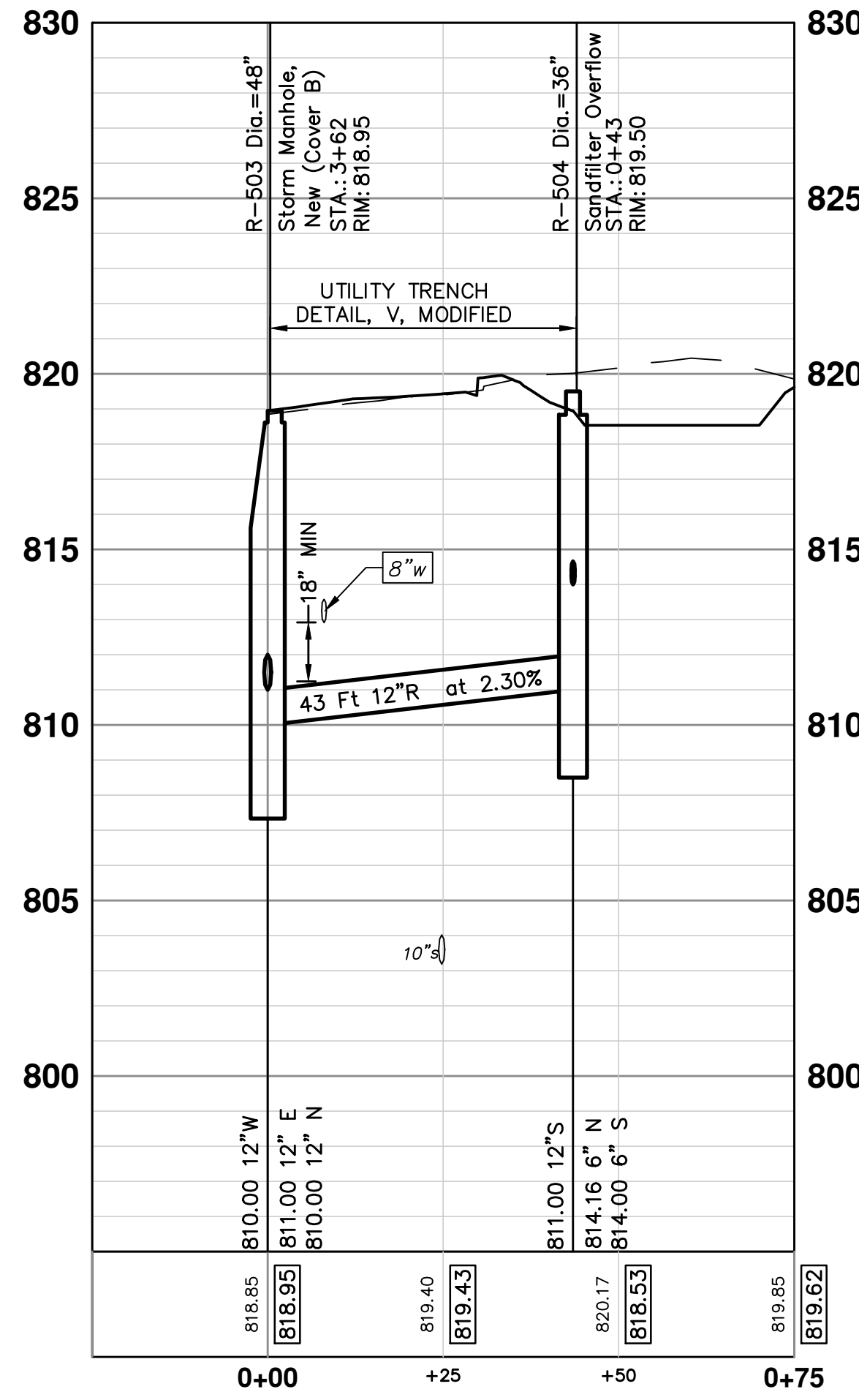
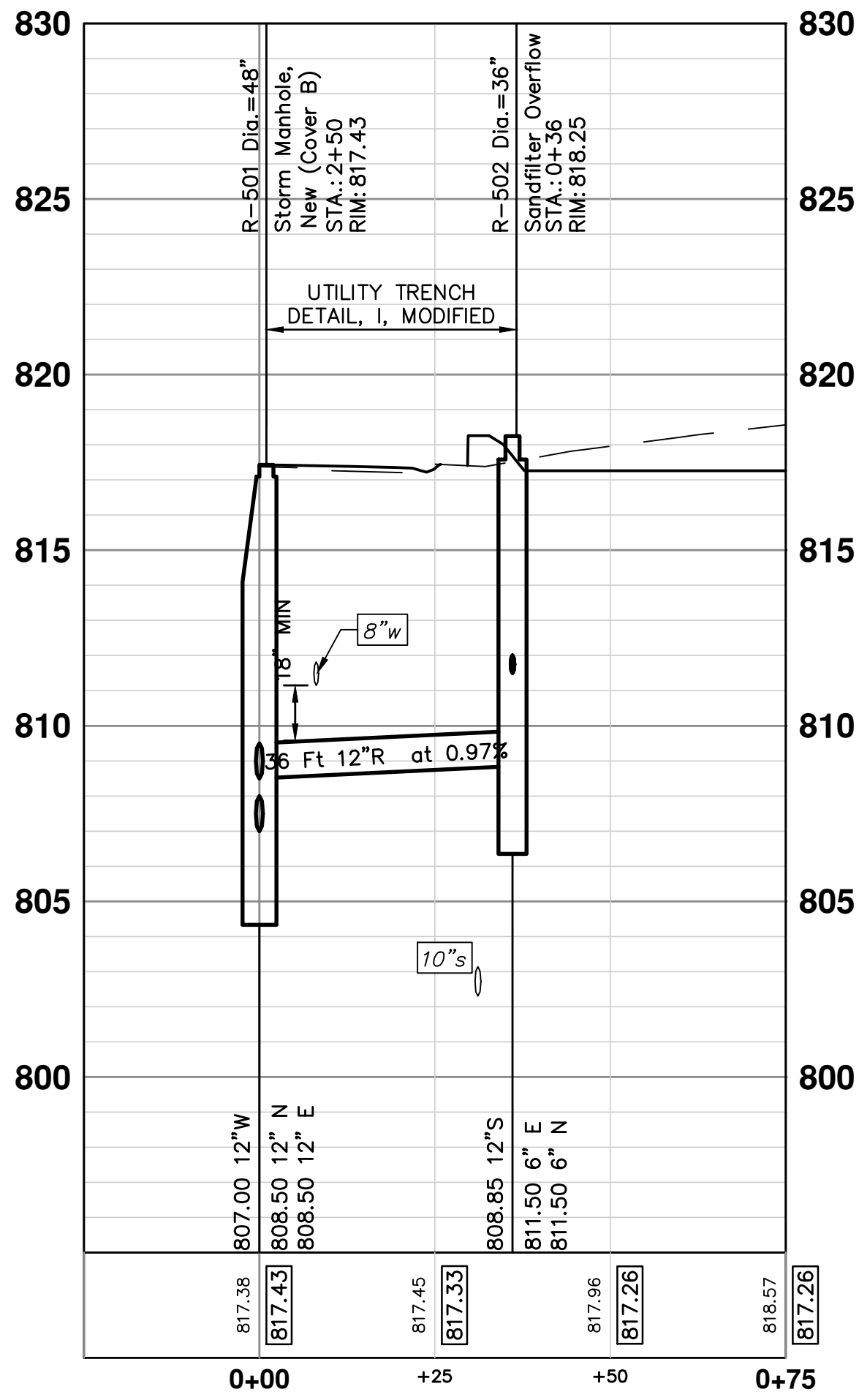
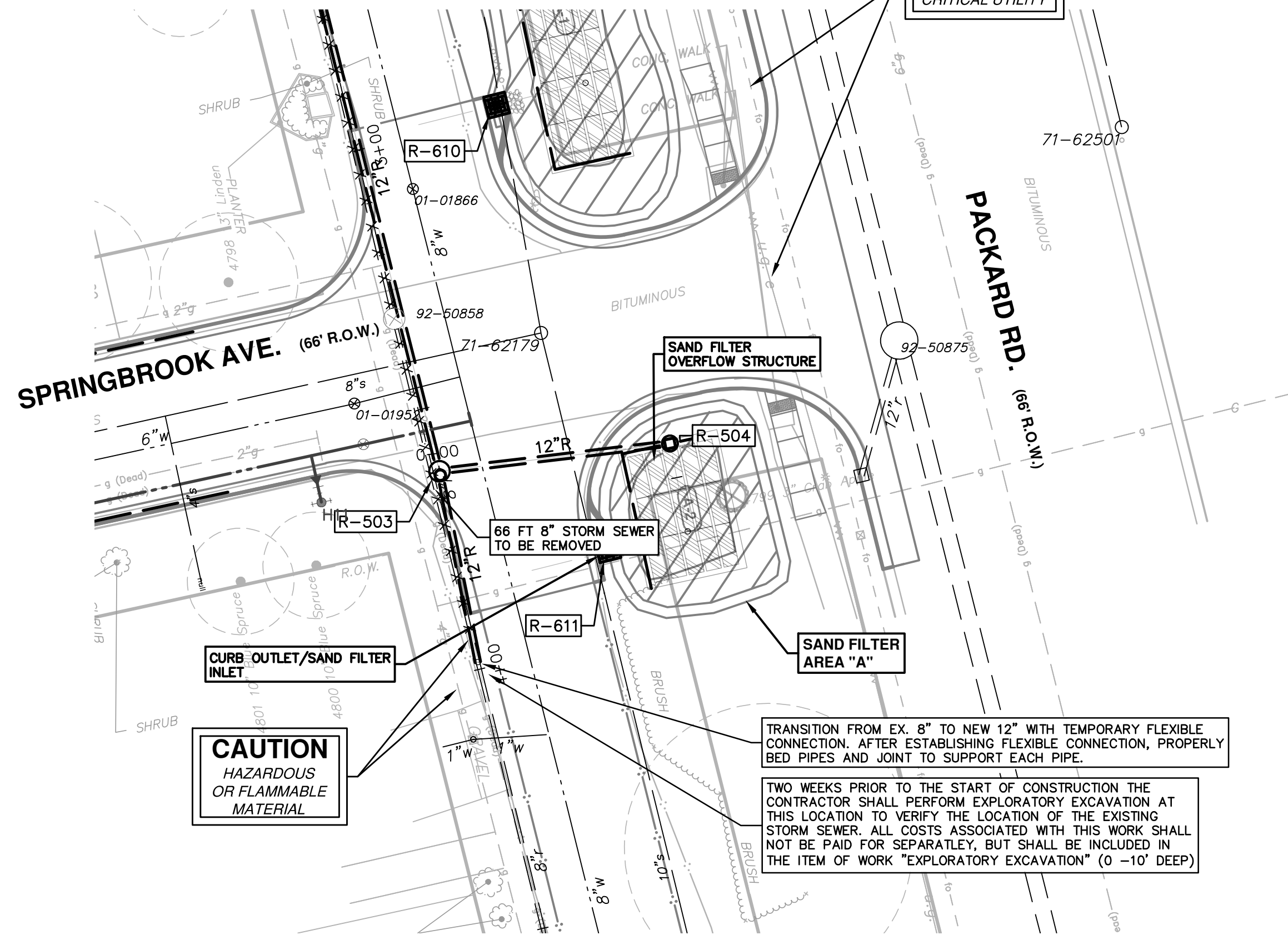
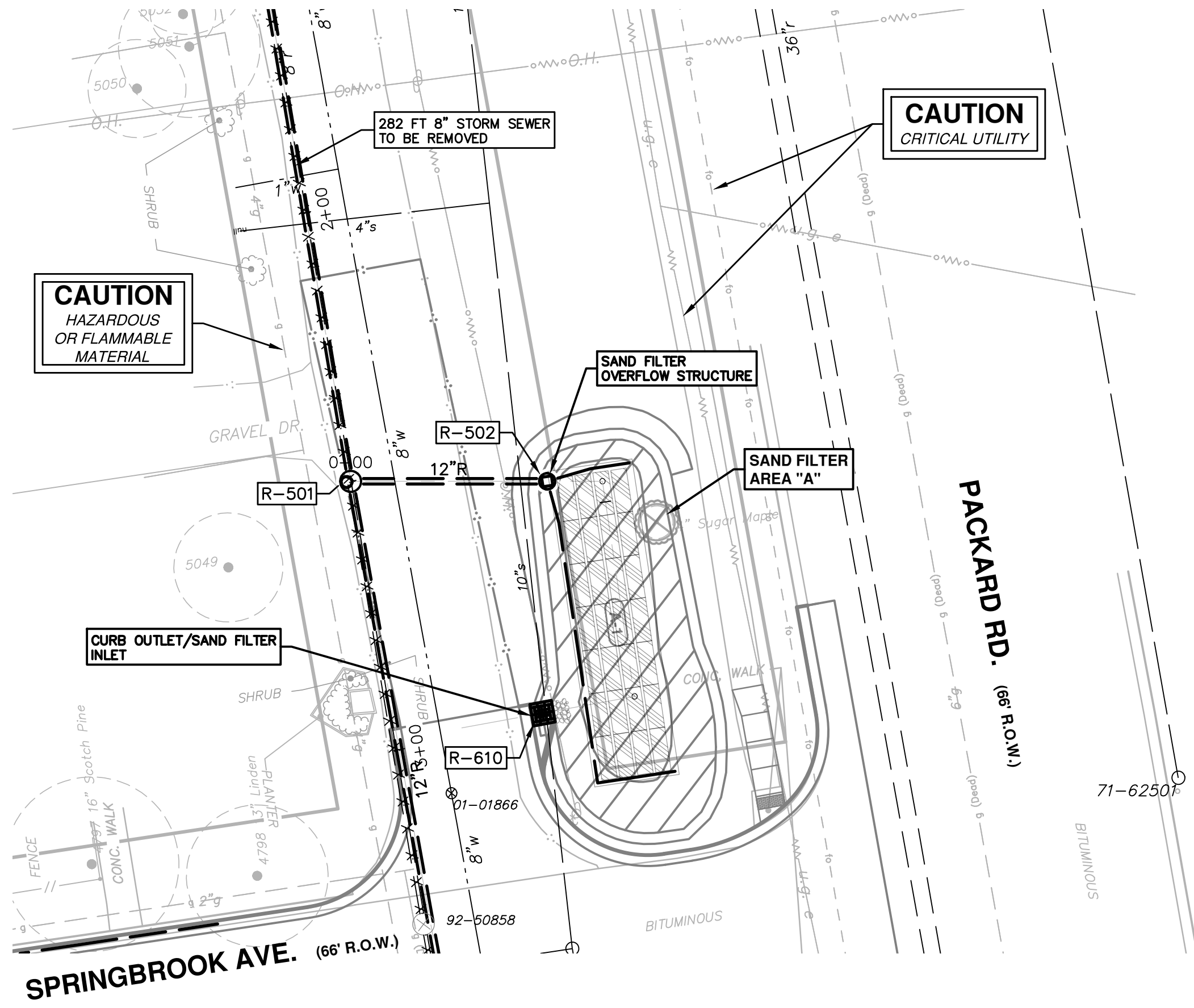
**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
SCALE PLAN: 1" = 20'  
PROFILE: 1" = 4'

