

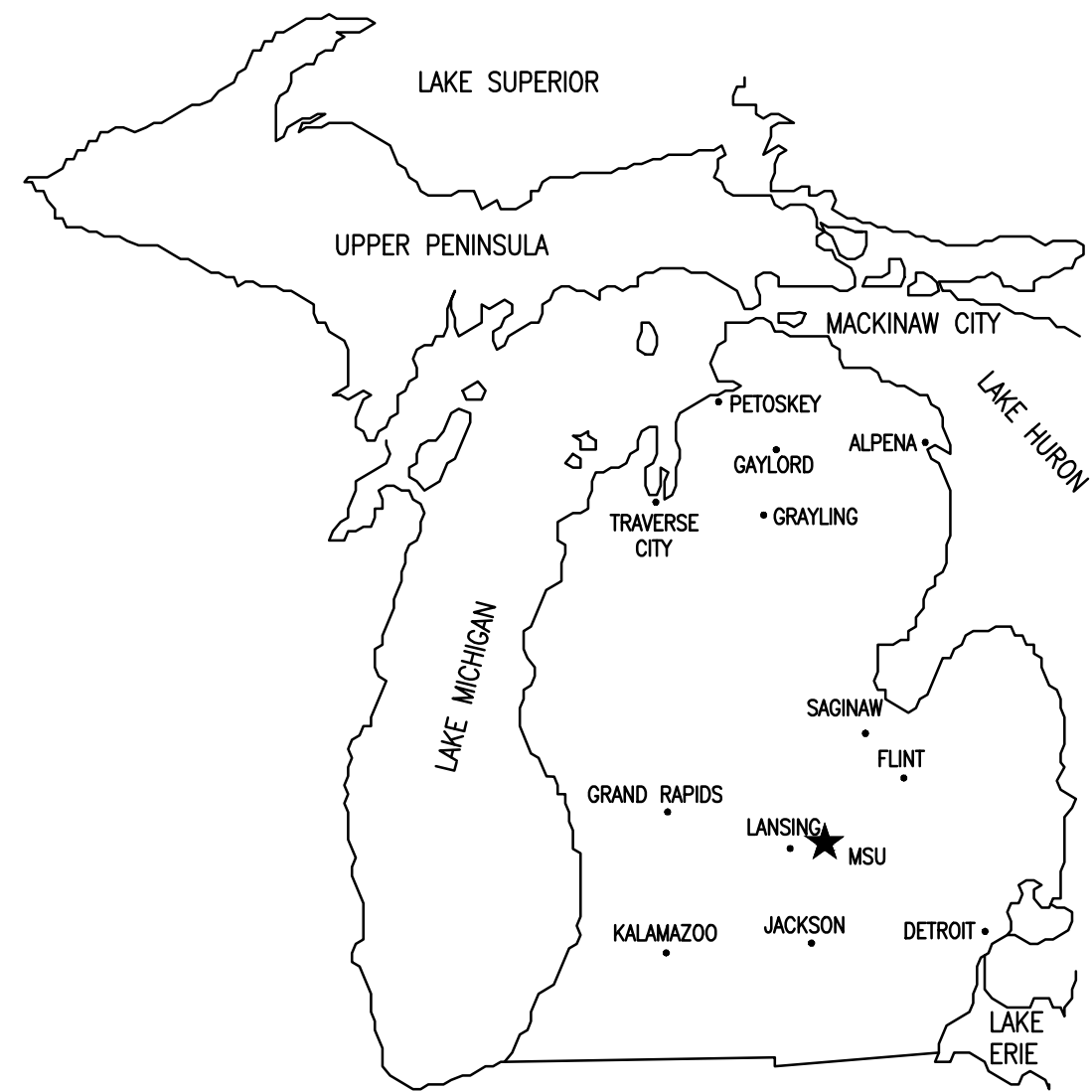
ISSUED FOR BIDS CONSTRUCTION PLANS FOR: MICHIGAN STATE UNIVERSITY



Infrastructure
Planning and Facilities

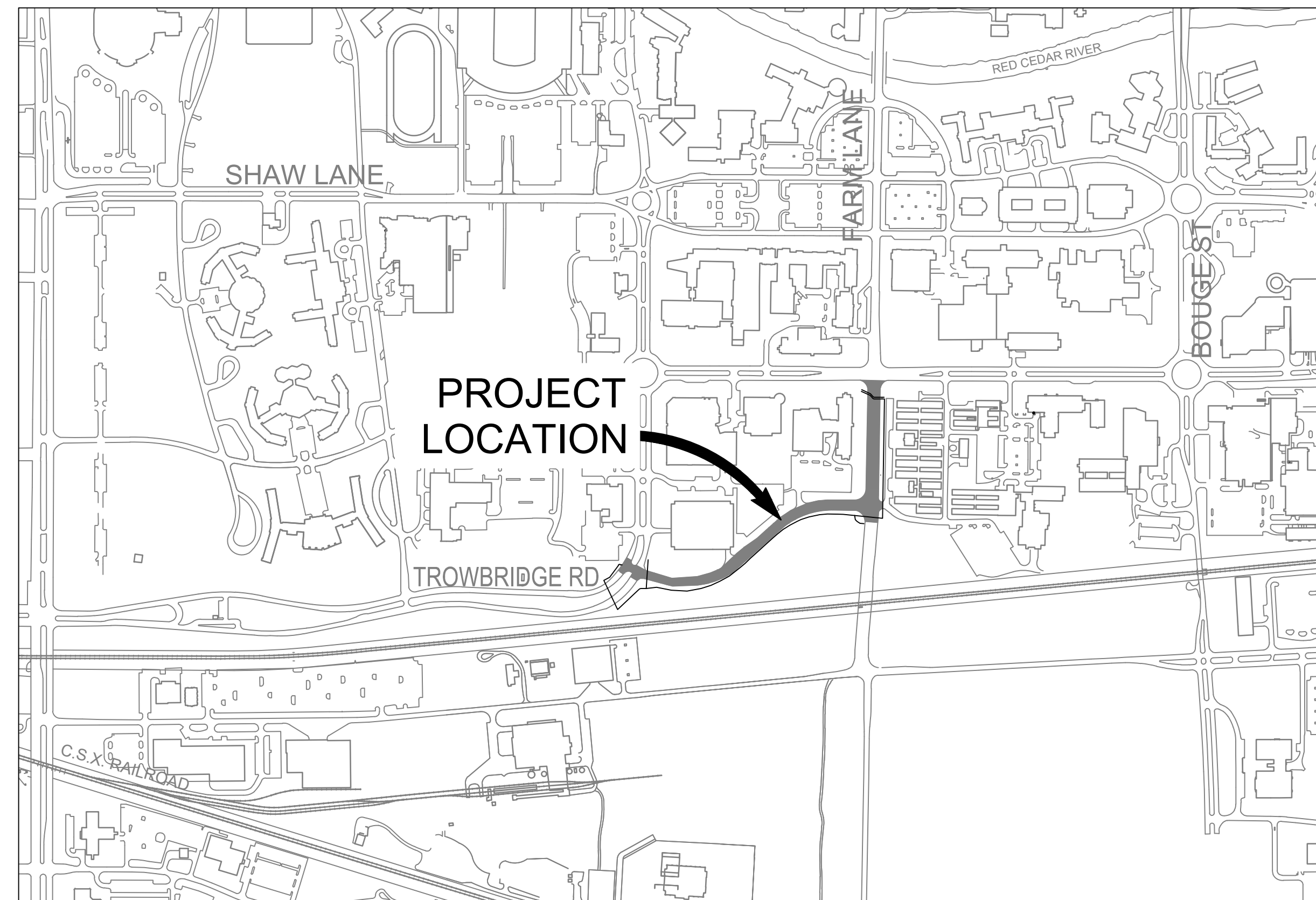
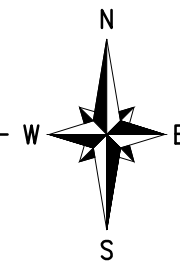
MICHIGAN STATE
UNIVERSITY

CP23036 - ELECTRICAL DISTRIBUTION - FARM LN DUCT BANK EXTENSION RED CEDAR TO FARM LN/WILSON RD - PHASE 1



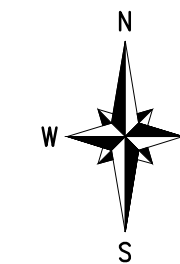
MICHIGAN LOCATION MAP

SCALE: NTS



PROJECT MAP

SCALE: NTS



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ELECTRICAL DISTRIBUTION - FARM LN DUCT BANK EXTENSION
RED CEDAR TO FARM LN/WILSON RD - PHASE 1
INFRASTRUCTURE PLANNING FACILITIES

COVER

MSU PROJ. NO.
CP23036

PR. MGR. A. LINEBAUGH
ARCH. -
MECH. -
ELEC. K. BEACH
CIVIL S. LAUGHLIN
L.A. D. WILBER
INT. DES. -
CONST. REP. -
APPR. -
DATE 11/15/2024
SCALE AS SHOWN

ISSUED
2/20/24 - PRELIMINARY
2/21/24 - 95% SUBMITTAL
11/15/24 - ISSUED FOR BIDS

GENERAL

G-001

1 OF 16



Know what's below.
Call before you dig.

IT IS UNDERSTOOD THAT THE CONTRACTOR SHALL PERFORM ALL WORK UNDER THIS CONTRACT IN ACCORDANCE WITH ALL APPLICABLE PROVISIONS, POLICIES, RULES AND STANDARDS OF THE MICHIGAN OCCUPATIONAL SAFETY AND HEALTH ACT (MDSHA), BEING ACT 154 OF THE PUBLIC ACTS OF 1974 AND AS AMENDED.

GENERAL PLAN NOTES

1. BENCH MARKS

USE TWO BENCH MARKS FOR VERIFICATION OF ALL CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING ADDITIONAL BENCH MARKS TO MEET THIS REQUIREMENT.

2. REMOVAL ITEMS

UNLESS SPECIFICALLY NOTED FOR REMOVAL ON THE PLANS, ALL SIDEWALKS, DRIVES, CULVERTS, DRAINAGE STRUCTURES AND ABOVE GRADE UTILITIES SHALL BE PROTECTED. ALL SUCH ITEMS DAMAGED OR DESTROYED DURING CONSTRUCTION SHALL BE REMOVED AND REPLACED WITH NEW BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

3. UNDERGROUND UTILITIES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 53, 1974, THE CONTRACTOR SHALL CONTACT MISS DIG (1-800-482-7171, <https://www.missdig.org/>) A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MISS DIG MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

4. MAINTAIN ACCESS TO COMMERCIAL ENTRANCES

ACCESS TO ALL COMMERCIAL ENTRANCES SHALL BE MAINTAINED BY THE CONTRACTOR WITH THE USE OF SALVAGED GRAVEL, IMPORTED GRAVEL, OR MILLED TAILINGS.

5. PROTECT EXISTING UTILITIES

THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING WATER MAIN, STORM, AND SANITARY SEWER DURING THE CONSTRUCTION OF THE PROPOSED DUCT BANK(S).

6. EXPLORATORY TRENCHING

THE EXACT LOCATION AND ELEVATION OF THE VARIOUS UTILITIES ARE NOT KNOWN. THE CONTRACTOR MAY BE REQUIRED TO DO SOME EXPLORATORY EXCAVATION TO VERIFY THE LOCATION AND ELEVATION.

7. DRIVEWAYS

EXISTING DRIVEWAYS BEYOND THE CONSTRUCTION LIMITS SHALL BE PROTECTED. ANY DAMAGE FROM CONSTRUCTION OPERATIONS SHALL BE RESTORED AT CONTRACTORS EXPENSE.

8. DISPOSAL OF EXCESS MATERIAL

ALL EXCESS MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR AT A LOCATION PROVIDED BY THE CONTRACTOR.

9. SAWCUTTING PAVEMENT

SAWCUT EXISTING HMA OR CONCRETE SURFACES TO THE LIMITS OF CONSTRUCTION OR AS DIRECTED BY THE ENGINEER. THIS ALSO INCLUDES SAWCUTTING DRIVES AT THE REPLACEMENT LIMITS. IF THE EDGE IS DAMAGED SUBSEQUENT TO SAWCUTTING, THE EDGE SHALL BE RECUT AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER.

10. PROTECTIVE FENCE

PROTECTIVE FENCE SHALL BE PLACED AROUND ALL TRENCH EXCAVATIONS THAT ARE LEFT OPEN OVERNIGHT.

11. RESTORATION

ALL TOPSOIL SHALL BE SUPPLIED AND PLACED BY MSU LANDSCAPE SERVICES. TOPSOIL OPERATIONS SHALL INCLUDE SUBSOIL SURFACE PREPARATION, HAULING, SPREADING, ROUGH GRADING, FINE GRADING, SEEDING, AND CLEAN-UP.

12. CAMPUS WOODY PLANT PROTECTION

ALL PLANT PROTECTION SHALL BE IN ACCORDANCE WITH MSU STANDARD SPECIFICATION SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS.

13. PAVEMENT MARKINGS AND SIGNAGE

CONTRACTOR SHALL PREPARE A WITNESS LOG LAYOUT, INCLUDING PAVEMENT MARKINGS AND SIGNAGE, IN ACCORDANCE WITH 2012 MDOT SECTION 811. ANY PERMANENT SIGNS IMPACTED BY CONSTRUCTION OPERATIONS SHALL BE SALVAGED AND RESET BY THE CONTRACTOR AT LOCATIONS DESIGNATED BY THE ENGINEER.

14. ADJUSTING MONUMENT BOXES

ALL GOVERNMENT CORNERS ON THIS PROJECT SHALL BE PRESERVED, WHETHER SHOWN OR NOT. IT MAY BE NECESSARY TO PLACE OR ADJUST MONUMENT BOXES, AS REQUIRED.

PUBLIC UTILITIES

THE EXISTING UTILITIES LISTED BELOW AND SHOWN ON THESE PLANS REPRESENT THE BEST INFORMATION AVAILABLE AS OBTAINED FROM THE REPECTIVE UTILITIES. THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO BE SATISFIED AS TO ITS ACCURACY AND THE LOCATION OF EXISTING UTILITIES.