**SPRINGWATER SUBDIVISION - PHASE II**  
STORM SEWER  
R-500 STA. 0+00 TO STA. 3+62

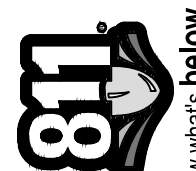
DRAWING No. **2015018-59**

SHEET No. **59 OF 68**

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STORM SEWER STRUCTURE TABLE						
STRUCTURE	UTILITY STATION	INVERT ELEVATION, SIZE & DIRECTION	TOP OF CASTING ELEVATION	DEPTH (Feet)	SIZE	APPLICATION/CONSTRUCTION
R-501	2+50	12" N 808.50 12" E 808.50 12" W 807.00	817.43	12.43	48" Dia.	Storm Manhole, New (Cover B)
R-502	0+36	6" E 811.50 6" N 811.50 12" S 808.85	818.25	11.40	36" Dia.	Sandfilter Overflow
R-503	3+62	12" E 811.00 12" N 810.00 12" W 810.00	818.95	10.95	48" Dia.	Storm Manhole, New (Cover B)
R-504	0+43	6" N 814.16 6" S 814.00 12" S 811.00	819.50	10.50	36" Dia.	Sandfilter Overflow



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**SPRINGWATER SUBDIVISION - PHASE II**

STORM SEWER - ST. ALBIN AVENUE  
R-501 TO R-502 AND R-503 TO R-504

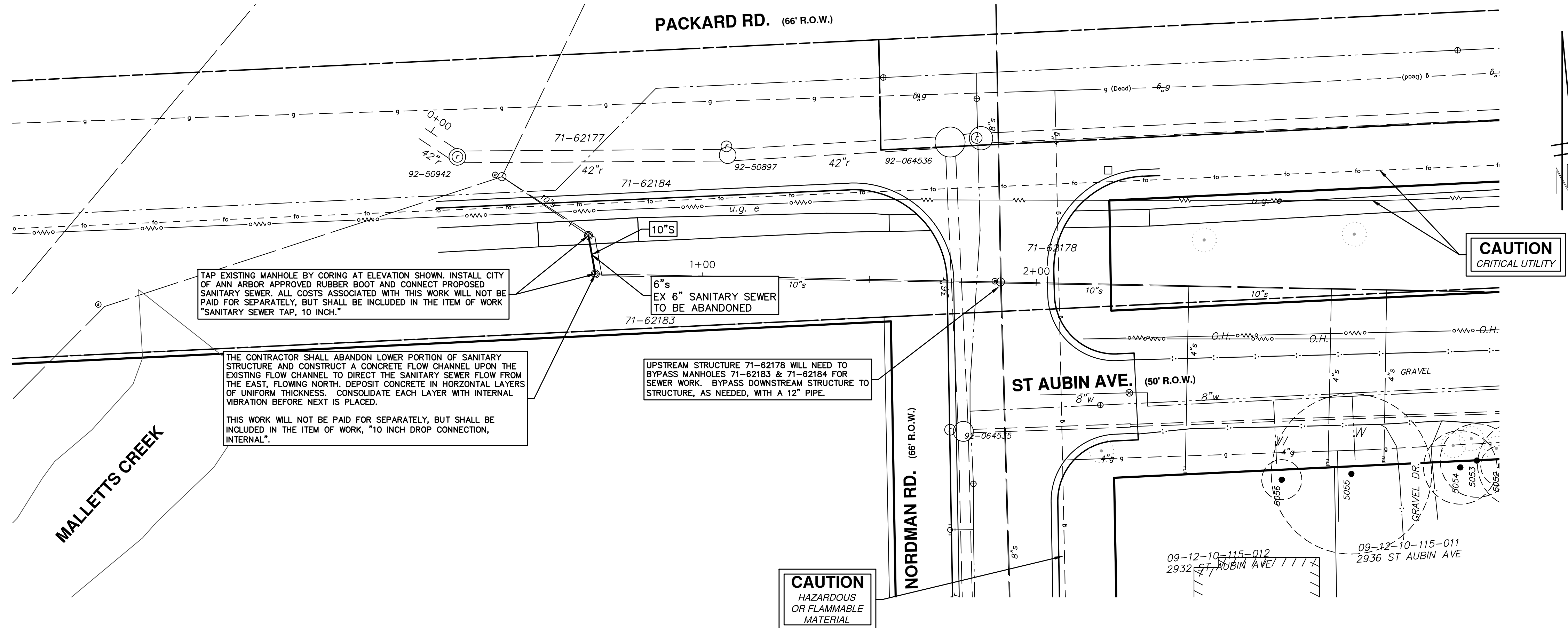
SCALE PLAN: 1" = 20'  
PROFILE: 1" = 4'

DRAWING No.  
**2015018-60**

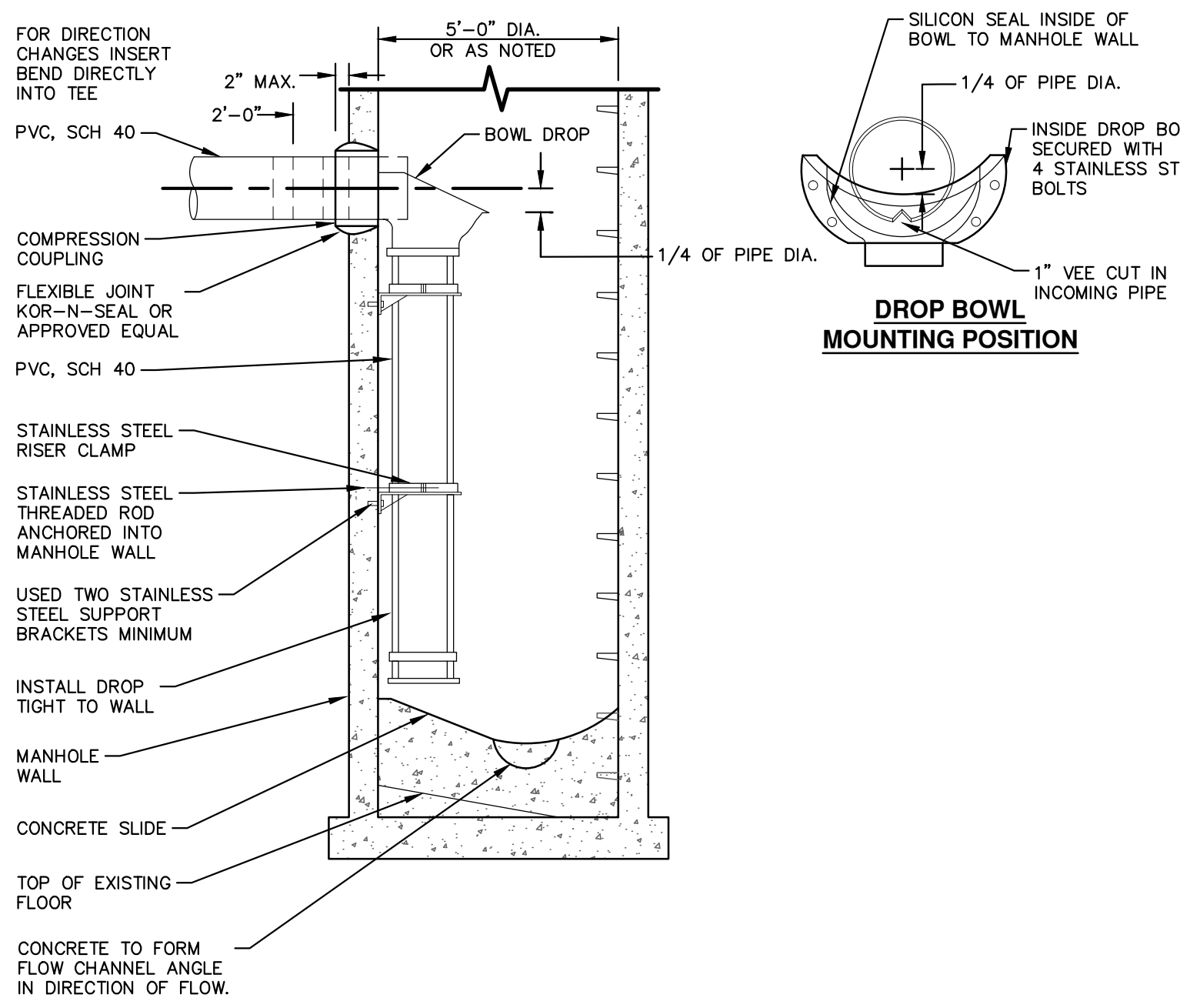
SHEET No.  
**60 OF 68**



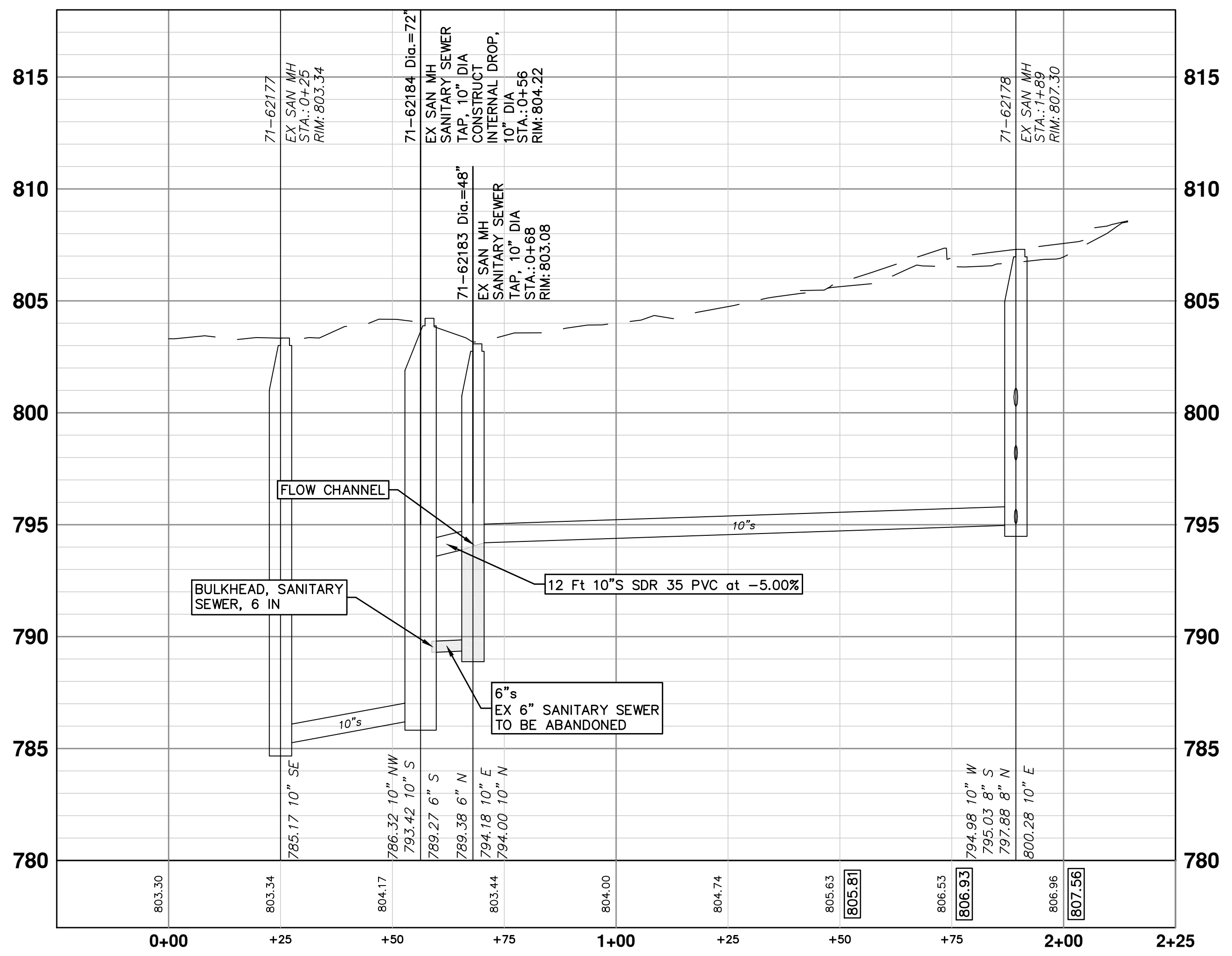
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- NOTES:
1. SECURE DROP PIPE TO MANHOLE WALL WITH RELINER-DURAN, INC. STAINLESS STEEL ADJUSTABLE CLAMPING BRACKETS OR EQUAL.
  2. ATTACH THE DROP BOWL & EACH CLAMPING BRACKET TO THE MANHOLE WALL WITH 3/8" x 3/4" RAMSET/RED HEAD BOLTS HELD INPLACE WITH 2 STAGE EPOXY PASTE.




**INTERIOR DROP CONNECTION**



**BYPASSING FLOW**  
 THE CONTRACTOR SHALL MAINTAIN FLOW IN EXISTING SEWERS AT ALL TIMES BY PUMPING, BYPASSING, OR FLUMING AS NECESSARY. DURING WET WEATHER EVENTS, THE FLOW IN THE SEWER WILL RISE RAPIDLY AND MAY BECOME SURCHARGED. THE CONTRACTOR SHALL MAINTAIN FLOW IN SUCH A MANNER AS THE EXISTING FLOW CAN BE ADEQUATELY TRANSPORTED INCLUDING WET WEATHER FLOW. THE CONTRACTOR SHALL FURNISH, INSTALL, OPERATE, AND MAINTAIN TEMPORARY PUMPING FACILITIES TO SERVICE THE UPSTREAM AREA INCLUDING PIPING, TEMPORARY CHANNELS, PUMPS, SUMPS, CONTROLS, TEMPORARY PLUGS, AND BULKHEADS.