UTILITY OWNER

UTILITY

AT&T
ATTN: JOSEPH BONACCI
517-488-3985
jb3842@att.com

TELEPHONE
FIBER OPTICS

CONSUMERS ENERGY
ATTN: ADAM BERTRAM
517-614-8570
Adam.Bertram@cmsenergy.com

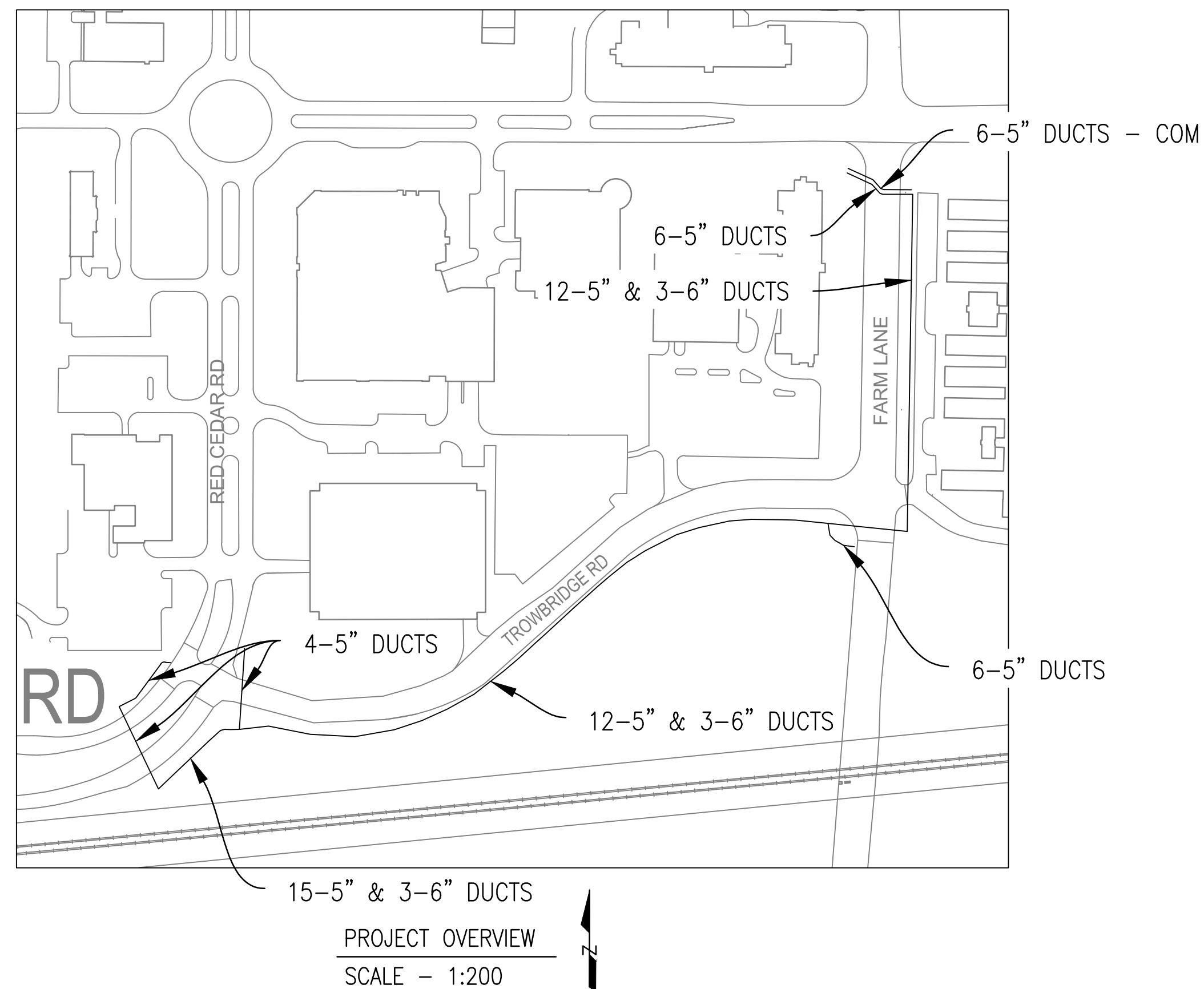
GAS

MICHIGAN STATE UNIVERSITY
1147 CHESTNUT RD.
EAST LANSING, MI 48824
ATTN: JEFF WEST
TELEPHONE: 517-432-0110

WATER, SANITARY
SEWER, STORM
SEWER, AND STEAM

MICHIGAN STATE UNIVERSITY
517-353-1760

IRRIGATION



LEGEND

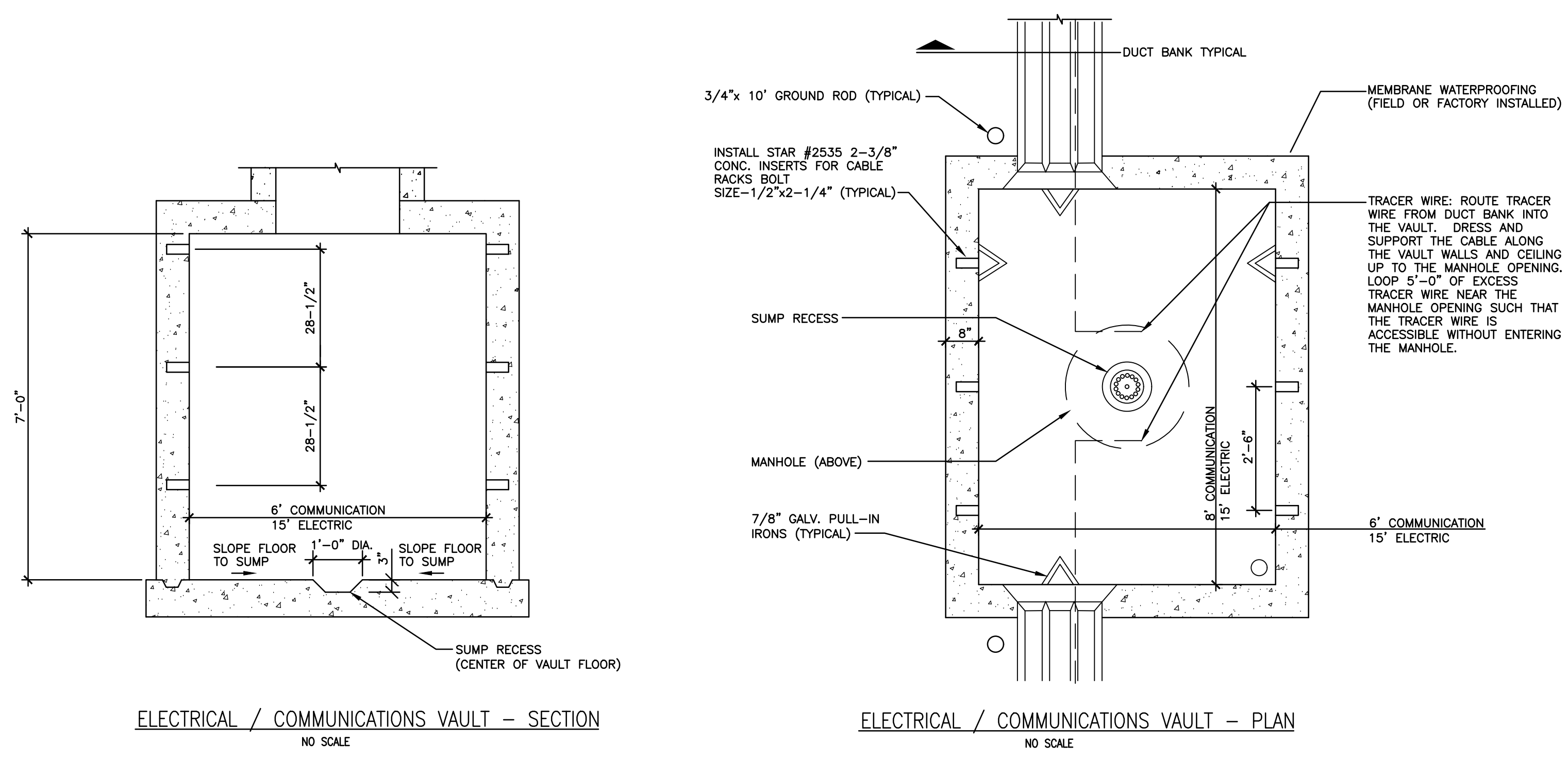
- = Right-of-way
- - - = Property Line
- ~~~~~ = Tree line
- XXXXX = Wetland
- X- = Fence line
- OE = Existing Overhead Electric
- E = Existing Underground Electric
- G = Existing Gas line
- SAN = Existing Sanitary Sewer
- STM = Existing Storm Sewer
- T = Existing Underground Telephone
- WAT = Existing Water Main
- E = Proposed U.G. Electric
- FO = Proposed Fence line
- G = Proposed Gas
- SAN = Proposed Sanitary Sewer
- STM = Proposed Storm Sewer
- T = Proposed Telephone
- TV = Proposed Cable TV
- WAT = Proposed Water Main
- = Benchmark
- = Catchbasin
- ⊕ = Storm Manhole
- ⊕ = Flattop Catchbasin
- ⊕ = Sanitary Manhole
- ⊕ = Sanitary Cleanout
- ⊕ = Hydrant
- ⊕ = Water Valve
- ⊕ = Water Meter
- ⊕ = Water Manhole
- ⊕ = Well
- ⊕ = Gas Valve
- ⊕ = Gas Meter
- ⊕ = Sign
- ⊕ = Mailbox
- ⊕ = Soil Boring
- ⊕ = Electric Meter
- = Property Iron
- ⊕ = Electric Manhole
- ⊕ = Transformer
- ⊕ = Utility Pole
- ⊕ = Guy Pole
- ⊕ = Guy Wire
- ⊕ = Light Pole
- ⊕ = Telephone Manhole
- ⊕ = Telephone Pedestal
- ⊕ = AC Unit
- ⊕ = Post
- ⊕ = Monitoring Well
- ⊕ = Deciduous Tree
- ⊕ = Coniferous Tree
- ⊕ = Shrub/Bush
- ⊕ = Stump
- = Existing Culvert End Section
- = Proposed Culvert End Section
- ⊕ = Tracer Box
- ⊕ = Water Casing Pipe Vent
- ⊕ = Gas Casing Pipe Vent
- ADJ = ADJUST
- REL = UTILITY CO. TO RELOCATE
- REL = RELOCATE
- REL = REMOVE
- BH = BULKHEAD
- AB = ABANDON
- B/O = RELOCATE BY OTHERS
- PROTECT = PROTECT

MSU PROJ. NO.
CP23036

PR. MGR.	A. LINEBAUGH
ARCH.	-
MECH.	-
ELEC.	K. BEACH
CIVIL	S. LAUGHLIN
L.A.	D. WILBER
INT. DES.	-
CONST. REP.	-
APPR.	-
DATE	11/15/2024
SCALE	AS SHOWN
ISSUED	-