FOR SANITARY SEWERAGE, BY-PASS PIPING SHALL BE A 12" HDPE FUSED PIPELINE, INSTALLED AT MANHOLE 71-62177 AND DISCHARGING TO MANHOLE 71-62178. THE CONTRACTOR SHALL PLAN HIS OPERATION SUCH THAT THERE WILL BE NO BACKUPS, LEAKS, OR DISCHARGES OF POLLUTANTS. BYPASS OF THE 10" SANITARY SEWER BETWEEN MANHOLES 71-70045 AND 71-70063 TO MANHOLE 71-69896 MAY BECOME NECESSARY TO PREVENT BACKUPS. THE CONTRACTOR SHALL BE COMPLETELY RESPONSIBLE FOR ANY LEAKS, SPILLS, OR DISCHARGES OF EFFLUENT OR OTHER POLLUTANTS.

THE CONTRACTOR SHALL ALSO FURNISH AND HAVE AVAILABLE ON-SITE, REDUNDANT PUMPING FACILITIES IN CASE OF ANY FAILURE OF THE PUMPING SYSTEM INCLUDING PUMPS, PIPING, ELECTRICAL, CONNECTIONS, ETC. REDUNDANT PUMPING FACILITIES ALSO INCLUDE HAVING A BACKUP POWER GENERATOR IN CASE THE PRIMARY POWER SOURCE FAILS. THE CONTRACTOR SHALL PROVIDE AN ADEQUATE LABOR FORCE TO OVERSEE THE BY-PASS PUMPING INCLUDING PROVIDING LABOR TO MAINTAIN 24 HOUR PER DAY OPERATION AND EMERGENCY BACKUP SERVICE. THE CONTRACTOR WILL NOT BE ALLOWED TO OBSTRUCT FLOWS IN ANY SEWER UNLESS THE PRIMARY AND REDUNDANT PUMPING AND BY-PASSING EQUIPMENT IS ON SITE AND IN AN OPERABLE CONDITION.



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 SPRINGWATER SUBDIVISION - PHASE II  
 SANITARY SEWER REPLACEMENT

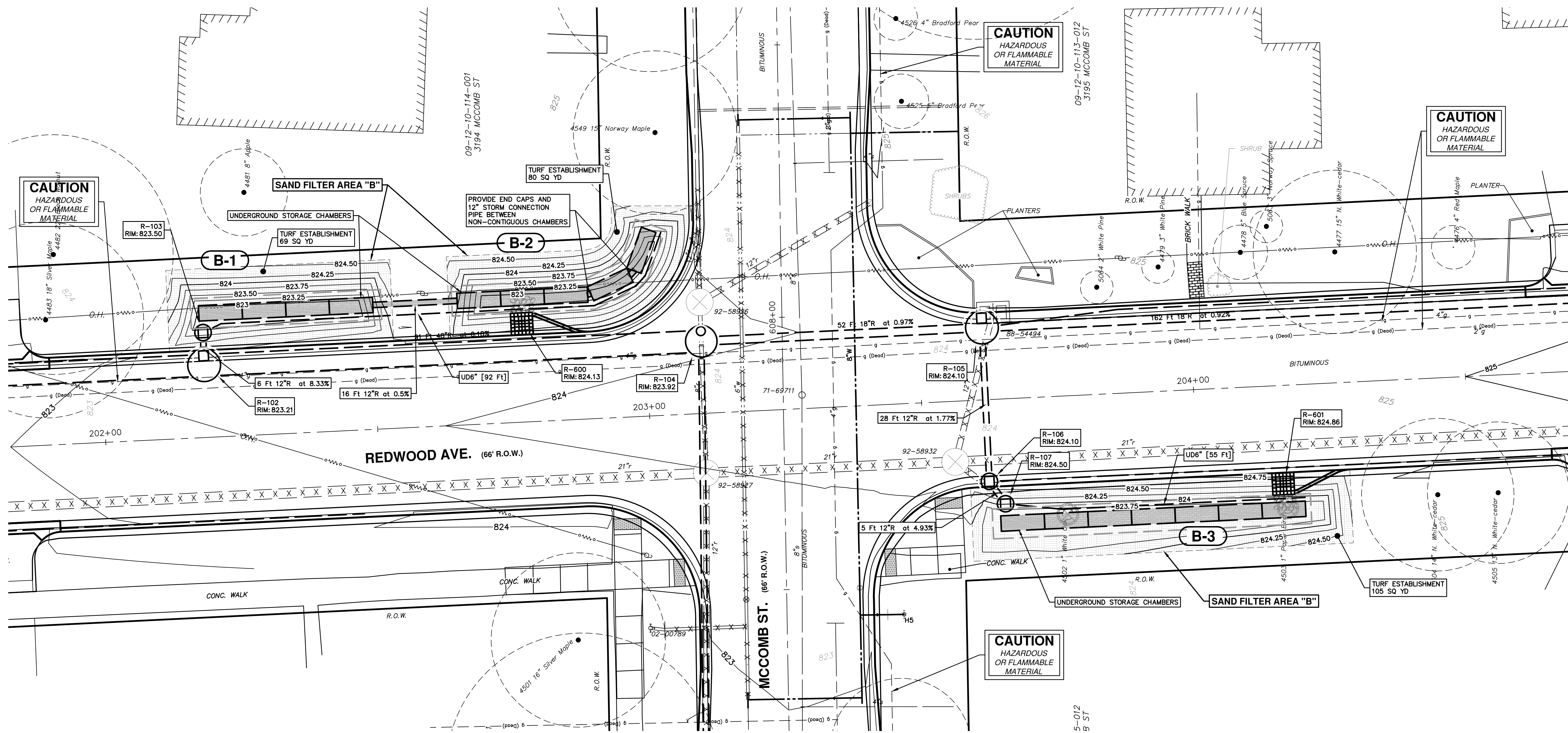
EX. M.H. 71-62184 - EX. M.H. 71-62183

SCALE PLAN: 1" = 20'  
 PROFILE: 1" = 4'

DRAWING No.  
**2015018-61**

SHEET No.  
**61 OF 68**

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 SCALE PLAN: 1" = 10'  
 SPRINGWATER SUBDIVISION - PHASE II  
 GREEN STREETS INFRASTRUCTURE  
 BIOGR-1



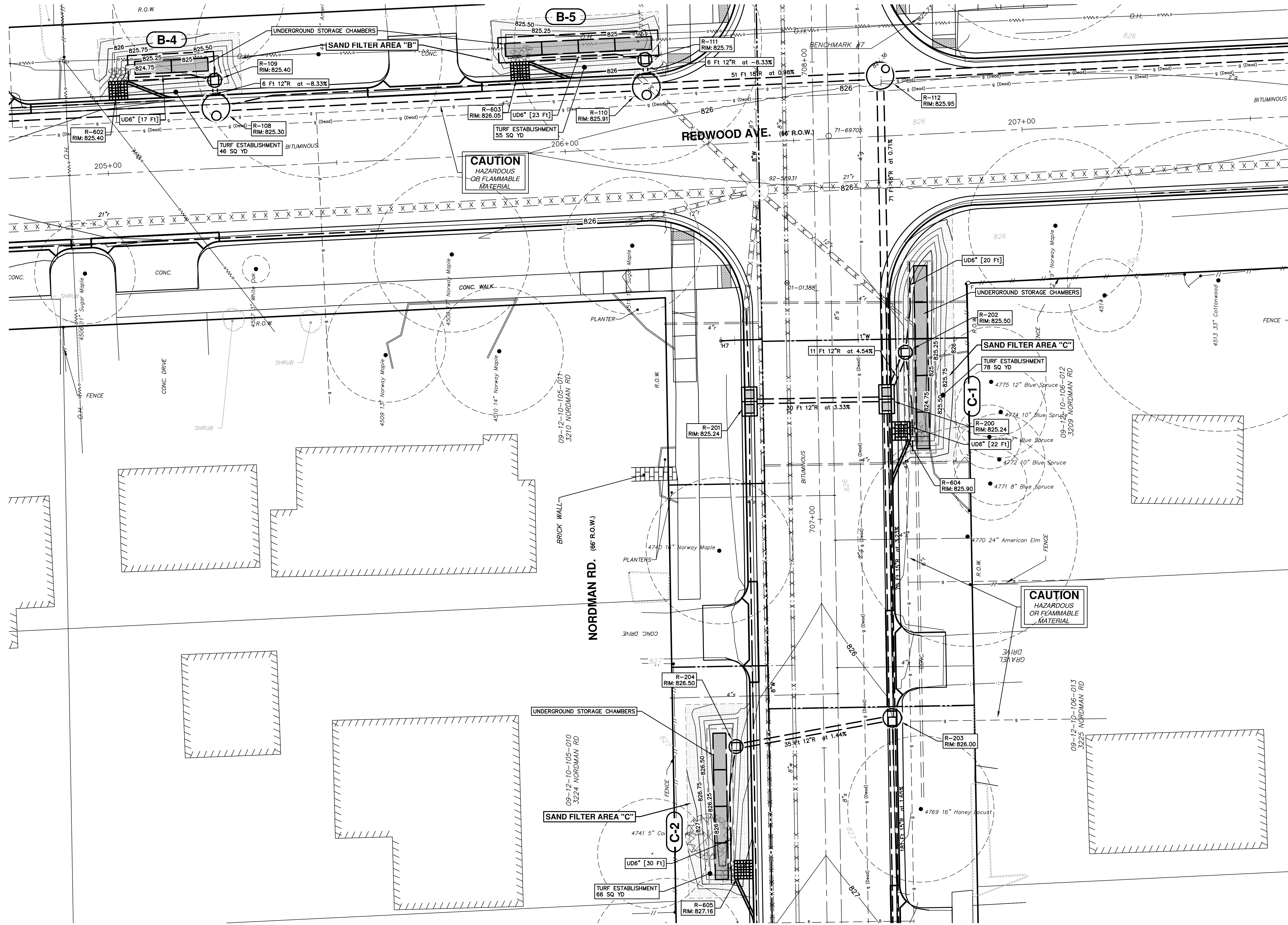
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**SPRINGWATER SUBDIVISION - PHASE II**  
 GREEN STREETS INFRASTRUCTURE