2/20/24 - PRELIMINARY	-
2/21/24 - 95% SUBMITTAL	-
11/19/24 - ISSUED FOR BIDS	-
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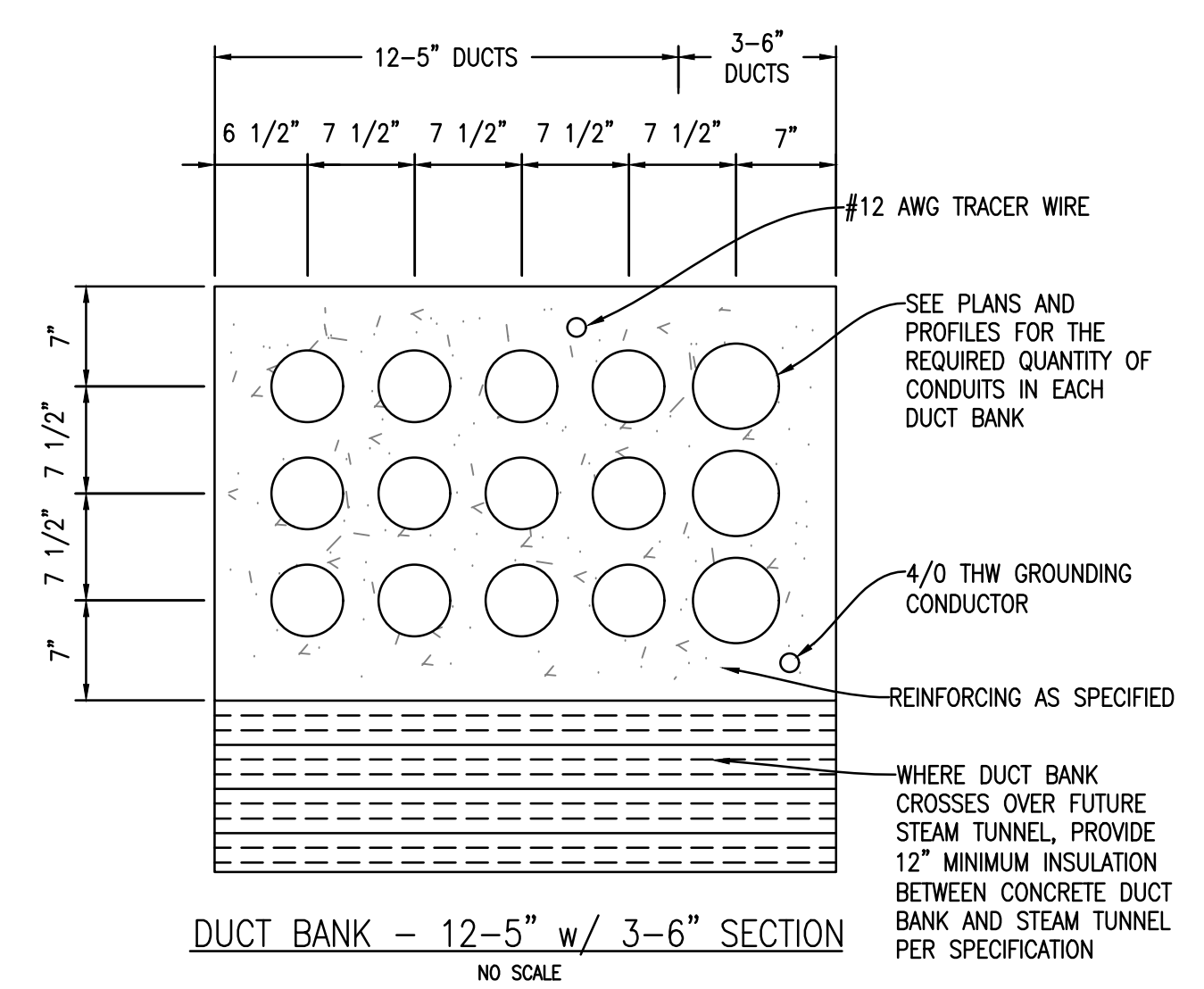
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G-002

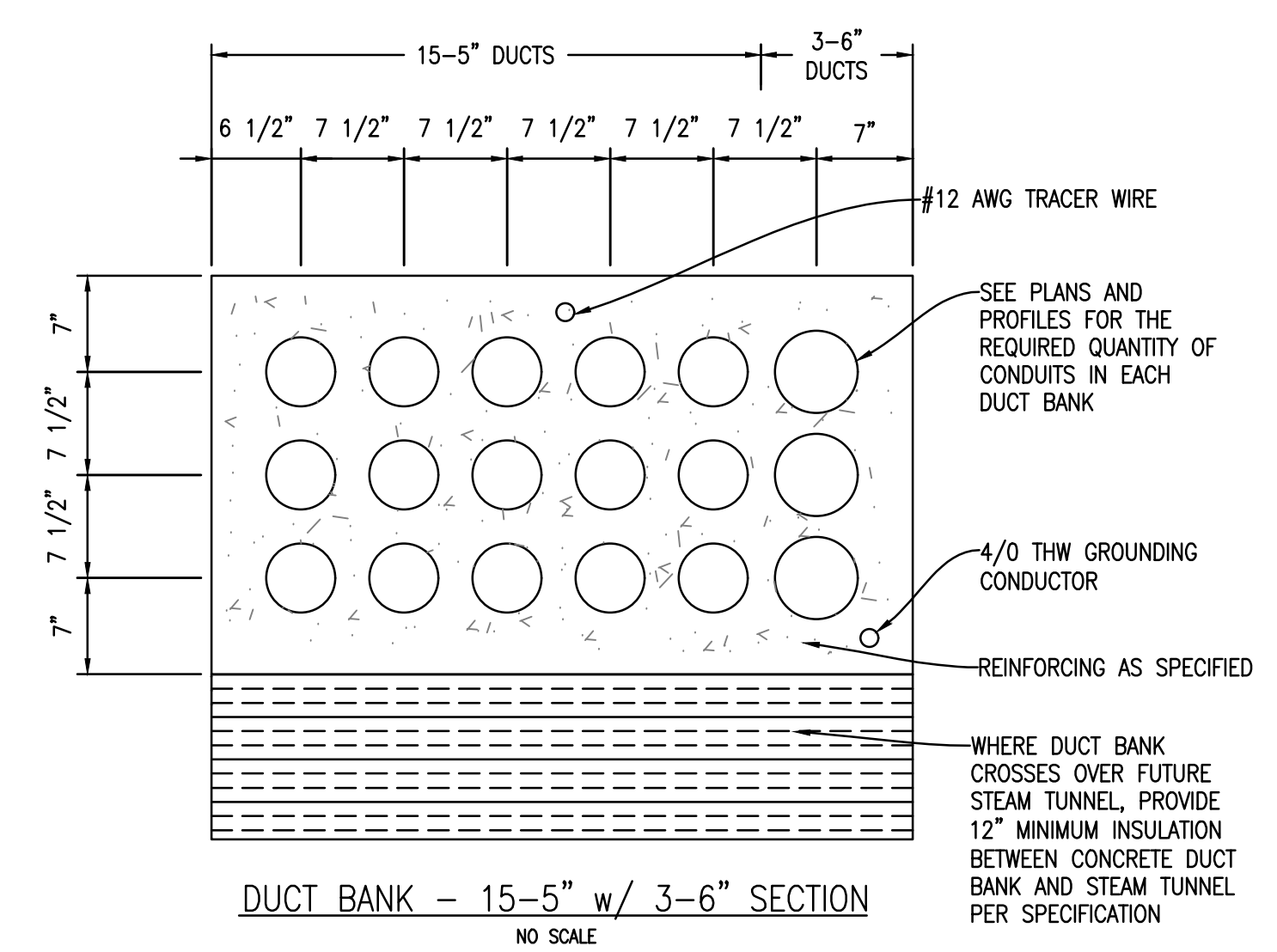


ELECTRICAL / COMMUNICATIONS VAULT - SECTION
NO SCALE

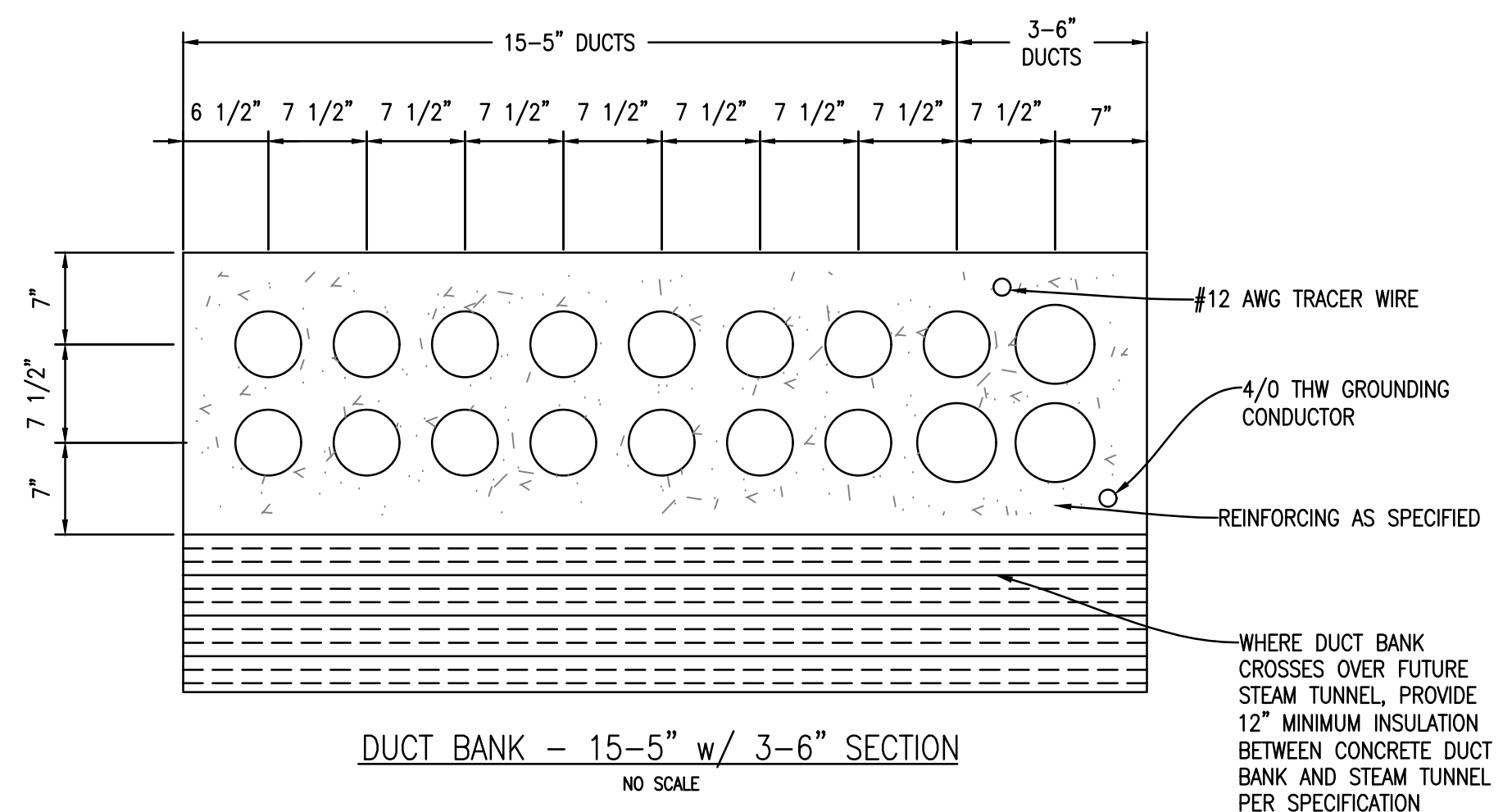
ELECTRICAL / COMMUNICATIONS VAULT - PLAN
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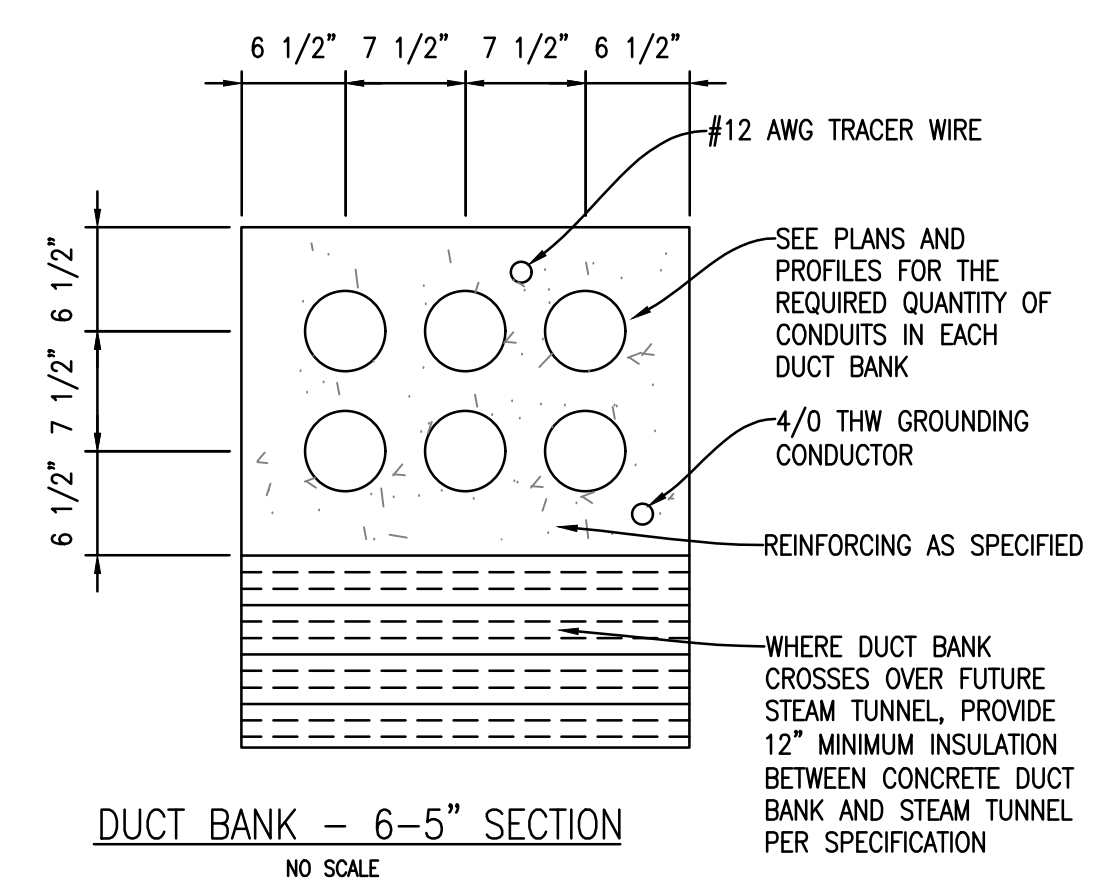
DUCT BANK - 12-5" w/ 3-6" SECTION
NO SCALE



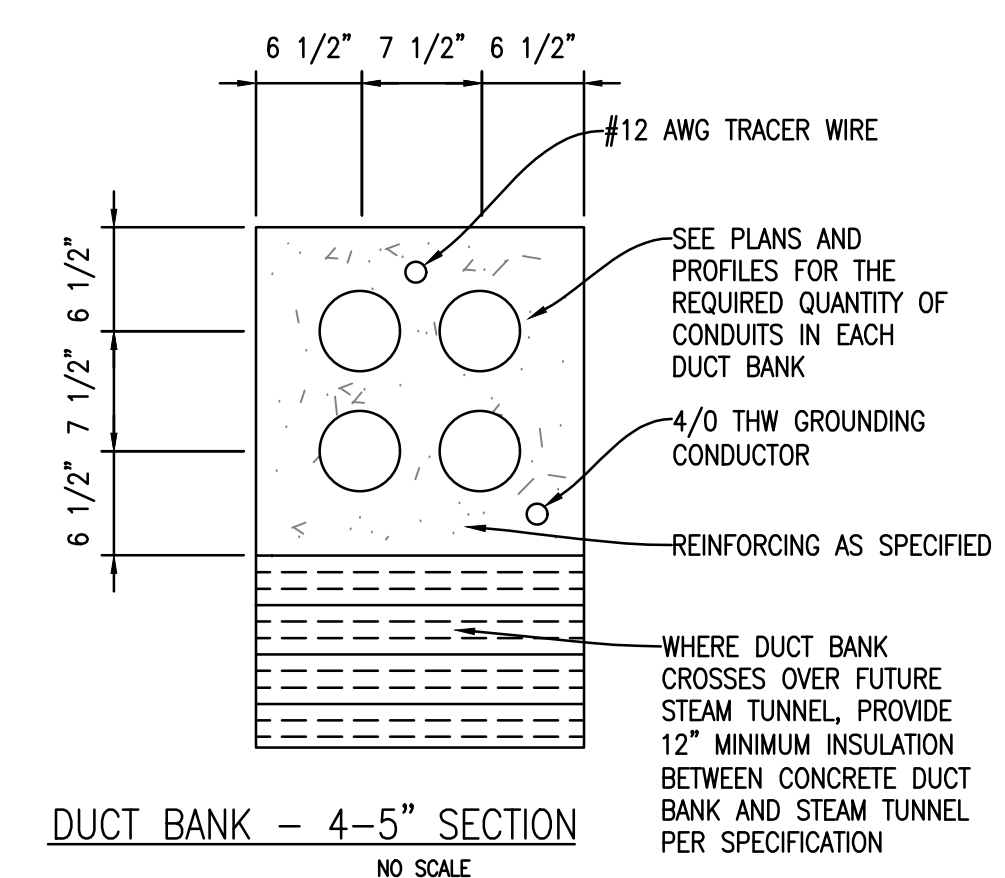
DUCT BANK - 15-5" w/ 3-6" SECTION
NO SCALE



DUCT BANK - 15-5" w/ 3-6" SECTION
NO SCALE



DUCT BANK - 6-5" SECTION
NO SCALE



DUCT BANK - 4-5" SECTION
NO SCALE

NOTES:

- REFER TO/COMPLY WITH MSU STANDARD SPECIFICATION SECTION 337119 - ELECTRICAL UNDERGROUND DUCTS AND MANHOLES FOR CONCRETE ENCASUREMENT REQUIREMENTS.

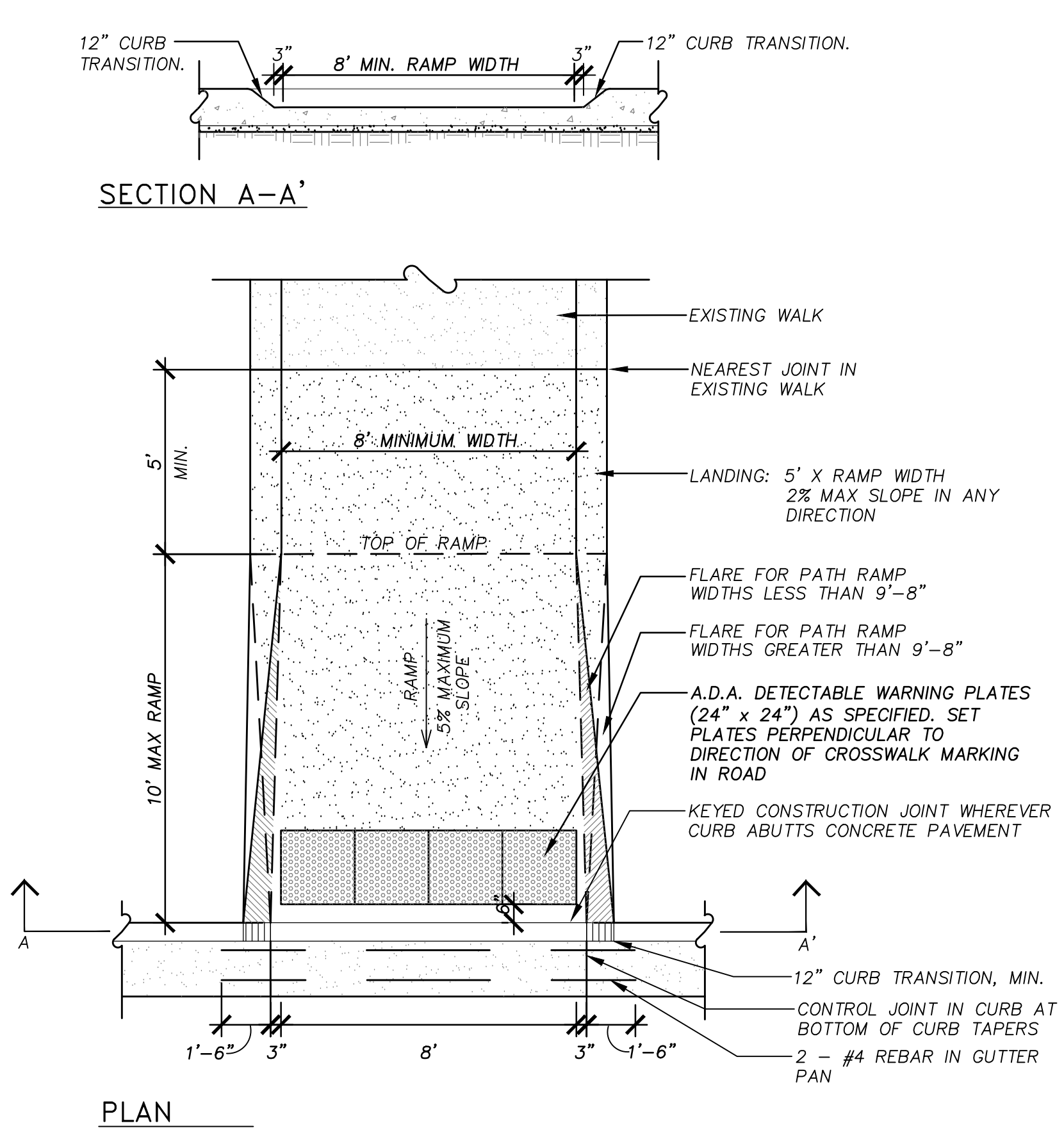
MSU PROJ. NO.	CP23036
PR. MGR.	A. LINEBAUGH
ARCH.	
MECH.	
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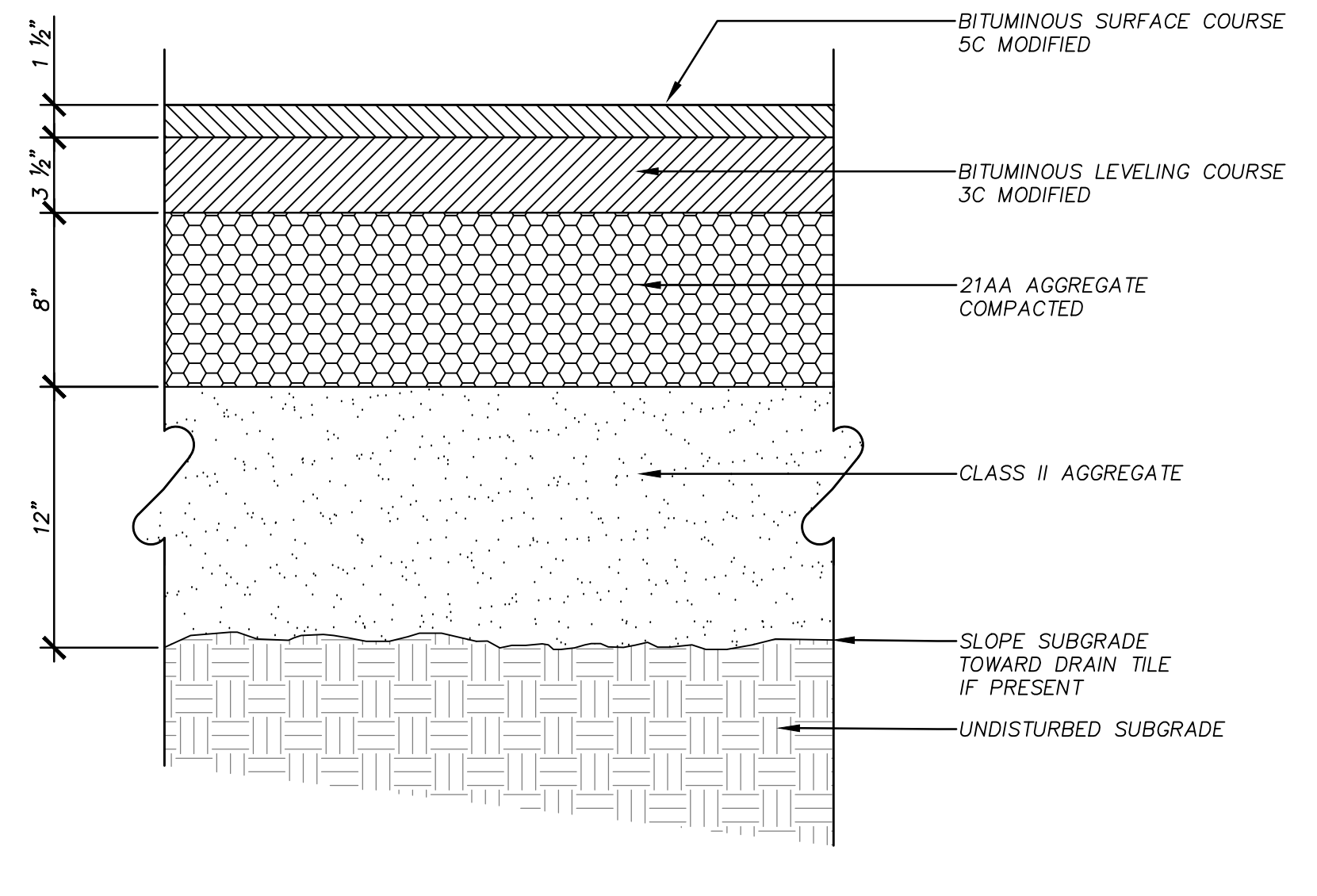
PR. MGR.	A. LINEBAUGH
ARCH.	-
MECH.	-
ELEC.	K. BEACH
CIVIL	S. LAUGHLIN
L.A.	D. WILBER
INT. DES.	-
CONST. REP.	-
APPR.	-
DATE	11/15/2024
SCALE	1"=40'
ISSUED	-
	2/20/24 - PRELIMINARY
	2/21/24 - 95% SUBMITTAL
	11/15/24 - ISSUED FOR BIDS

DETAILS

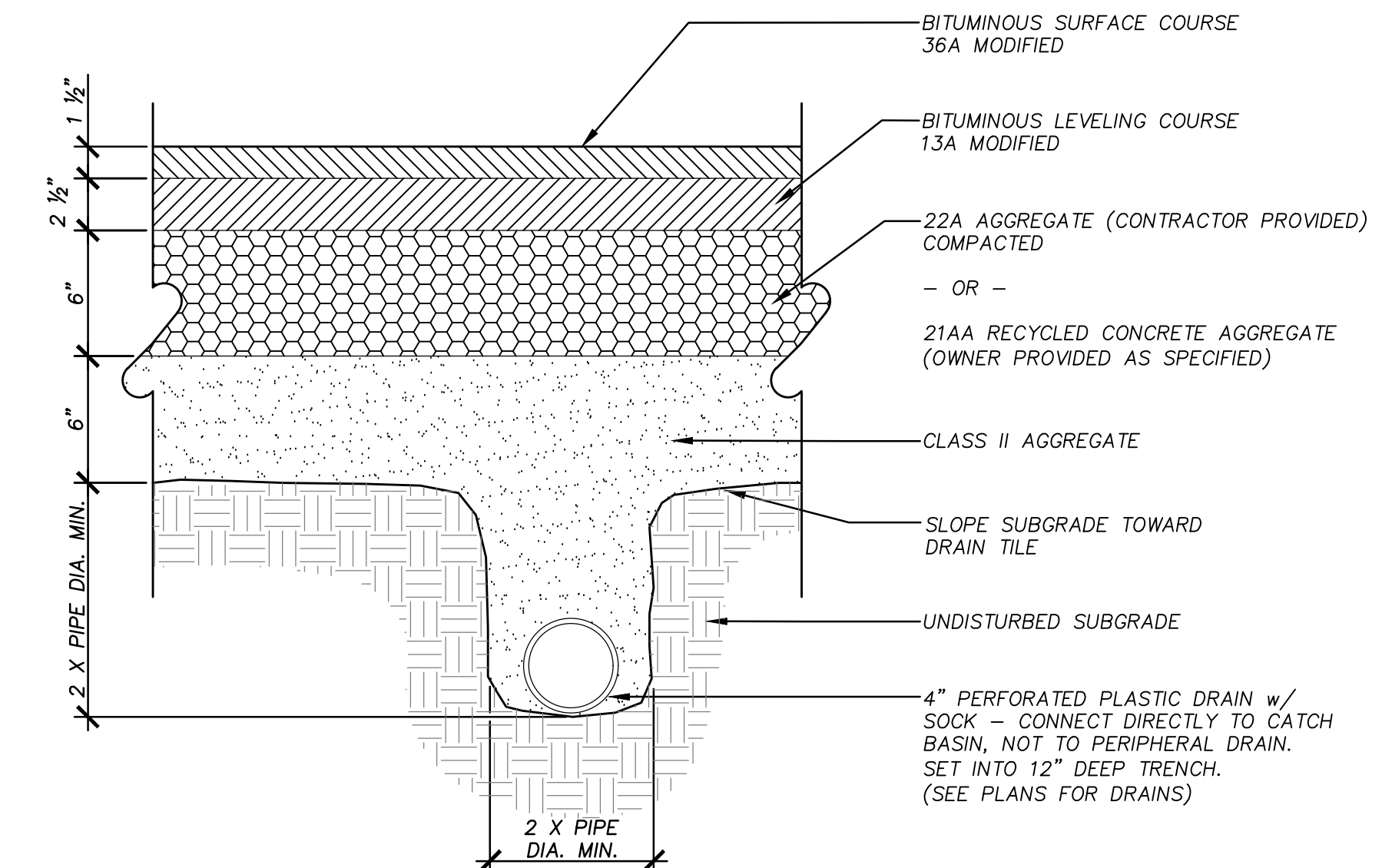
G-004



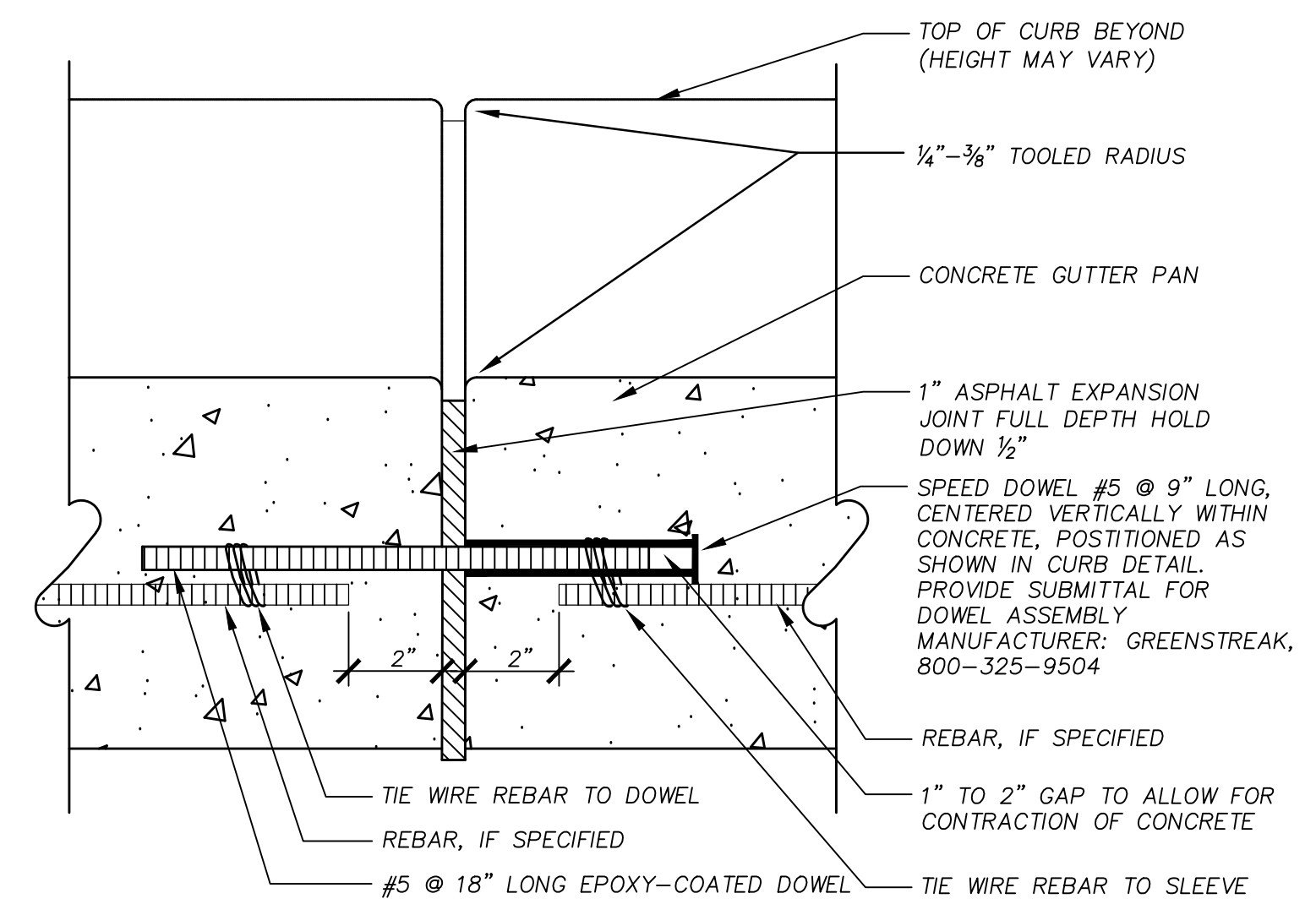
CURB RAMP - STANDARD
NOT TO SCALE



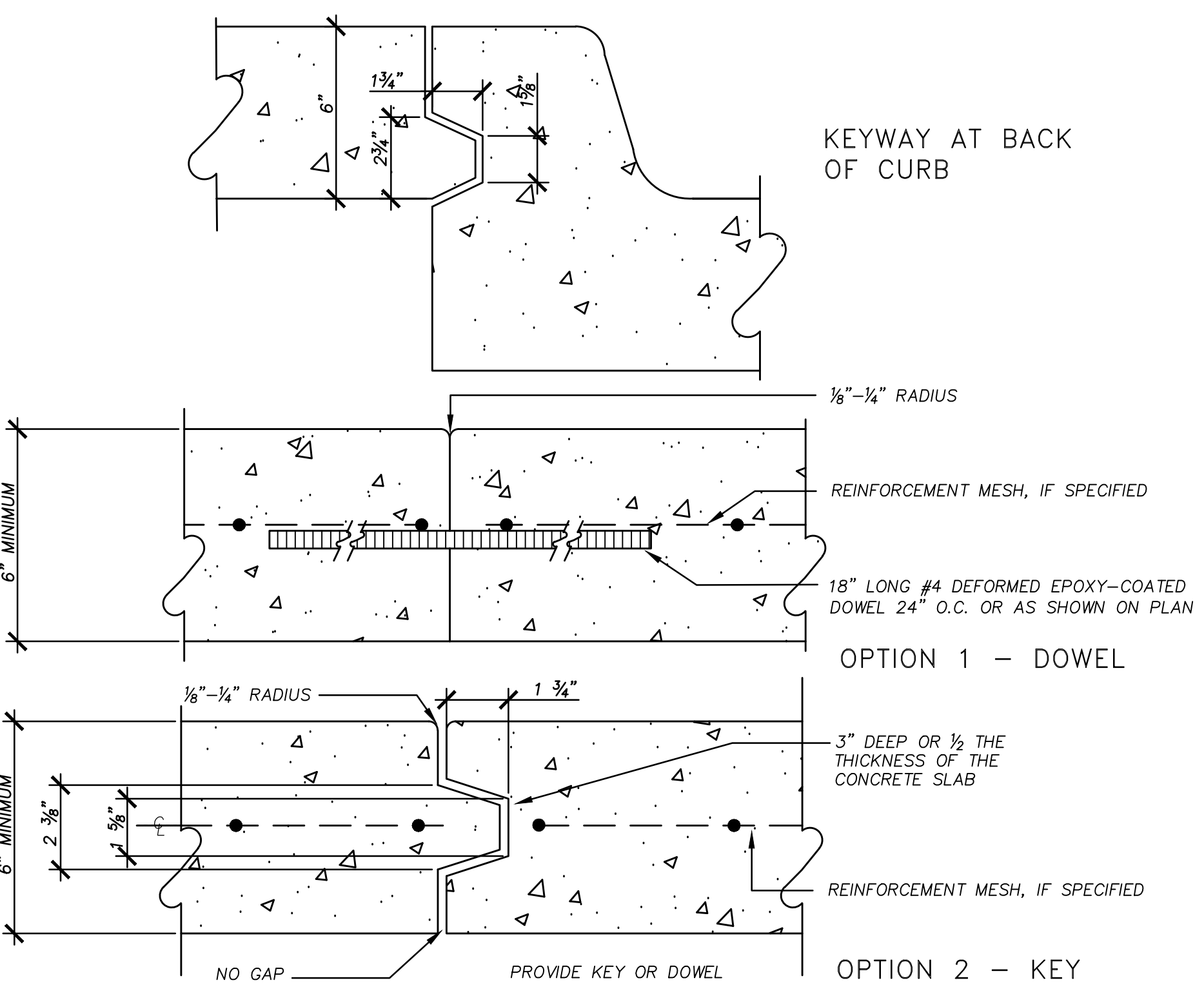
ROAD & SERVICE AREA BITUMINOUS PAVEMENT SECTION
NOT TO SCALE



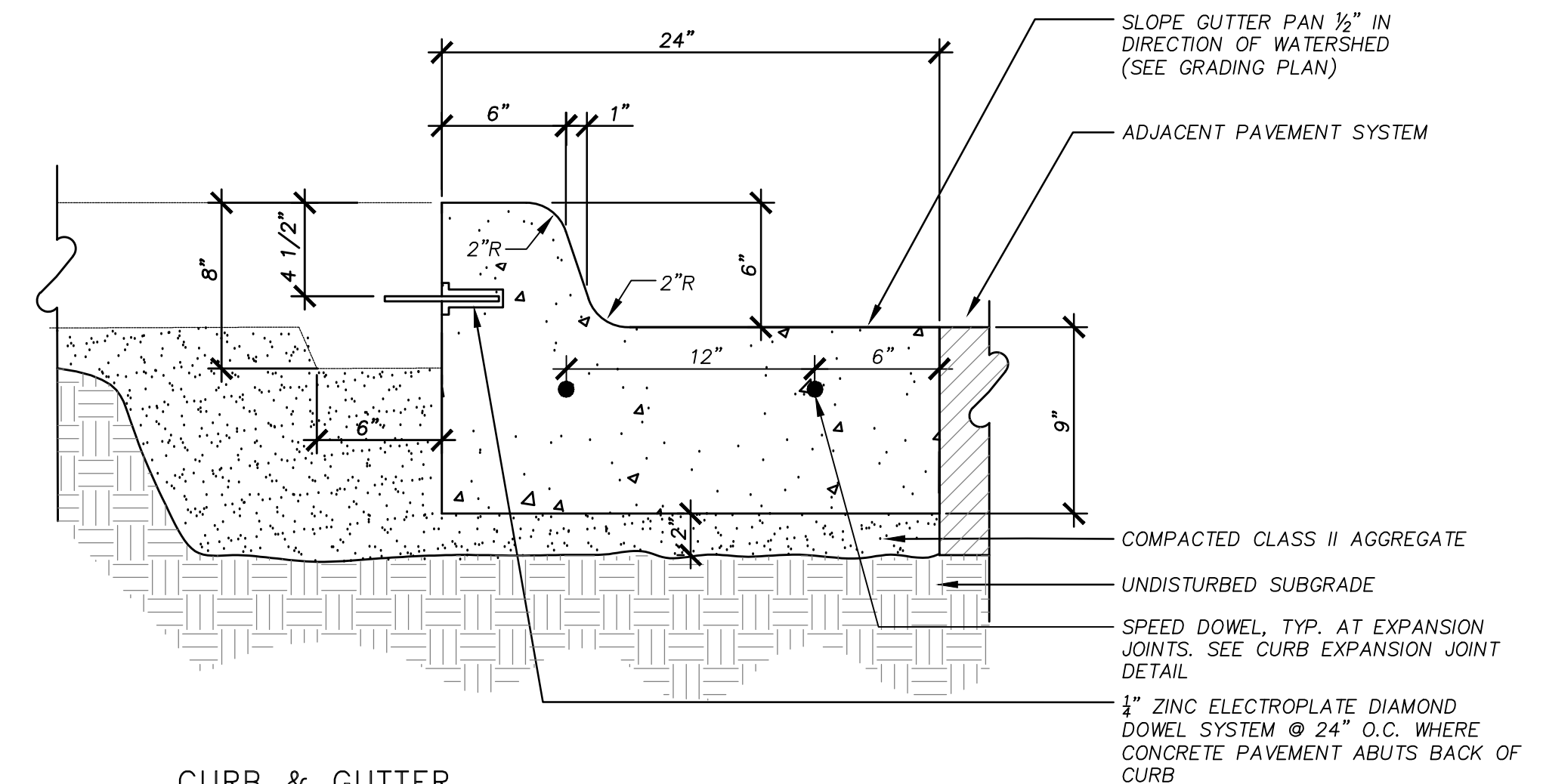
PARKING BITUMINOUS PAVEMENT SECTION
NOT TO SCALE



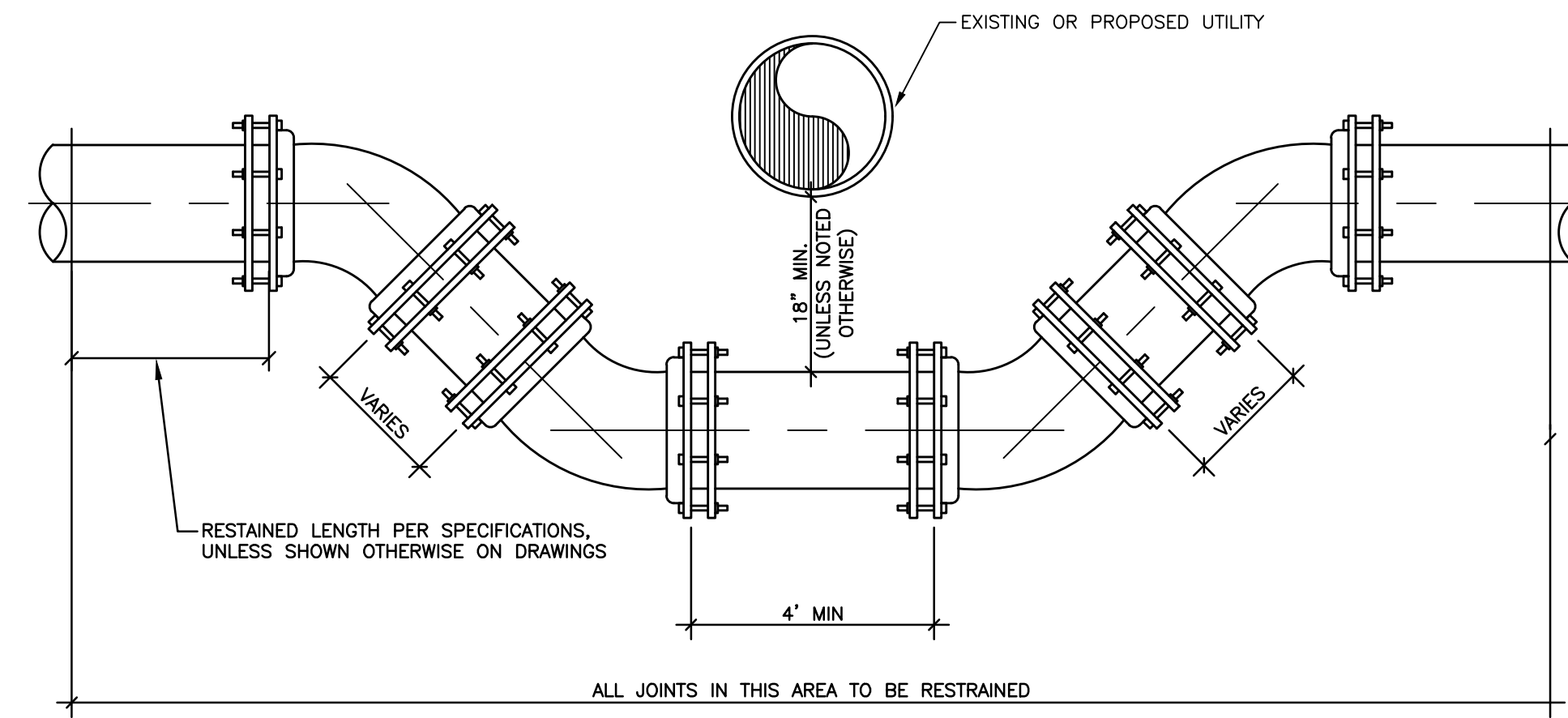
CURB EXPANSION JOINT
SECTION ELEVATION NOT TO SCALE



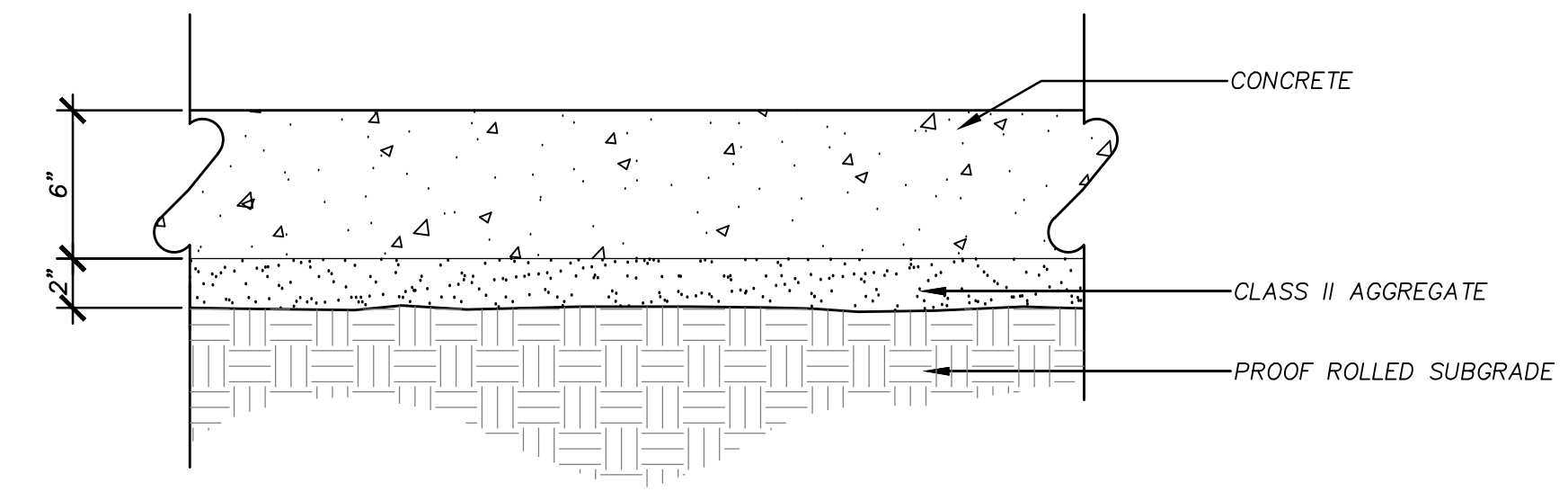
CONSTRUCTION JOINTS
NOT TO SCALE



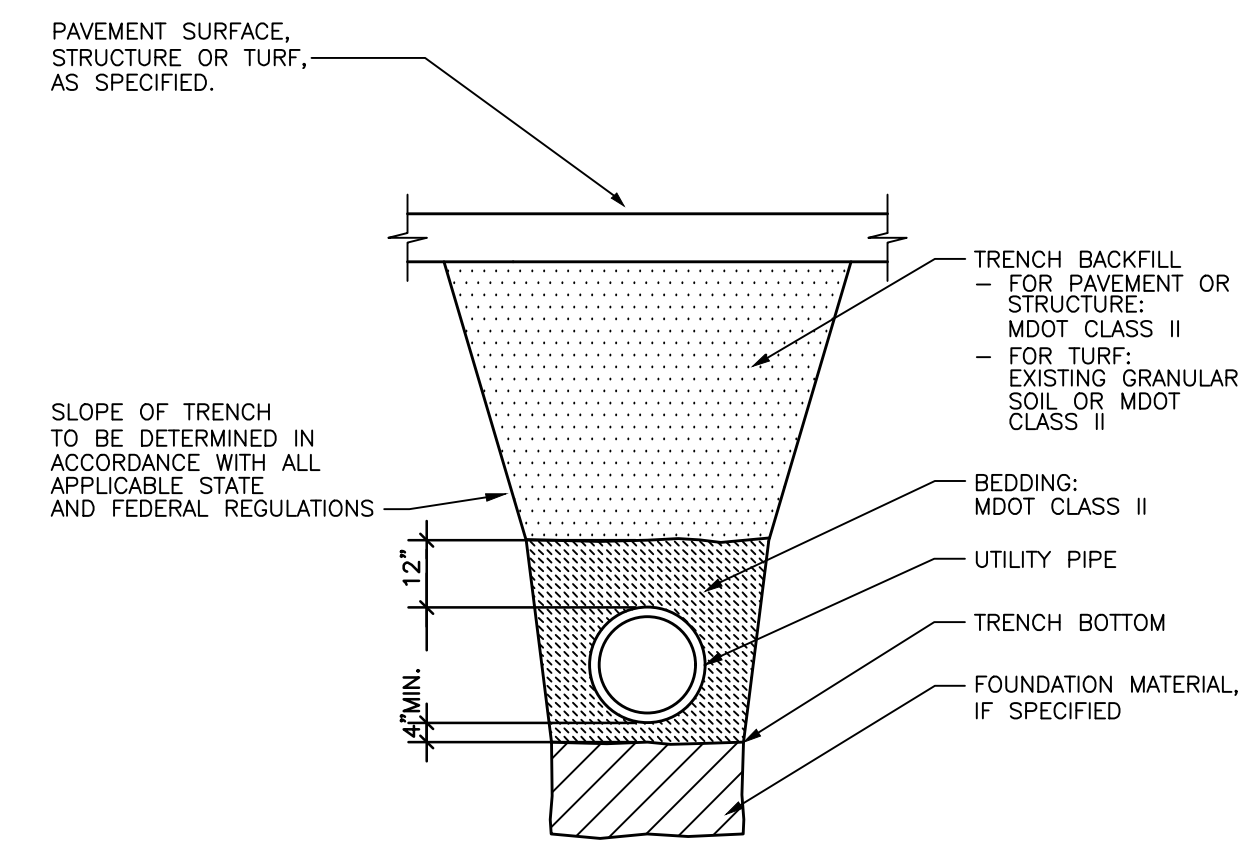
CURB & GUTTER
SECTION NOT TO SCALE



WATER MAIN OFFSET
NOT TO SCALE

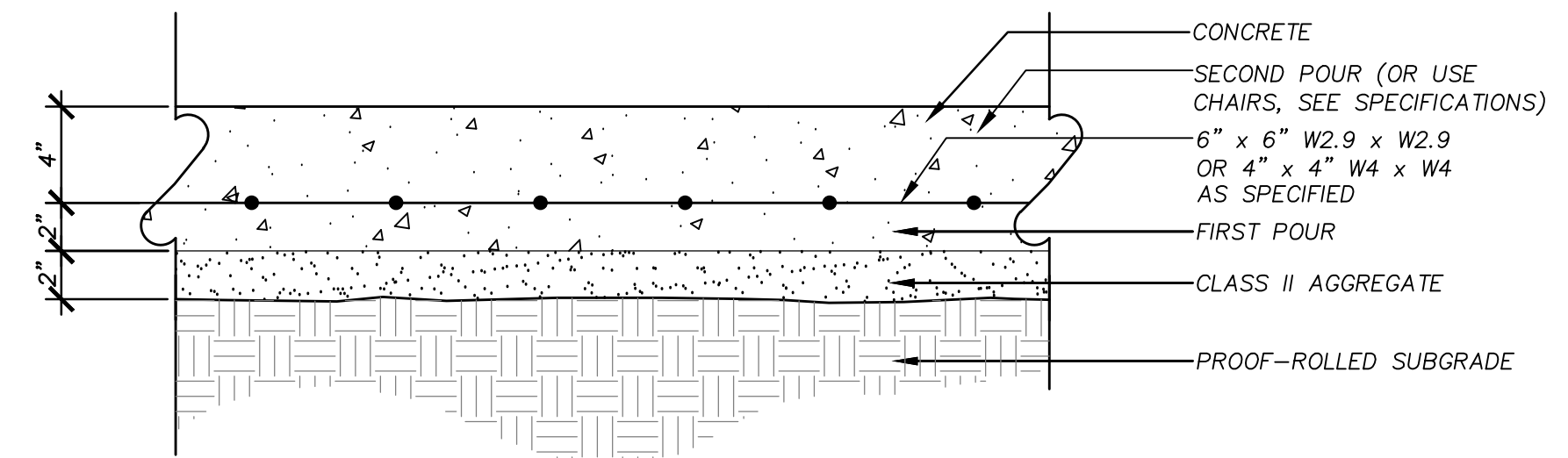


6" CONCRETE
NOT TO SCALE

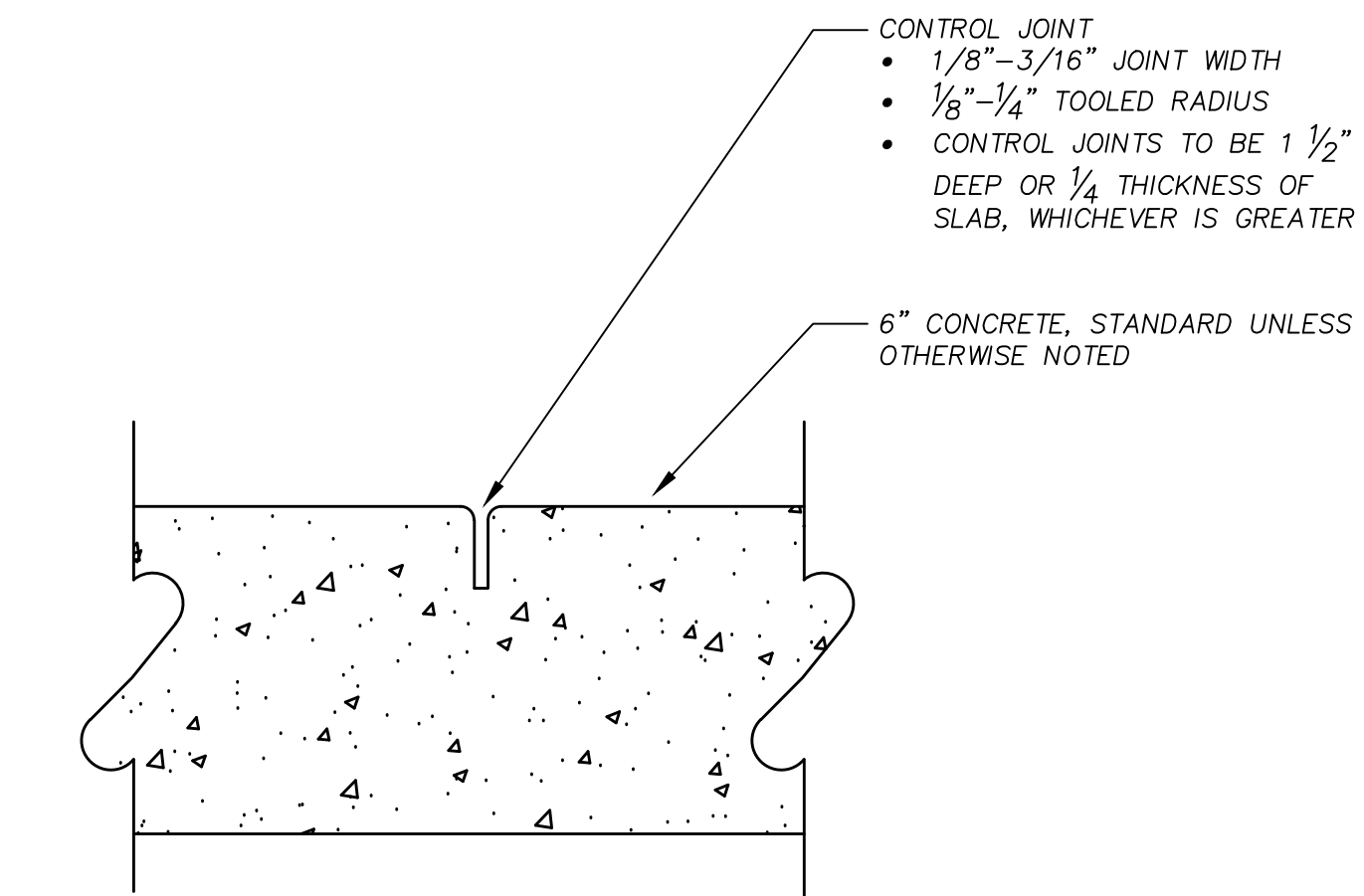


UTILITY TRENCH
NOT TO SCALE

NOTE: BACKFILL COMPACTED:
95% MODIFIED PROCTOR UNDER PAVEMENT
90% MODIFIED PROCTOR UNDER TURF



6" REINFORCED CONCRETE
NOT TO SCALE



CONCRETE CONTROL JOINT
NOT TO SCALE

MSU PROJ. NO.
CP23036

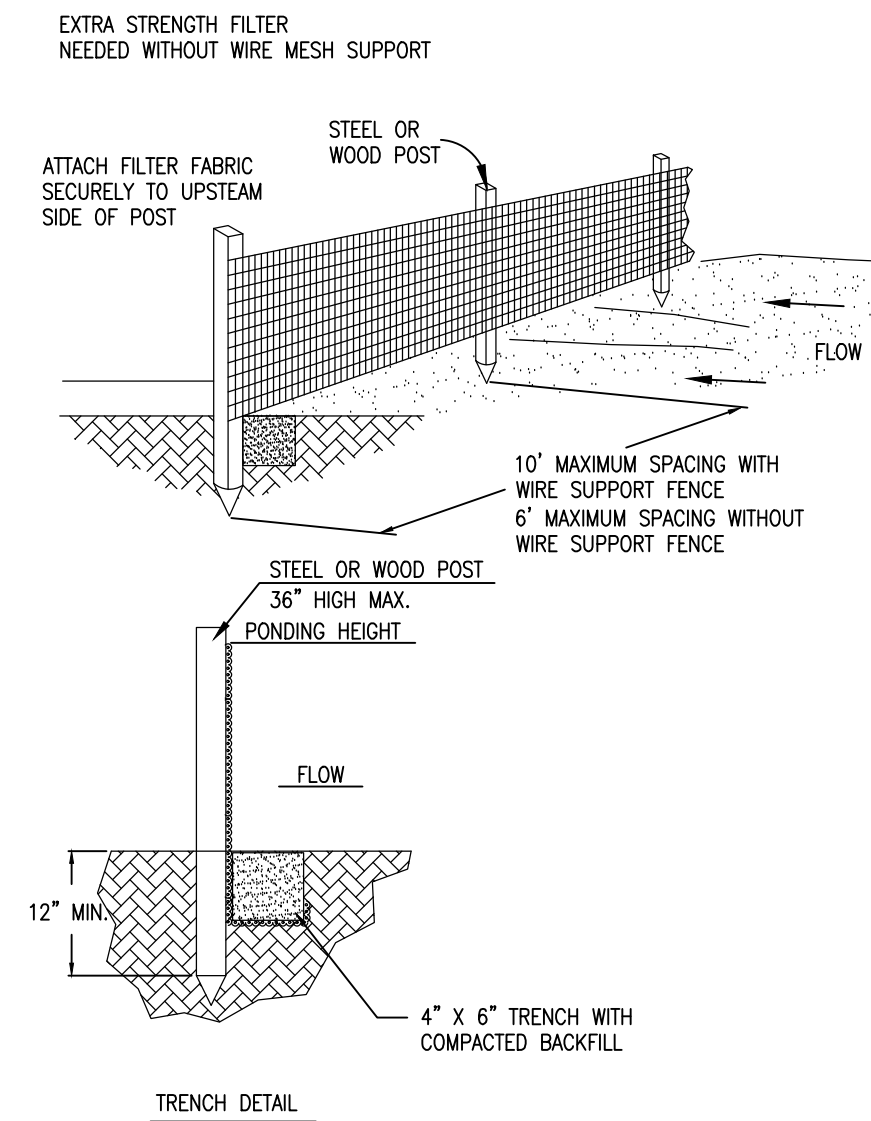
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ISSUED
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DETAILS

G-005

S51 SILT FENCE



NOTES:

- SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
- INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" MAXIMUM RECOMMENDED STORAGE HEIGHT.
- REMOVE SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.

MAINTENANCE:

- INSPECT FREQUENTLY AND IMMEDIATELY AFTER EACH STORM EVENT. CHECK SEVERAL TIMES DURING PROLONGED STORM EVENTS. IF NECESSARY, REPAIR IMMEDIATELY.
- IF THE SEDIMENT HAS REACHED 1/3 THE HEIGHT OF THE FENCE, THE SOIL SHOULD BE REMOVED AND DISPOSED OF IN A STABLE UPLAND SITE.
- THE FENCE SHOULD BE RE-INSTALLED IF WATER IS SEEPING UNDERNEATH IT OR IF THE FENCE HAS BECOME INEFFECTIVE.
- SILT FENCE SHOULD BE REMOVED ONCE VEGETATION IS ESTABLISHED AND UP-SLOPE AREA HAS STABILIZED.

SESC SCHEDULE		2025											
		MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.		
PLACE & MAINTAIN EROSION CONTROLS													
DUCT BANK CONSTRUCTION													
RESTORATION – TOPSOIL SPREADING AND PERMANENT SEEDING													
FINAL INSPECTION													
REMOVE TEMPORARY EROSION CONTROLS													

SOIL EROSION CONTROL MEASURES KEY

KEY	DETAIL	NOTES
S51	SILT FENCE	
S58	INLET PROTECTION – FABRIC DROP	CATCH BASIN SILT GUARD SHALL BE "SILT SACK" AS MANUFACTURED BY ACF OR "BASIN BAG" AS SUPPLIED BY CONSTRUCTION SUPPLY INC

SESC DETAILS UTILIZE STATE OF MICHIGAN, DEPARTMENT OF MANAGEMENT AND BUDGET, INFRASTRUCTURE SERVICES, DESIGN AND CONSTRUCTION DIVISION "SOIL EROSION AND SEDIMENTATION CONTROL GUIDEBOOK".

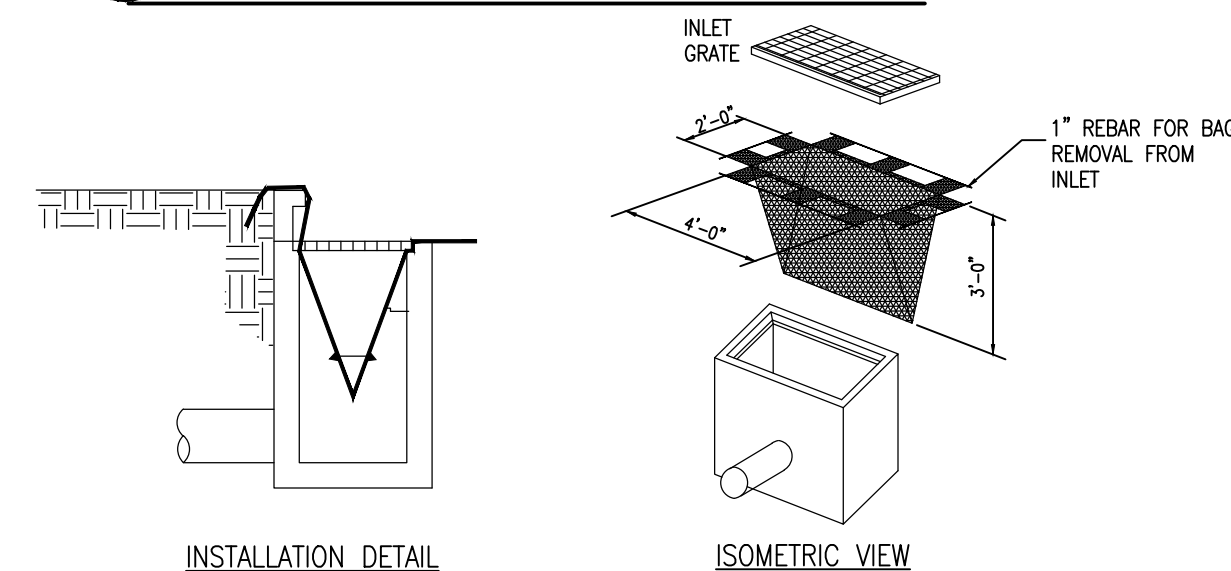
EARTH DISTURBANCE AREA

THE EARTH DISTURBANCE AREA FOR THIS PROJECT IS APPROXIMATELY 1.5 ACRES.

DISTANCE TO NEAREST WATER COURSE

WILSON ROAD IS APPROXIMATELY 1,600 FEET FROM THE RED CEDAR RIVER.