SCALE PLAN: 1" = 10'  
 DRAWING No. 2015018-63

**BI0GR-2**

SHEET No. 63 OF 68

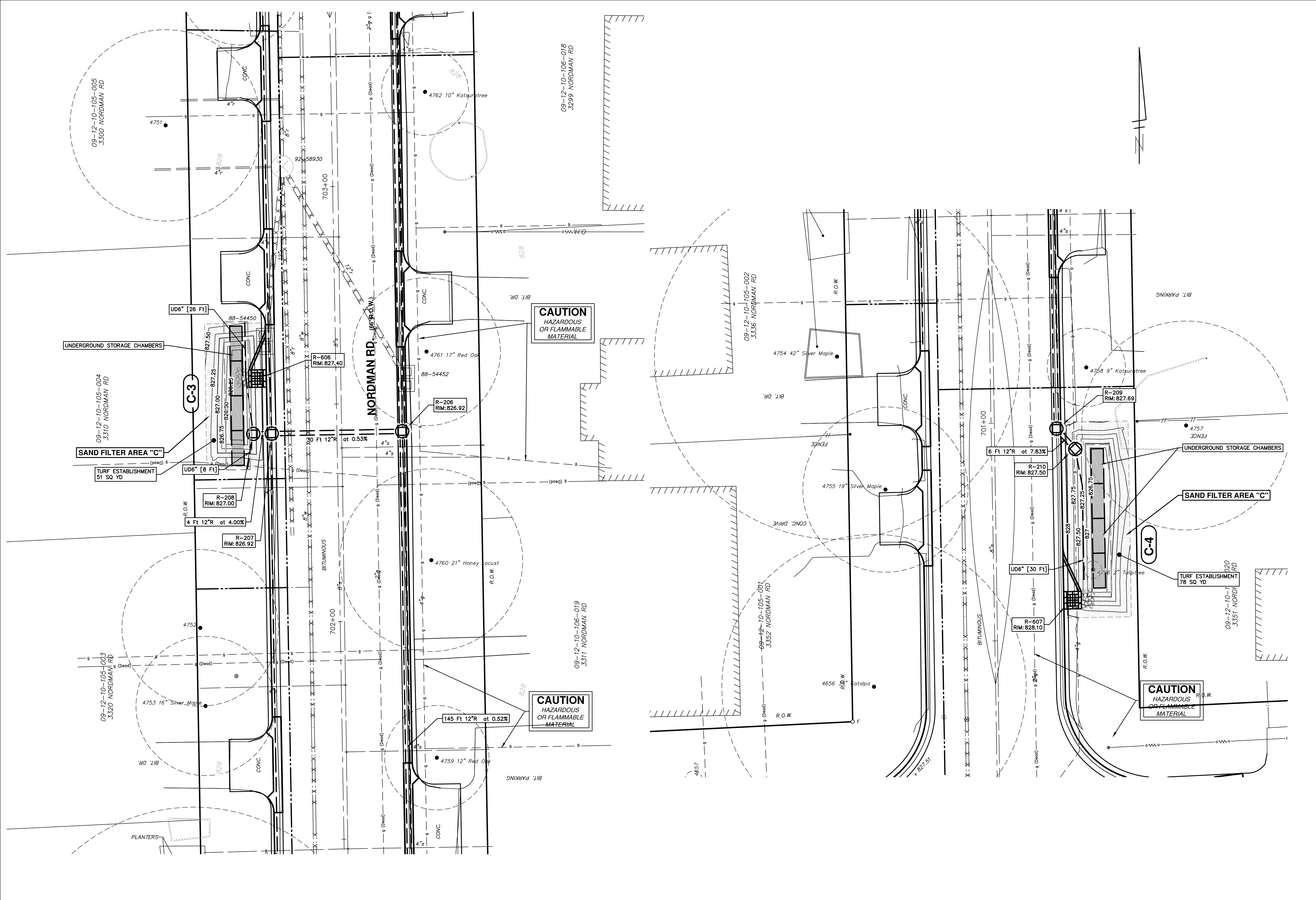
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 ANN ARBOR: 734-754-4110  
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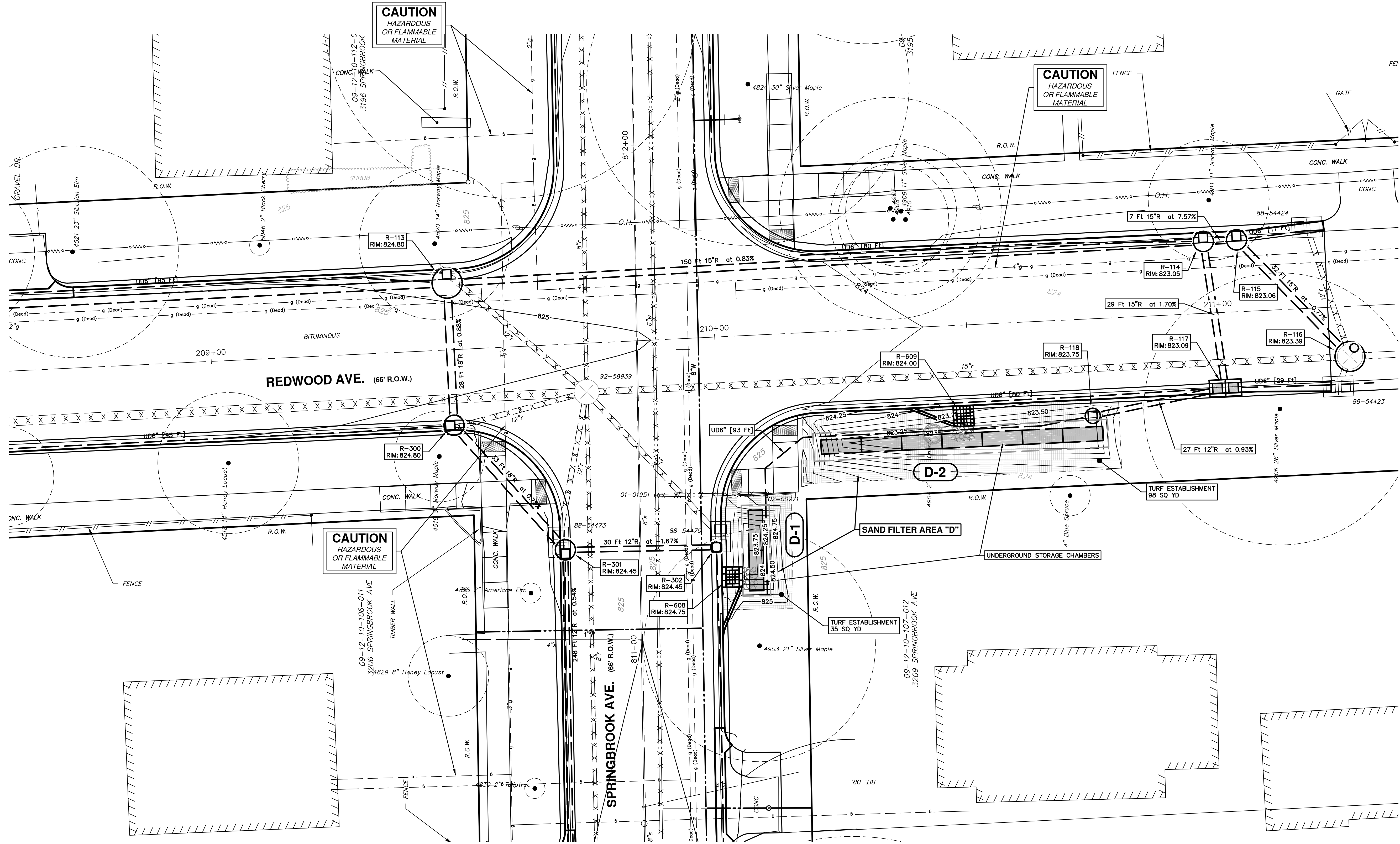
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<p><b>PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR</b>  <b>SPRINGWATER SUBDIVISION - PHASE II</b>          GREEN STREETS INFRASTRUCTURE</p>		<p>BIOGR-3</p>	
<p>SHEET No. <b>64 OF 68</b></p>		<p>DRAWING No. <b>2015018-64</b></p>	
<p>SCALE PLAN: #####</p>		<p>REV. DESCRIPTION</p>	
00	MEFO SUBMITTAL	DATE	12/04/2015
		DRAWN	JKA
		CHECKED	AMW
<p>CITY OF ANN ARBOR          PUBLIC SERVICES          301 EAST HURON STREET          P.O. BOX 86400          ANN ARBOR MI 48108-6647          WWW.A2GOV.ORG</p>			
<p>811          Know what's below.          Call Before you dig.</p>			



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SPRINGWATER SUBDIVISION - PHASE II  
 GREEN STREETS INFRASTRUCTURE

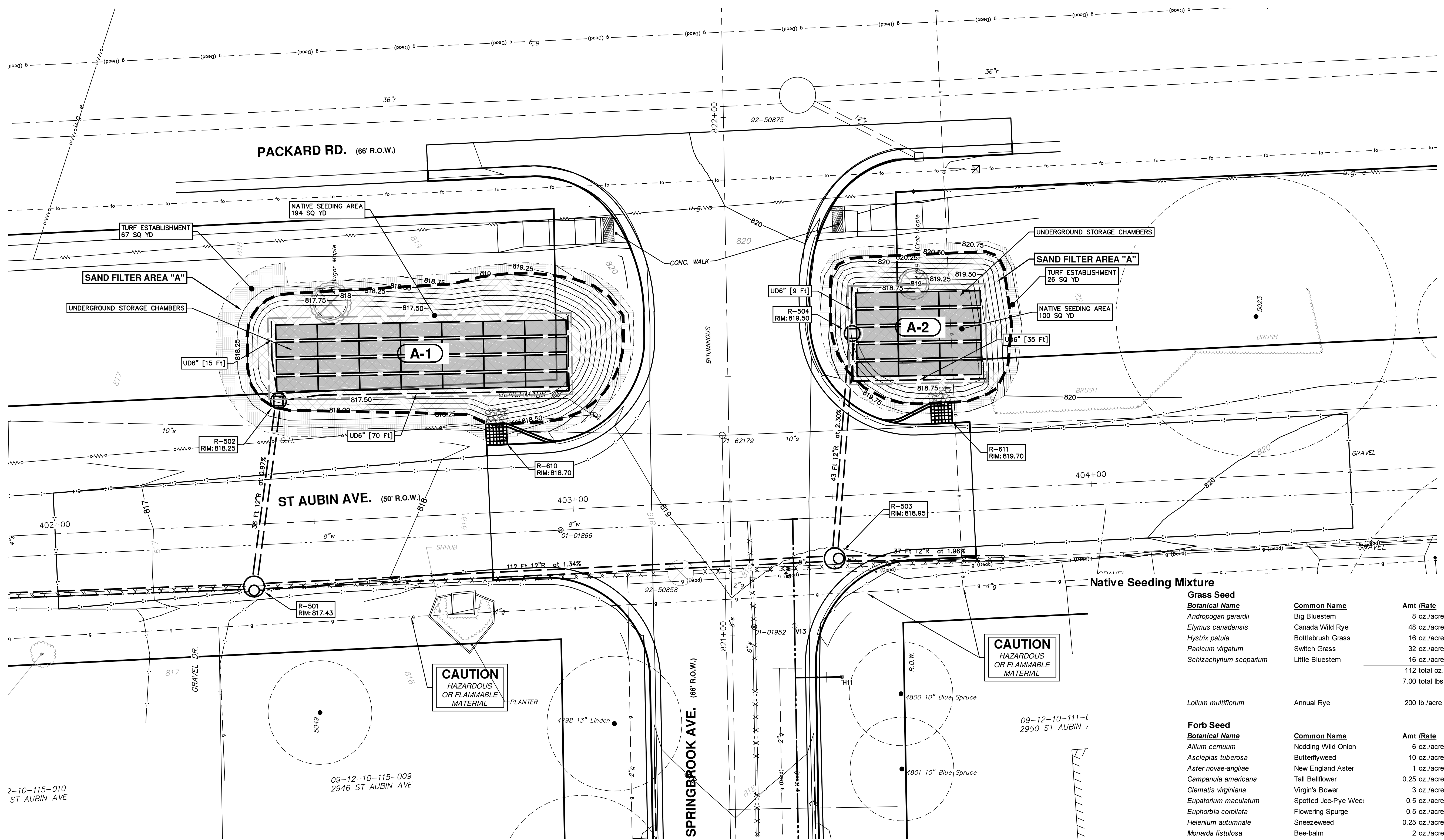
BIOGR-4



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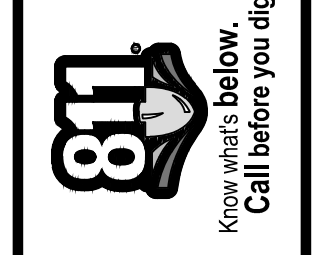


**Native Seeding Mixture**

Grass Seed	Botanical Name	Common Name	Amt /Rate
	<i>Andropogon gerardii</i>	Big Bluestem	8 oz./acre
	<i>Elymus canadensis</i>	Canada Wild Rye	48 oz./acre
	<i>Hystrix patula</i>	Bottlebrush Grass	16 oz./acre
	<i>Panicum virgatum</i>	Switch Grass	32 oz./acre
	<i>Schizachyrium scoparium</i>	Little Bluestem	16 oz./acre
			112 total oz./ac. or 7.00 total lbs./ac.

Forb Seed	Botanical Name	Common Name	Amt /Rate
	<i>Allium cernuum</i>	Nodding Wild Onion	6 oz./acre
	<i>Asclepias tuberosa</i>	Butterflyweed	10 oz./acre
	<i>Aster novae-angliae</i>	New England Aster	1 oz./acre
	<i>Campanula americana</i>	Tall Bellflower	0.25 oz./acre
	<i>Clematis virginiana</i>	Virgin's Bower	3 oz./acre
	<i>Eupatorium maculatum</i>	Spotted Joe-Pye Weed	0.5 oz./acre
	<i>Euphorbia corollata</i>	Flowering Spurge	0.5 oz./acre
	<i>Helenium autumnale</i>	Sneezeweed	0.25 oz./acre
	<i>Monarda fistulosa</i>	Bee-balm	2 oz./acre
	<i>Monarda punctata</i>	Horsemint	1 oz./acre
	<i>Penstemon digitalis</i>	Foxglove Beardstongu	0.5 oz./acre
	<i>Penstemon hirsutus</i>	Hairy Beardstongue	0.25 oz./acre
	<i>Pycnanthemum tenuifolium</i>	Mountain-Mint	0.25 oz./acre
	<i>Pycnanthemum virginianum</i>	Common Mountain Mii	0.25 oz./acre
	<i>Ratibida pinnata</i>	Yellow Coneflower	2 oz./acre
	<i>Rudbeckia hirta</i>	Black-Eyed Susan	2 oz./acre
	<i>Rudbeckia laciniata</i>	Cutleaf Coneflower	4 oz./acre
	<i>Solidago gigantea</i>	Late Goldenrod	0.25 oz./acre
	<i>Solidago patula</i>	Swamp Goldenrod	0.5 oz./acre
	<i>Tradescantia ohioensis</i>	Spiderwort	8 oz./acre
	<i>Verbena stricta</i>	Hoary Vervain	5 oz./acre
	<i>Vernonia missurica</i>	Ironweed	2 oz./acre
	<i>Veronicastrum virginicum</i>	Culver's Root	0.25 oz./acre
			49.75 total oz./ac. or 3.11 total lbs./ac.

**CAUTION**  
HAZARDOUS  
OR FLAMMABLE  
MATERIAL



NO	DATE	DESCRIPTION	REV.
00	12/04/2015	WFCO SUBMITTAL	JKA
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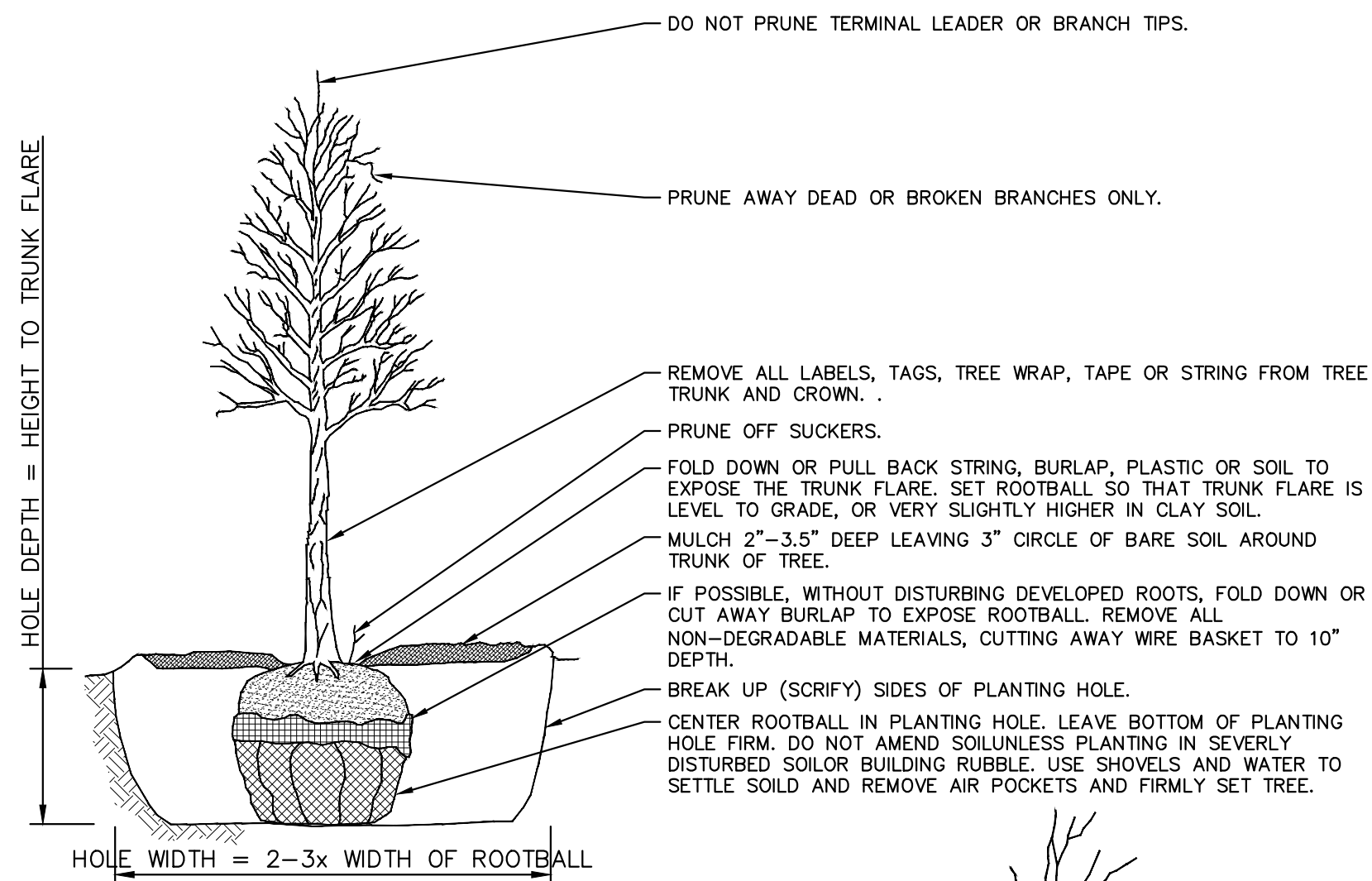
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**SPRINGWATER SUBDIVISION - PHASE II**  
GREEN STREETS INFRASTRUCTURE