S58 INLET PROTECTION – FABRIC DROP



MAINTENANCE

- DROP INLET FILTERS SHOULD BE INSPECTED ROUTINELY AND AFTER EACH MAJOR RAIN EVENT.
- DAMAGED FILTER BAGS SHOULD BE REPLACED.
- CLEAN AND/OR REPLACE FILTER BAG WHEN 1/2 FULL.
- REPLACE CLOGGED FABRIC IMMEDIATELY.
- IF NEEDED, INITIATE REPAIRS IMMEDIATELY UPON INSPECTION.
- REMOVE ENTIRE PROTECTIVE MECHANISM WHEN UPGRADE AREAS ARE STABILIZED AND STREETS HAVE BEEN SWEEPED.

GENERAL REQUIREMENTS:

- THE CONTRACTOR SHALL OBTAIN THE SOIL EROSION CONTROL PERMIT AND ANY CONDITIONS OF CONSTRUCTION FROM THE OFFICE OF THE CITY OF EAST LANSING.
- ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE OFFICE OF THE CITY OF EAST LANSING REQUIREMENTS AND PROJECT SPECIFICATIONS.
- ANY EROSION OR SEDIMENT FROM WORK ON THIS SITE SHALL BE CONTAINED ON THE SITE AND NOT ALLOWED TO COLLECT ON ANY OFF SITE AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES AND PONDS.
- CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED AND AS DIRECTED ON THESE PLANS. HE SHALL REMOVE TEMPORARY MEASURES AS SOON AS PERMANENT STABILIZATION OF SLOPES, DITCHES AND OTHER EARTH CHANGES HAVE BEEN ESTABLISHED.

SEQUENCE OF CONSTRUCTION:

- INSTALL ALL TEMPORARY SILT FENCE PER PLAN AND AS SHOWN ON THE DETAIL THIS SHEET.
- INSTALL GEOTEXTILE FILTER FABRIC WRAPS BETWEEN THE FRAME AND COVER OF ALL EXISTING YARD BASINS OR INLETS WHICH MAY BE SUSCEPTIBLE TO SEDIMENT EROSION FROM THE PROPOSED CONSTRUCTION AS SHOWN IN THESE PLANS.
- WHILE MAINTAINING A VEGETATIVE BUFFER WHENEVER POSSIBLE, STRIP AND STOCKPILE TOPSOIL ABOVE AREAS OF PROPOSED EXCAVATION OR GRADING FOR LATER USE ON SITE. PLACE STOCKPILED TOPSOIL IN AREAS WHICH ARE NEITHER SUBJECT TO HIGH RUNOFF NOR ALONG STEEP SLOPES. SEED AND MULCH STOCKPILES IMMEDIATELY TO PREVENT WIND BLOWN SEDIMENT POLLUTION AND EXCESSIVE DUST.
- RESTORATION OF THE SLOPES ALONG PROPOSED ROADS, AND SIDESLOPES OF THE EXCAVATION AREAS SHALL BE COMPLETED WITHIN 5 CALENDAR DAYS OF COMPLETION OF THE TOPSOIL – FINAL GRADING. PLACE STRAW MULCH BLANKETS ALONG ALL SUCH SEEDED SURFACES. TEMPORARY SEEDING OF THE TOPSOIL STOCKPILES, INCLUDING PLACEMENT OF STRAW MULCH SHALL BE COMPLETED WITHIN 5 CALENDAR DAYS OF COMPLETION OF TOPSOIL STRIPPING OPERATIONS.