SCALE PLAN: 1" = 10'  
DRAWING No. 2015018-66  
SHEET No. 66 OF 68



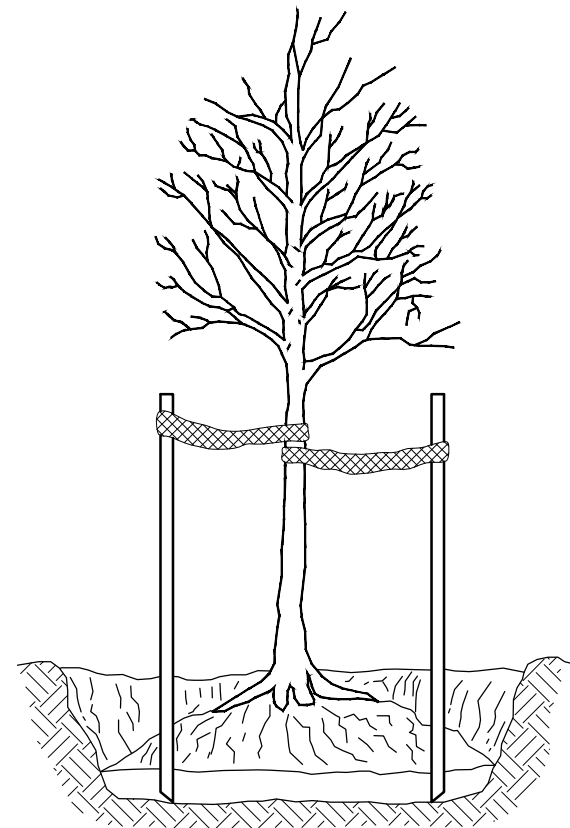
### Plant Schedule

Key	QTY	Botanical Name	Common Name	Spacing	Form
<b>B&amp;B Trees</b>					
COc	3	<i>Celtis occidentalis</i>	Hackberry	see plan	2" caliper B and B
GT	1	<i>Gleditsia triacanthos</i>	Honeylocust	see plan	2" caliper B and B
AR	2	<i>Acer rubrum</i>	Red Maple	see plan	2" caliper B and B
QBi	2	<i>Quercus bicolor</i>	Swamp White Oak	see plan	2" caliper B and B
QRu	2	<i>Quercus rubra</i>	Red Oak	see plan	2" caliper B and B
PG	3	<i>Picea glauca</i>	White Spruce	see plan	2" caliper B and B

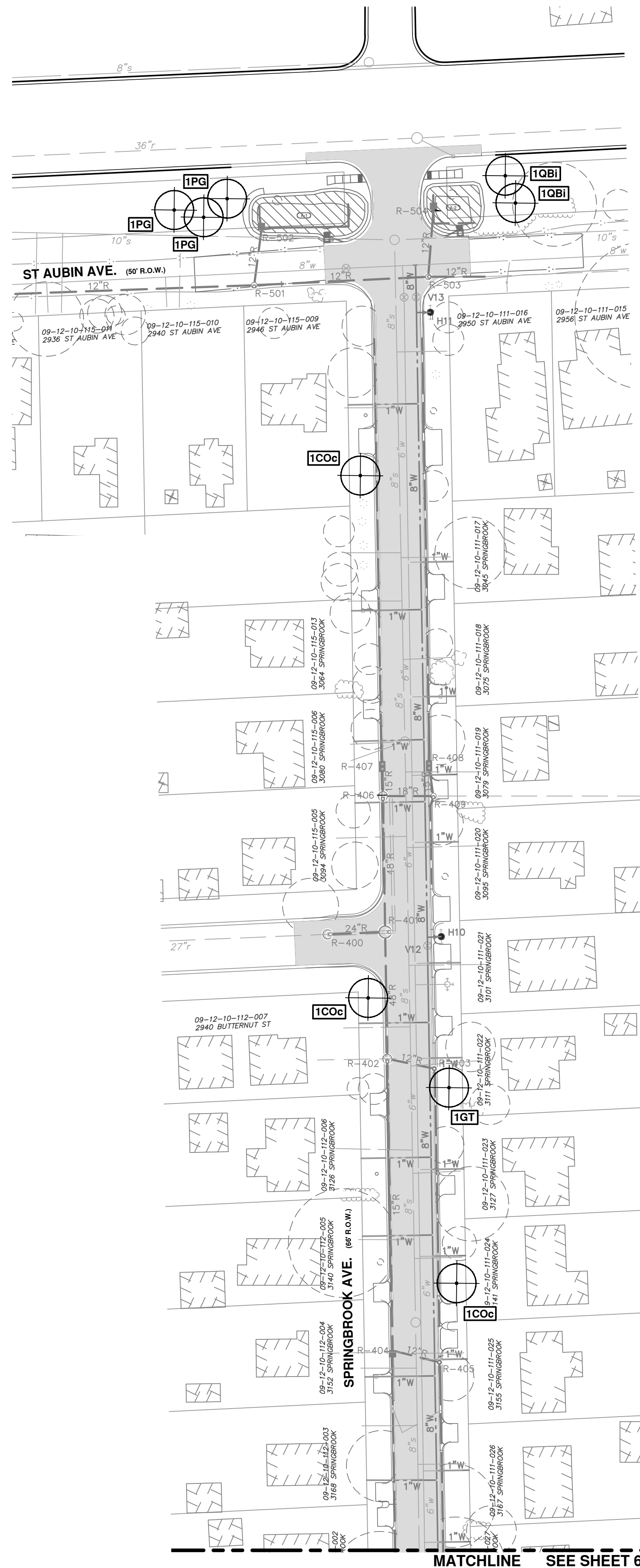


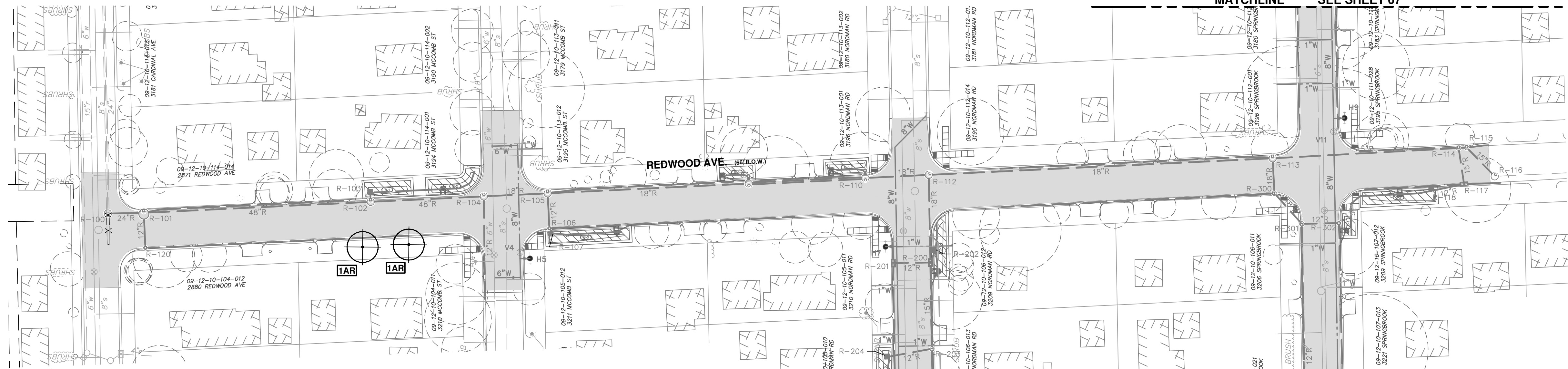
DO NOT STAKE UNLESS IN HEAVY CLAY SOIL, WINDY CONDITIONS, 3" OR GREATER DIAMETER TREE TRUNK OR LARGE CROWN. IF STAKING IS NEEDED DUE TO THESE CONDITIONS:

- STAKE WITH 2 x 2 HARDWOOD STAKES, OR APPROVED EQUAL, DRIVEN 6"-8" OUTSIDE OF ROOTBALL.
- LOOSELY STAKE TREE TRUNK TO ALLOW FOR TRUNK FLEXING.
- STAKE TREES JUST BELOW FIRST BRANCH WITH 2"-3" WIDE BELT-LIKE, NYLON OR PLASTIC STRAPS (2 PER TREE ON OPPOSITE SIDES OF TREE, CONNECT FROM TREE TO STAKE HORIZONTALLY. DO NOT USE ROPE OR WIRE THROUGH A HOSE.)
- REMOVE ALL STAKING MATERIALS AFTER 1 YEAR.