- PLACEMENT OF TOPSOIL SHALL PROGRESS WITH THE SITE GRADING/EXCAVATION OPERATIONS. PLACEMENT OF ALL PERMANENT SESC MEASURES SHALL BE COMPLETED WITHIN 5 CALENDAR DAYS OF COMPLETION OF THE SITE GRADING OPERATIONS.
- WATER EXPOSED GROUND REGULARLY TO CONTROL AIRBORNE PARTICULATE MATTER.
- IN NON-TRAFFIC AREAS WHERE THE ROUGH GRADING OPERATIONS HAVE BEEN STOPPED BY THE CONTRACTOR FOR A PERIOD LONGER THAN 3 WORKING DAYS, THE CONTRACTOR SHALL STABILIZE THE AREA WITH APS SILT STOP OR APPROVED EQUAL.
- UPON FINAL APPROVED INSPECTION OF THE COMPLETED CONSTRUCTION BY ALL REVIEWING AGENCIES, AND THE ESTABLISHMENT OF PERMANENT SOIL EROSION CONTROL MEASURES, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES.

SOIL EROSION CONTROL INSTALLATION & MAINTENANCE PROGRAM:

- THE CONTRACTOR SHALL MAINTAIN ALL TEMPORARY AND PERMANENT SOIL EROSION AND SEDIMENTATION CONTROL MEASURES THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS AND UNTIL PERMANENT VEGETATION IS REESTABLISHED IN ALL EXPOSED AREAS. REMOVE ACCUMULATED SEDIMENT FROM ALL STRUCTURES.
- DAILY INSPECTIONS SHALL BE MADE BY THE CONTRACTOR TO DETERMINE EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES, AND ANY NECESSARY REPAIRS SHALL BE PERFORMED WITHOUT DELAY.
- AFTER EACH RAINFALL EVENT, CONTRACTOR SHALL INSPECT AND MAINTAIN ALL SOIL EROSION CONTROL MEASURES AND CLEAN AND REPLACE CATCH BASIN FILTERS.
- DUST CONTROL WILL BE EXERCISED AT ALL TIMES WITHIN THE PROJECT BY THE CONTRACTORS. SPRINKLING TANK TRUCKS SHALL BE AVAILABLE AT ALL TIMES TO BE USED ON HAUL ROUTES OR OTHER PLACES WHERE DUST BECOMES A PROBLEM.
- ALL MUD, DIRT AND DEBRIS TRACKED ONTO EXISTING ROADS SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR NO LESS THAN ON A DAILY BASIS. ALL MUD, DIRT AND DEBRIS TRACKED OR SPILLED ONTO PAVED SURFACES WITHIN THIS SITE SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
- THE SITE WILL BE PERIODICALLY INSPECTED BY THE STAFF OF THE CITY OF EAST LANSING. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE RULES AND REGULATIONS OF THAT OFFICE.

PRINCIPLE EXISTING ON-SITE SOILS, BASED ON THE INGHAM COUNTY SOILS SURVEY, ARE AS FOLLOWS:

- AnA – AUBREENAUBBEE–CAPAC SANDY LOAMS, 0 TO 3 PERCENT SLOPES
- CO – COLWOOD–BROOKSTON LOAMS
- SpB – SPINKS LOAMY SAND, 0 TO 6 PERCENT SLOPES
- U6B – URBAN LAND–BOYER–SPINKS COMPLEX, 0 TO 10 PERCENT SLOPES
- UpA – URBAN LAND–CAPAC–COLWOOD COMPLEX, 0 TO 4 PERCENT SLOPES

ALL TOPSOIL SHALL BE SUPPLIED AND PLACED BY MSU LANDSCAPE SERVICES. TOPSOIL OPERATIONS SHALL INCLUDE SUBSOIL SURFACE PREPARATION, HAULING, SPREADING, ROUGH GRADING, FINE GRADING, SEEDING, AND CLEAN-UP.

Infrastructure Planning and Facilities

MICHIGAN STATE UNIVERSITY

**ELECTRICAL DISTRIBUTION - FARM LN DUCT BANK EXTENSION
RED CEDAR TO FARM LN/WILSON RD - PHASE 1
INFRASTRUCTURE PLANNING FACILITIES**

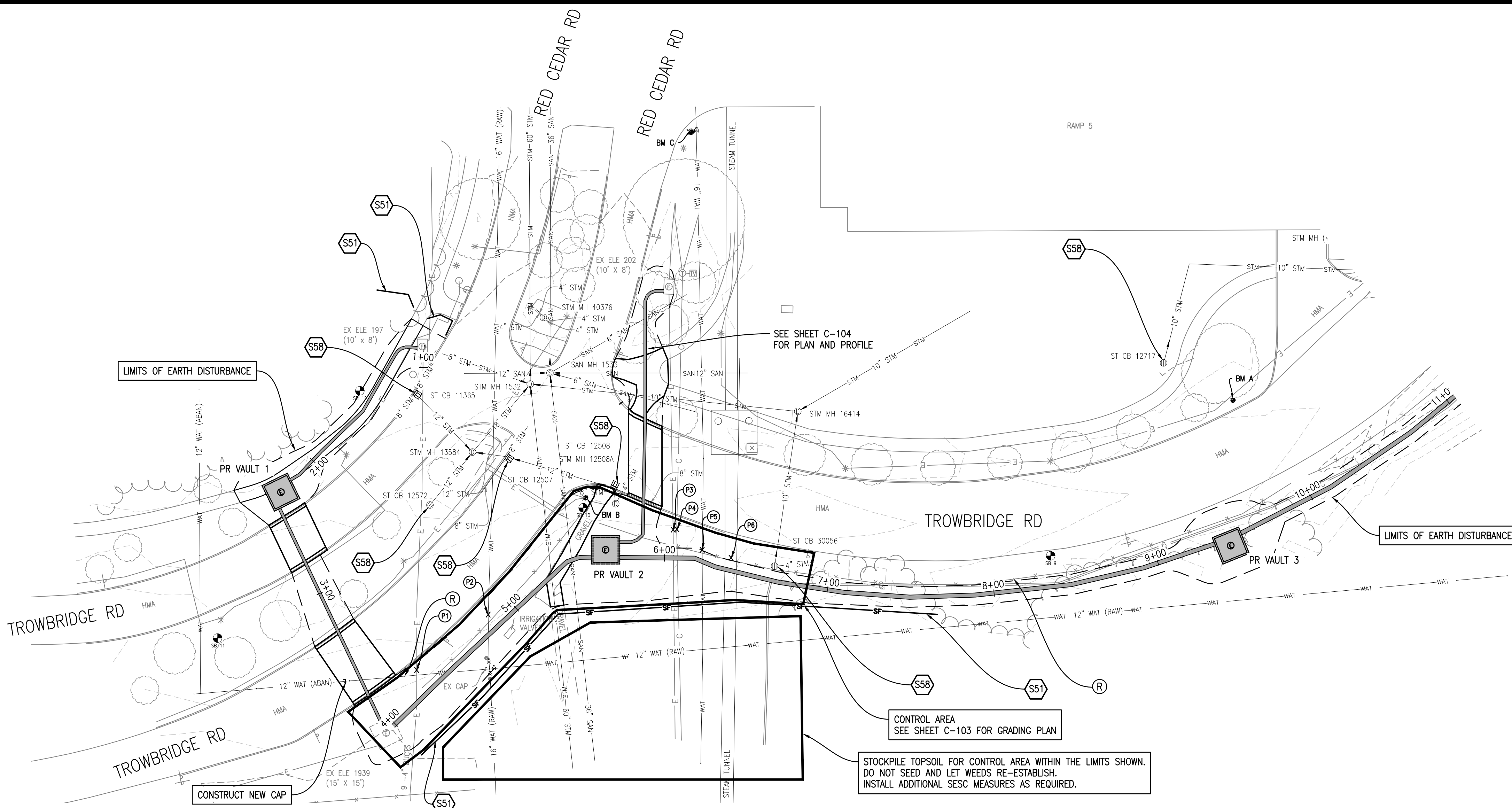
SESC NOTES AND DETAILS

MSU PROJ. NO. CP23036
PR. MGR. <u>A. LINEBAUGH</u>
ARCH. <u>-</u>
MECH. <u>-</u>
ELEC. <u>K. BEACH</u>
CIVIL <u>S. LAUGHLIN</u>
L.A. <u>D. WILBER</u>
INT. DES. <u>-</u>
CONST. REP. <u>-</u>
APPR. <u>-</u>
DATE <u>11/15/2024</u>
SCALE <u>1"=40'</u>
ISSUED
<u>2/20/24 - PRELIMINARY</u>
<u>2/21/24 - 95% SUBMITTAL</u>
<u>11/15/24 - ISSUED FOR BIDS</u>

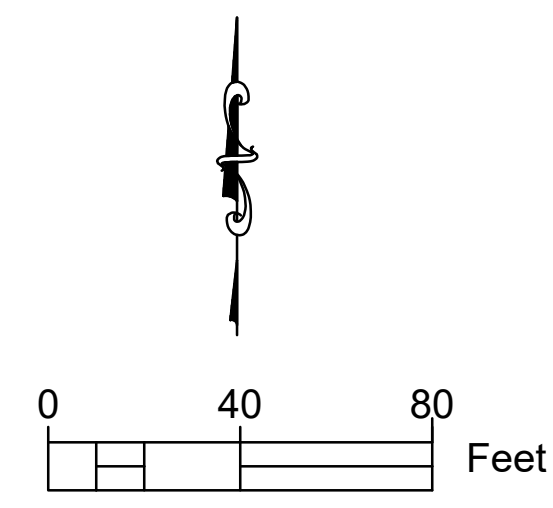
SESC

G-006

6 OF 16

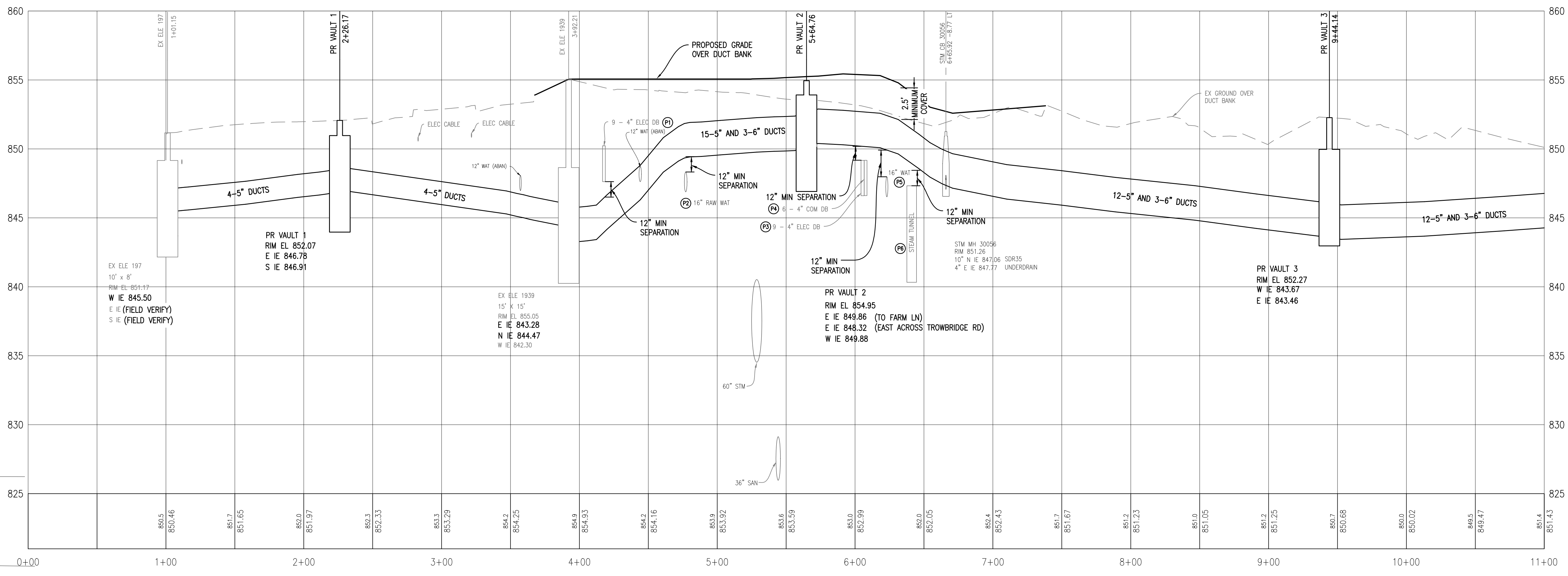


BENCHMARKS
 BM A
 NORTH SIDE OF TROWBRIDGE ROAD, BEHIND CURB, 440 FT EAST OF RED CEDAR ROAD
 ELEV. 851.71
 BM B
 SE QUADRANT OF TROWBRIDGE ROAD AND RED CEDAR RD INTERSECTION, ON LIGHT POLE.
 852.90
 BM C
 NORTH OF TROWBRIDGE ROAD AND RED CEDAR RD INTERSECTION ON HYDRANT.
 853.64
 SITE SURVEY IS BASED ON:
 HORIZONTAL - MICHIGAN STATE PLANE, SOUTH ZONE
 VERTICAL - NGVD29 DATUM



POTHOLE LOCATION TABLE

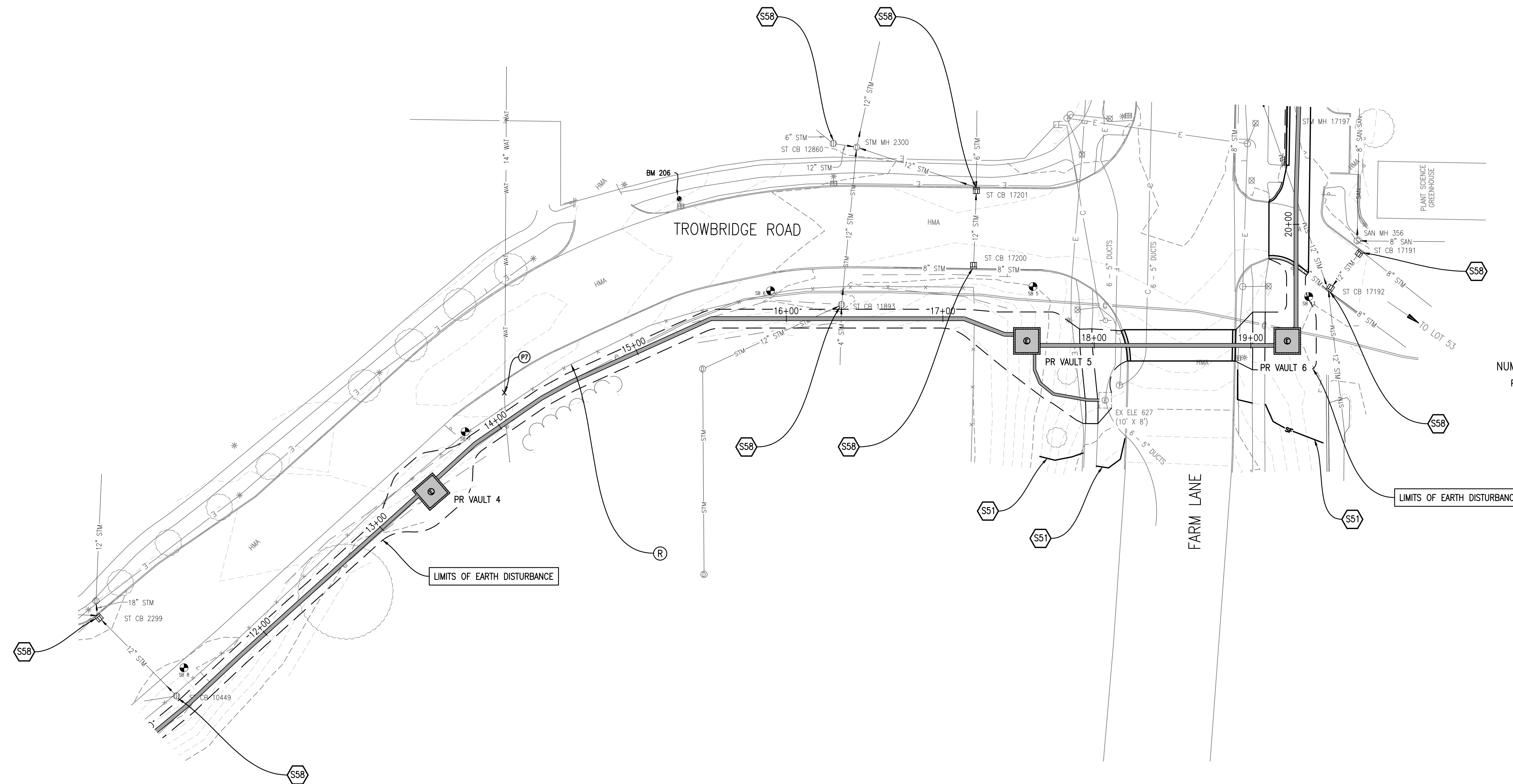
NUMBER	STATION	UTILITY NAME	TOP OF UTILITY EL.
P1	4+40	ELECTRIC	850.23
P2	4+84	WATER	847.85
P3	6+05	ELECTRIC	849.17
P4	6+07	COMMUNICATIONS	849.18
P5	6+20	WATER	847.95
P6	6+40	STEAM	847.43