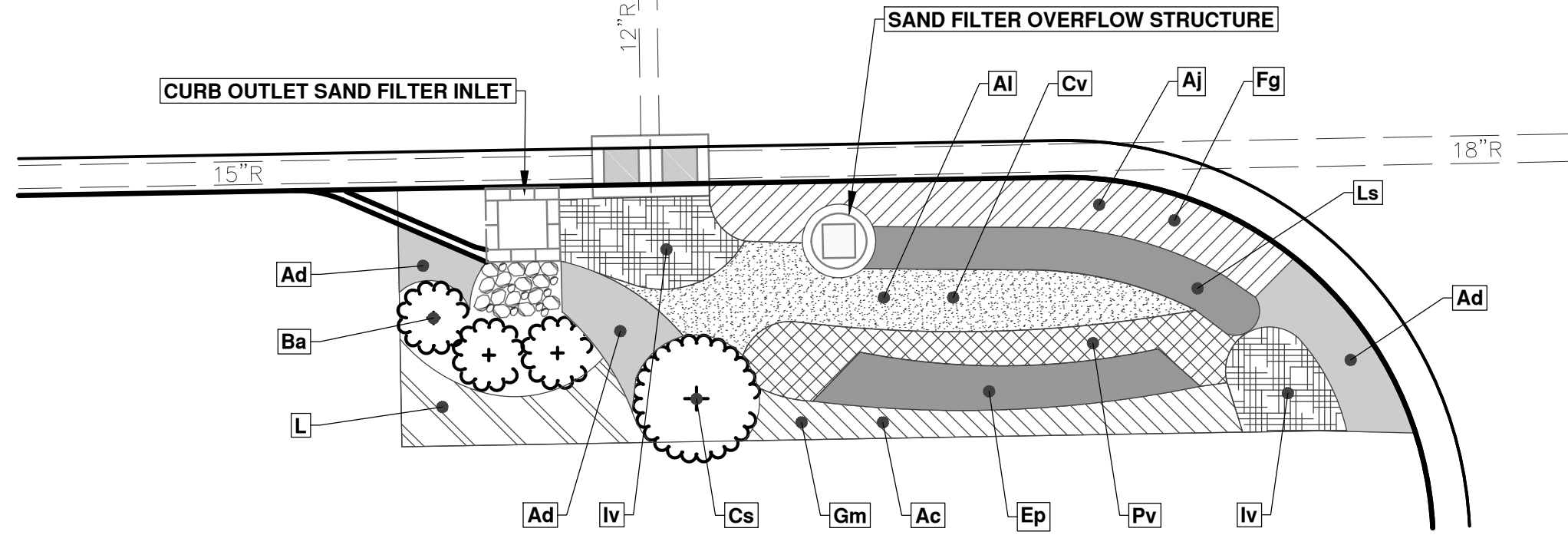
### TREE PLANTING SD-L-3





**Plant Schedule**

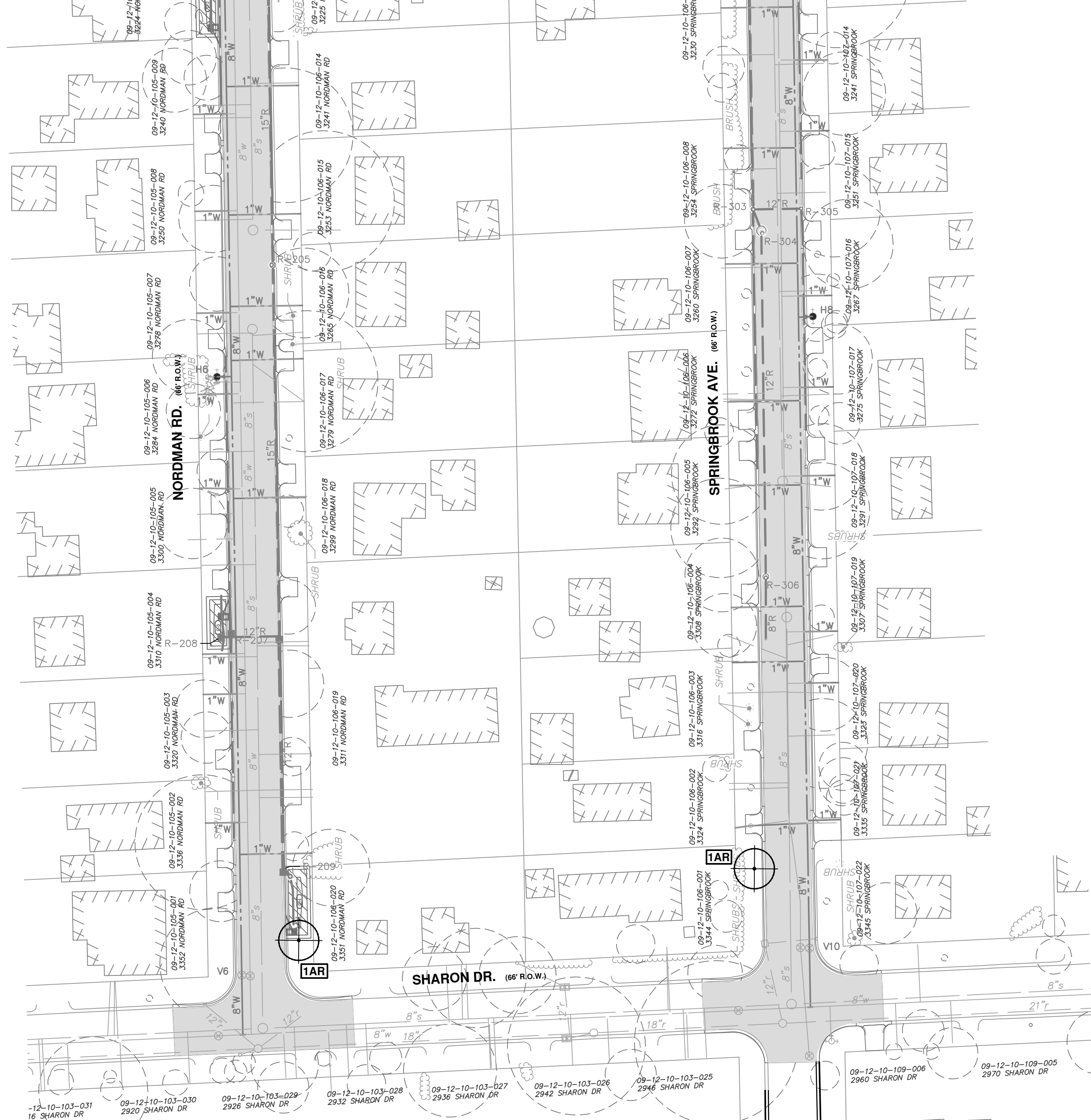
Key	QTY	Botanical Name	Common Name	Spacing	Form
Coc	3	Celtis occidentalis	Hackberry	see plan	2" caliper B and B
GT	1	Gleditsia triacanthos	Honeylocust	see plan	2" caliper B and B
AR	2	Acer rubrum	Red Maple	see plan	2" caliper B and B
QBi	2	Quercus bicolor	Swamp White Oak	see plan	2" caliper B and B
QRu	2	Quercus rubra	Red Oak	see plan	2" caliper B and B
PG	3	Picea glauca	White Spruce	see plan	2" caliper B and B



**SAND FILTER ALTERNATE NATIVE PLANTING PLAN SCHEMATIC**

**Plant Schedule**

Key	Botanical Name	Common Name	Spacing	Size
Gm	Geranium maculatum	Wild Geranium	12" o.c.	plug
Ac	Anemone canadensis	Canada Anemone	18" o.c.	plug
Fg	Fragaria virginiana	Wild Strawberry	18" o.c.	plug
Iv	Iris virginica	Blue Flag Iris	12"-18" o.c.	plug
Cv	Carex vulpinoidea	Brown Fox Sedge	12"-18" o.c.	plug
Ba	Baptisia australis	Baptisia or False Indigo	3' o.c.	#2 pot
Cs	Cornus sericea	Red-osier Dogwood	NA	#5 or gallon
Ls	Liatris spicata 'Kobold'	Kobold Blazing Star	12"-18" o.c.	gal. or #1 pot
Ep	Echinacea purpurea 'Magnus'	Magnus Purple Coneflower	12"-18" o.c.	gal. or #1 pot
Ai	Asclepias incarnata	Swamp Milkweed	3' o.c.	plug
Pv	Physostegia virginiana	Obedient Plant	24" o.c.	#1 pot
Aj	Sedum 'Autumn Joy'	Autumn Joy Sedum	16" o.c.	gal. or #1 pot
Ad	Aster dumosus 'Woods Light Blue'	Woods Blue Aster	18" o.c.	1 gallon
L	Leucanthemum sp. 'Gold Finch' 18"	Shasta Daisies Gold Finch	18" o.c.	#1 pot



Know what's below. Call before you dig.

REV.	DATE	DESCRIPTION
00	12/04/2015	MFCO SUBMITTAL
JKA		DRAWN
AMW		CHECKED

CITY OF ANN ARBOR  
PUBLIC SERVICES  
301 EAST HURON STREET  
ANN ARBOR MI 48106-8647  
www.a3gov.org



**PROJECT MANAGEMENT - PUBLIC SERVICES - CITY OF ANN ARBOR**  
**SPRINGWATER SUBDIVISION - PHASE II**  
TREE AND SAND FILTER PLANTING PLAN - SOUTH

SCALE PLAN: 1" = 50'  
DRAWING NO. 2015018-68