**ELECTRICAL DISTRIBUTION - FARM LN DUCT BANK EXTENSION
 RED CEDAR TO FARM LN/WILSON RD - PHASE 1
 INFRASTRUCTURE PLANNING FACILITIES**
 DUCT BANK PLAN PROFILE STA 00+00 TO 11+00

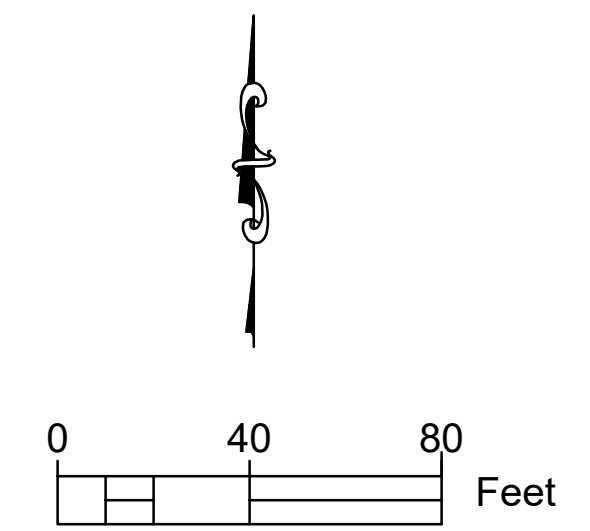
MSU PROJ. NO.
CP23036

PR. MGR.	A. LINEBAUGH
ARCH.	-
MECH.	-
ELEC.	K. BEACH
CIVIL	S. LAUGHLIN
L.A.	D. WILBER
INT. DES.	-
CONST. REP.	-
APPR.	-
DATE	11/15/2024
SCALE	1"=40'
ISSUED	-
2/20/24 - PRELIMINARY	
2/21/24 - 95% SUBMITTAL	
11/15/24 - ISSUED FOR BIDS	



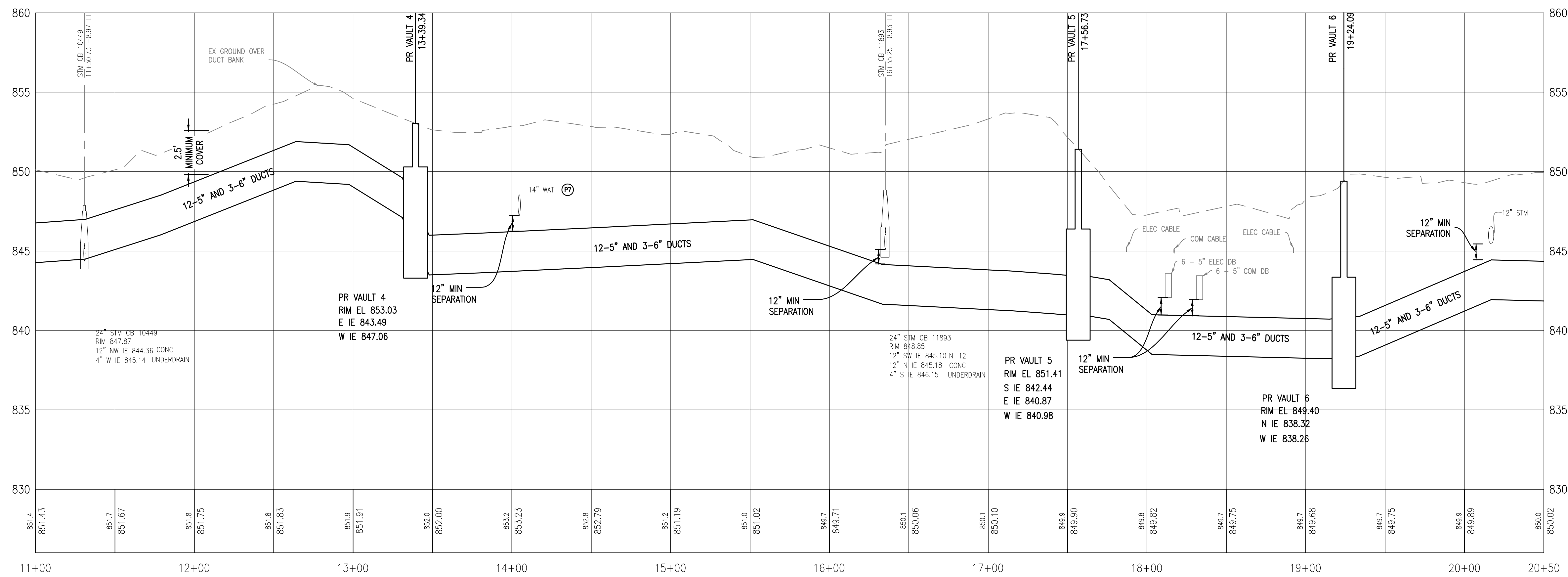
BENCHMARKS
 BM 206
 NORTH SIDE OF TROWBRIDGE ROAD, ON POWER POLE 320 FT WEST OF FARM LANE.
 ELEV. 852.53

SITE SURVEY IS BASED ON:
 HORIZONTAL - MICHIGAN STATE PLANE, SOUTH ZONE
 VERTICAL - NGVD29 DATUM



POTHOLE LOCATION TABLE

NUMBER	STATION	UTILITY NAME	TOP OF UTILITY EL
P7	14+15	WATER	848.86

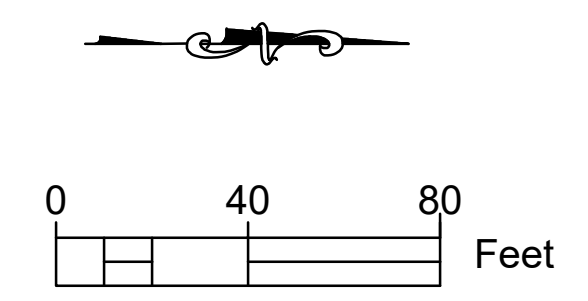


MSU PROJ. NO.
CP23036

PR. MGR.	A. LINEBAUGH
ARCH.	-
MECH.	-
ELEC.	K. BEACH
CIVIL	S. LAUGHLIN
L.A.	D. WILBER
INT. DES.	-
CONST. REP.	-
APPR.	-
DATE	11/15/2024
SCALE	1"=40'
ISSUED	-
2/20/24 - PRELIMINARY	
2/21/24 - 95% SUBMITTAL	
11/15/24 - ISSUED FOR BIDS	

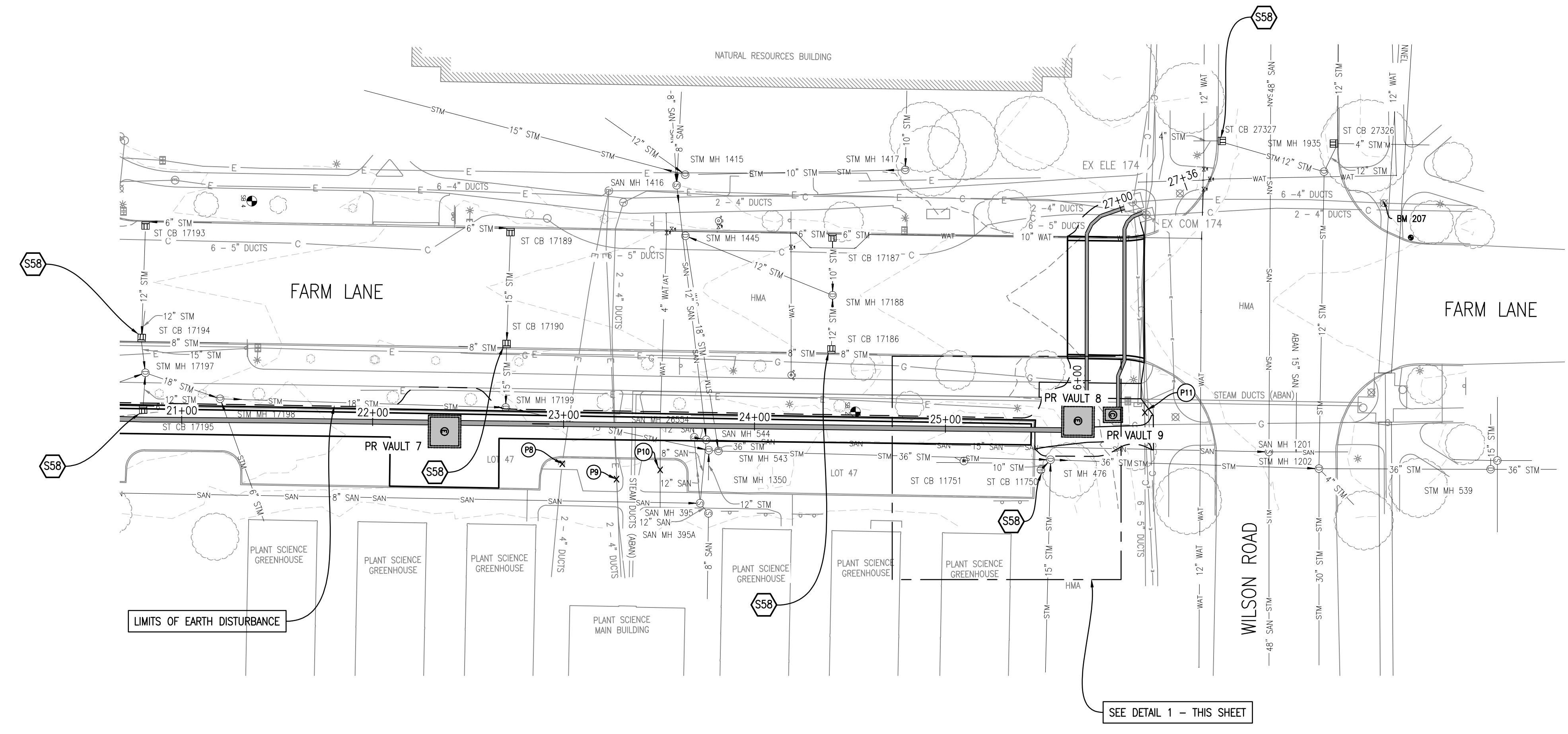
BENCHMARKS
 BM 207
 AT NW QUADRANT OF FARM LANE AND WILSON ROAD
 INTERSECTION, BEHIND CURBLINE
 ELEV. 857.50

SITE SURVEY IS BASED ON:
 HORIZONTAL - MICHIGAN STATE PLANE, SOUTH ZONE
 VERTICAL - NGVD29 DATUM



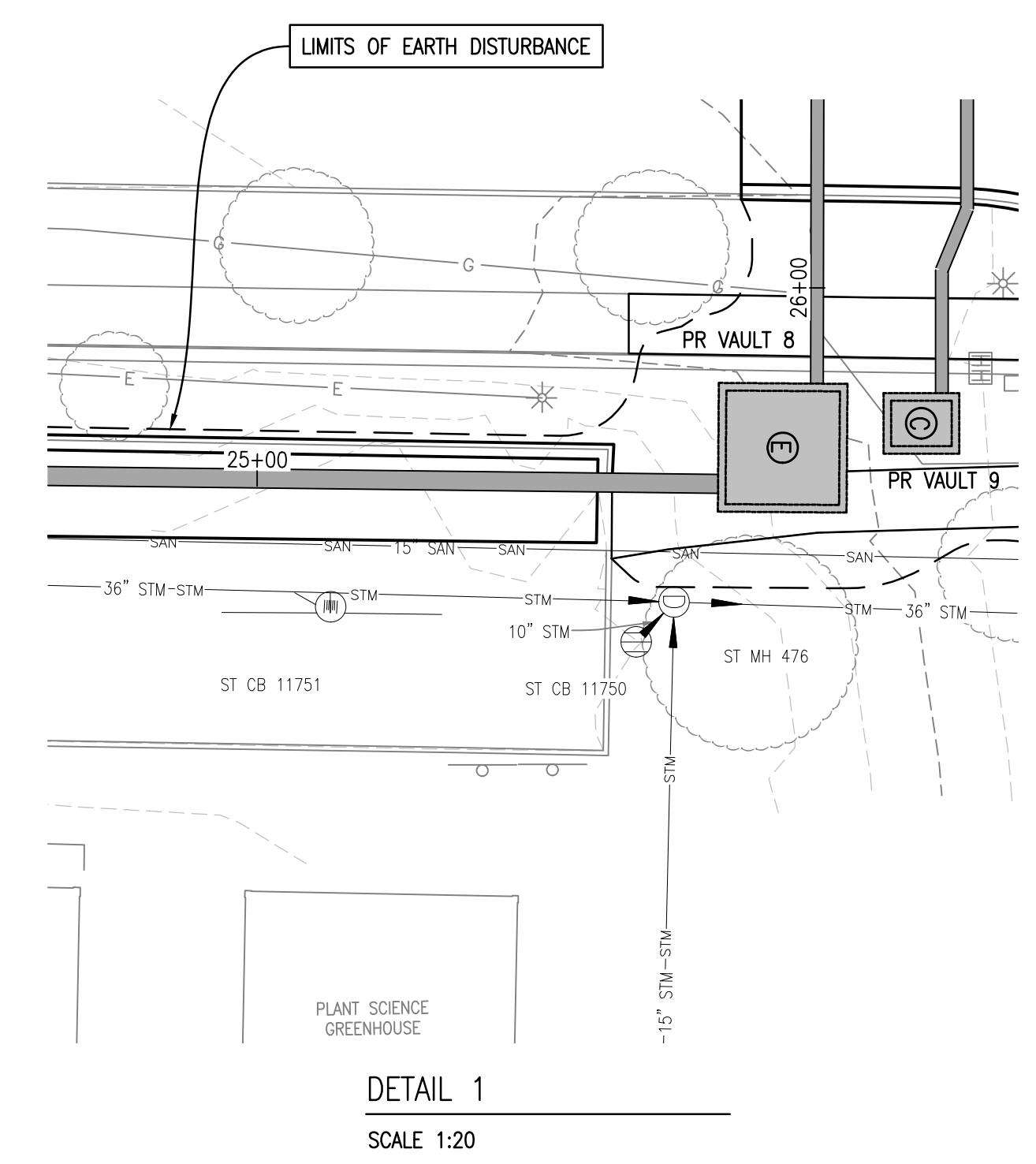
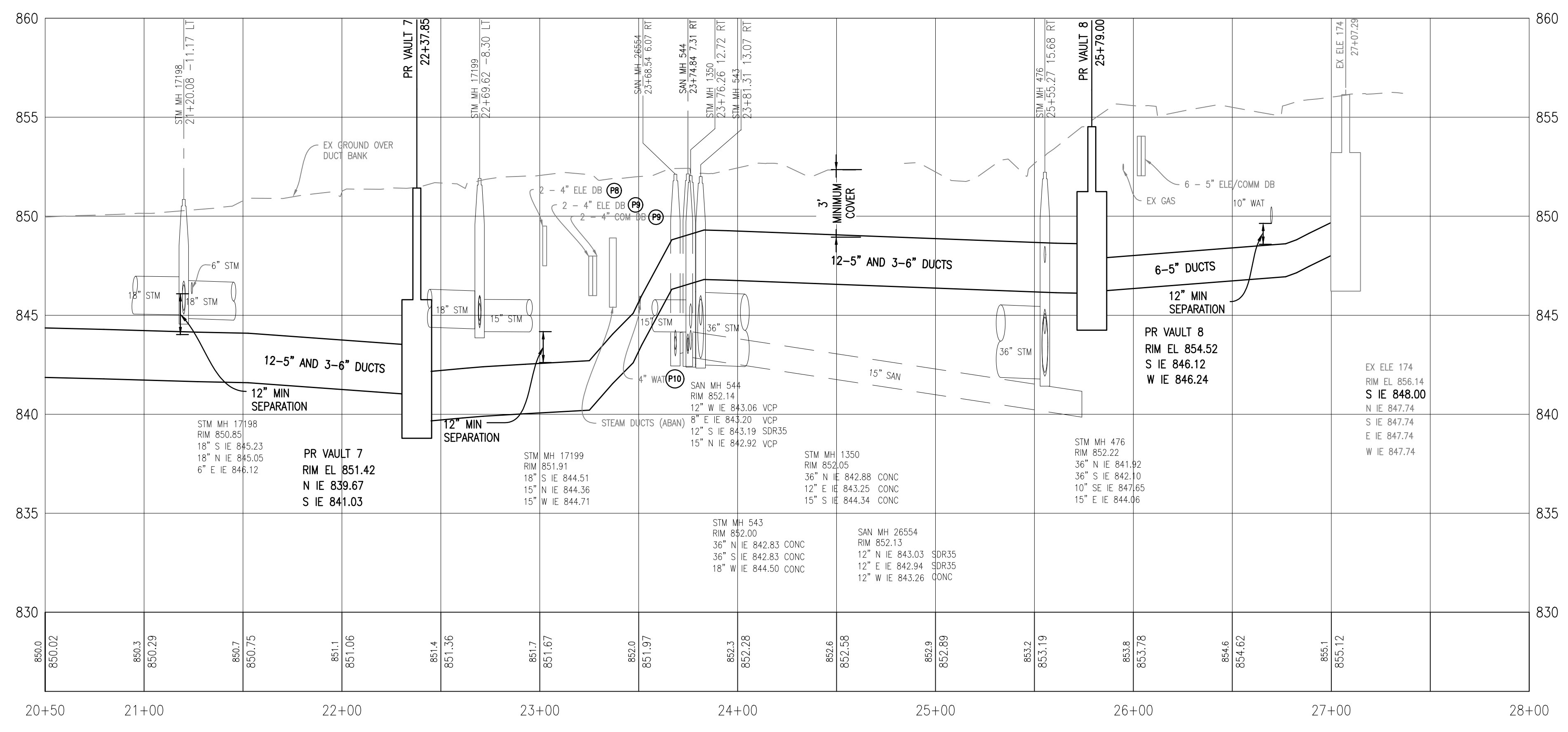
NOTES:

1. THE PLANT SCIENCE GREENHOUSES PROJECT IS SCHEDULED TO BE COMPLETED IN THE SPRING OF 2025. THESE PLANS REFLECT THE PRECONSTRUCTION CONDITIONS FOR THE PLANT SCIENCE GREENHOUSES, INCLUDING THE EXISTING UTILITIES WHICH ARE LOCATED IN/ACROSS PARKING LOT 47 TO SERVICE THE PLANT SCIENCE GREENHOUSES AND WHICH MAY HAVE BEEN ABANDONED IN CONJUNCTION WITH THE PLANT SCIENCE GREENHOUSES PROJECT. CONTRACTOR SHALL CONFIRM THE STATUS OF THE UTILITIES BEFORE PROCEEDING WITH THE DUCT BANK CONSTRUCTION.



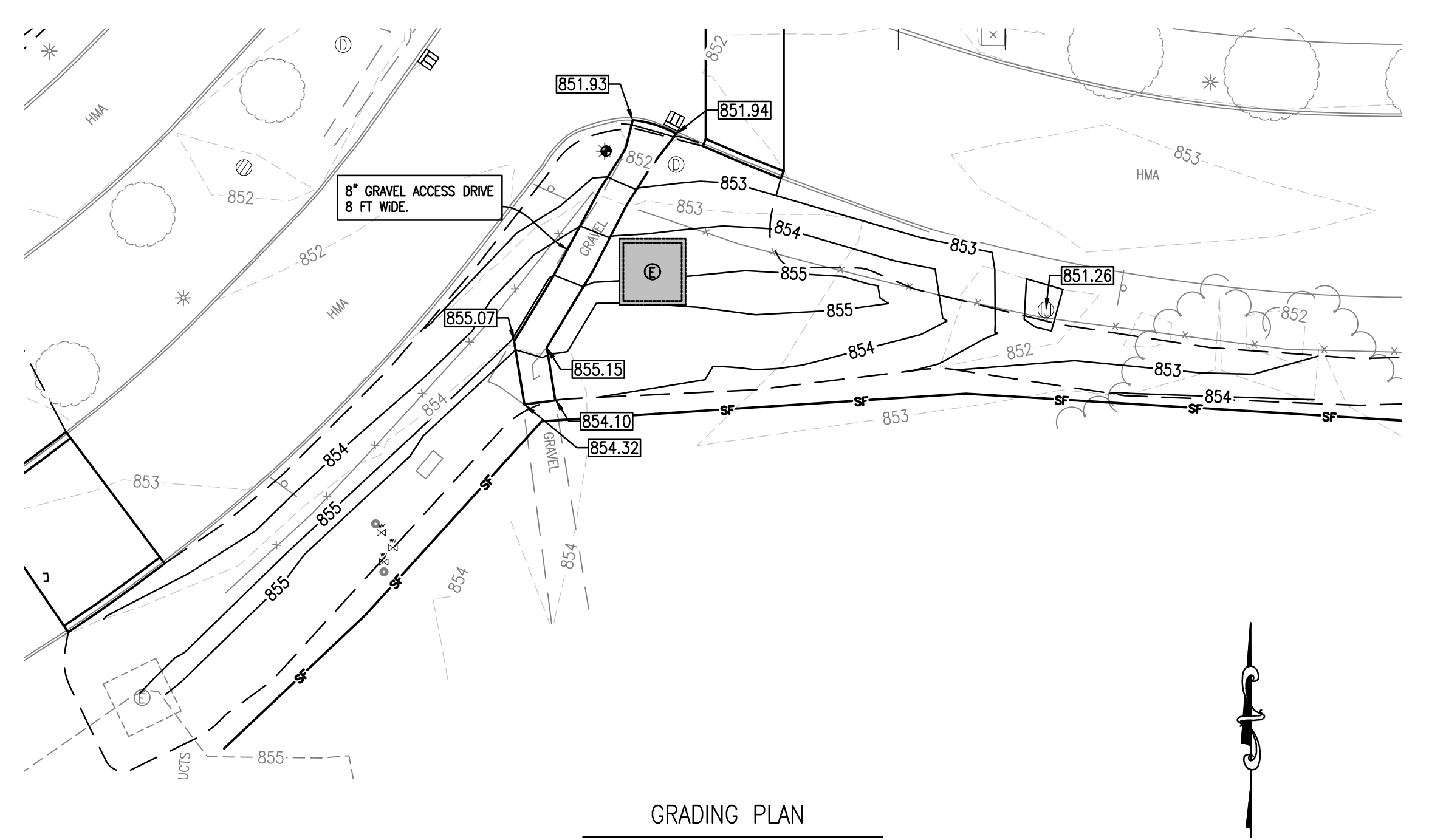
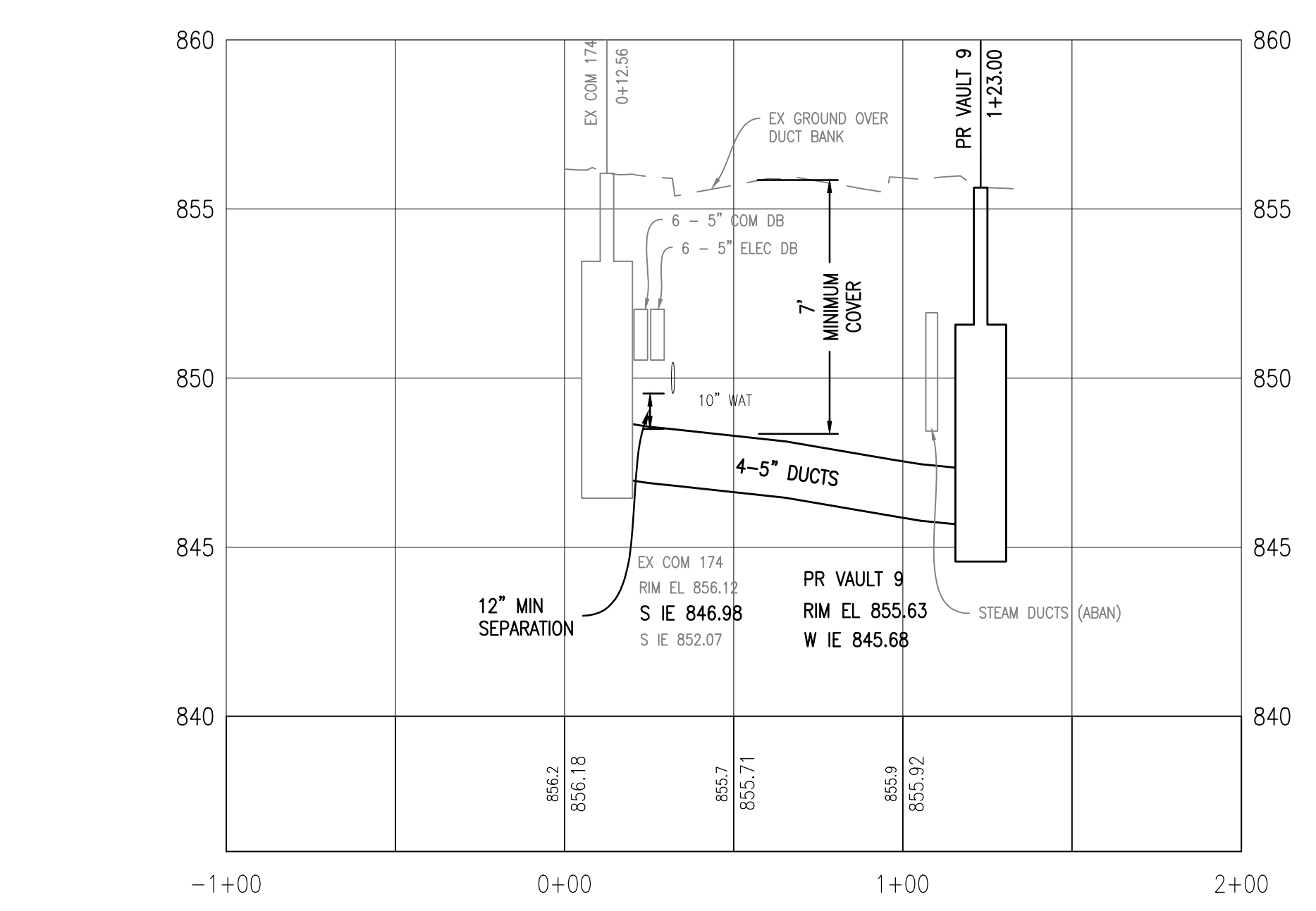
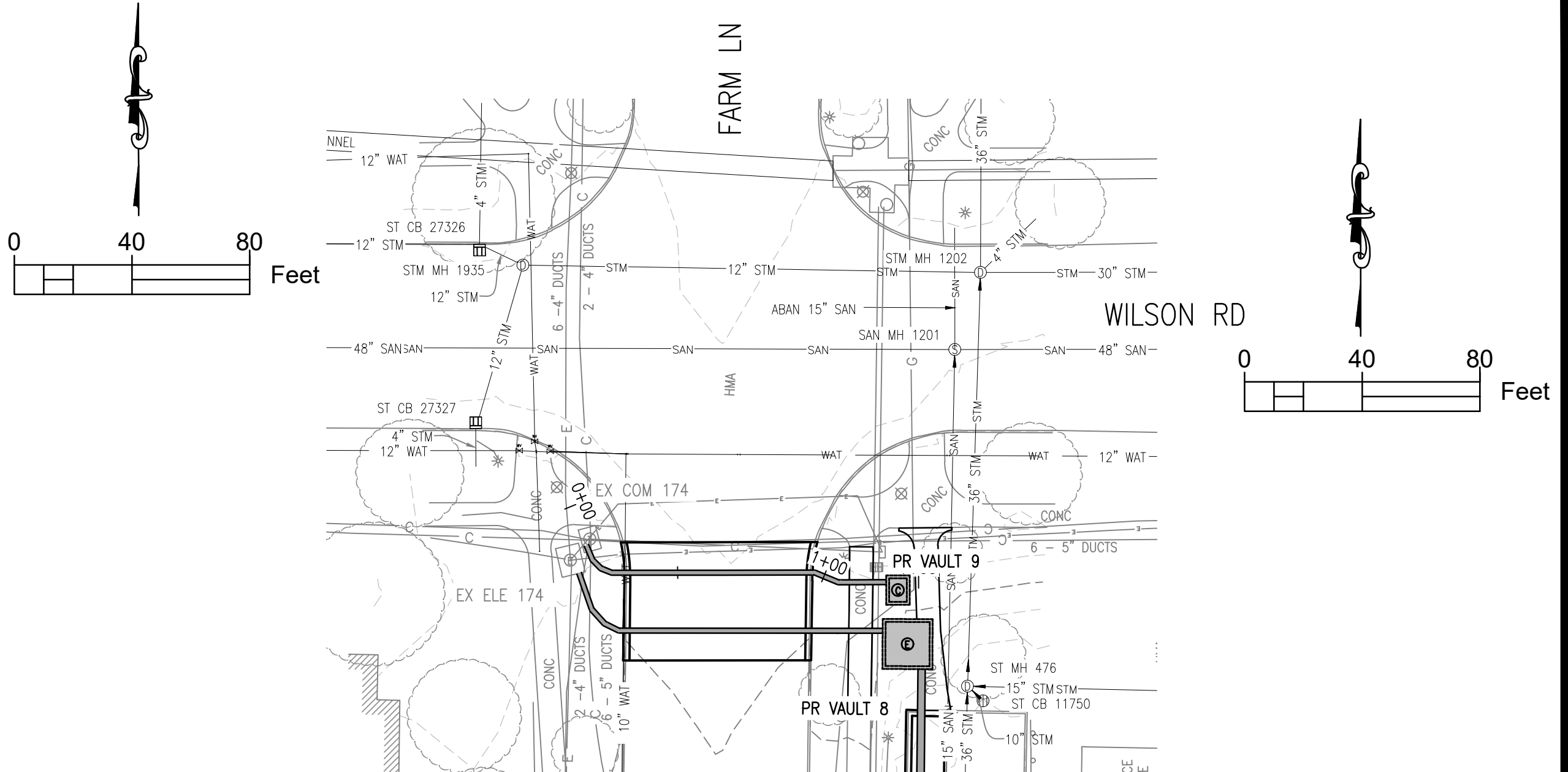
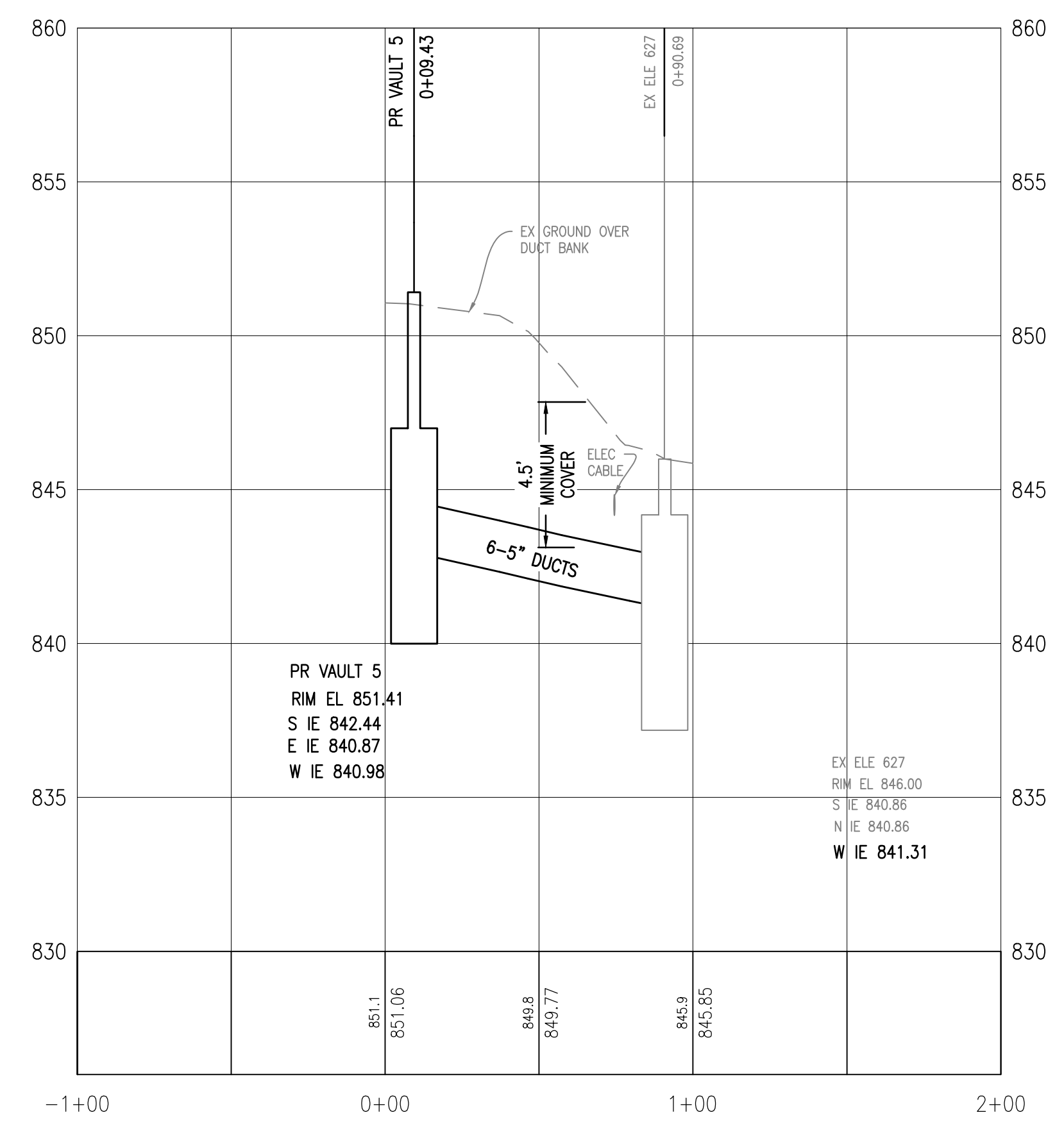
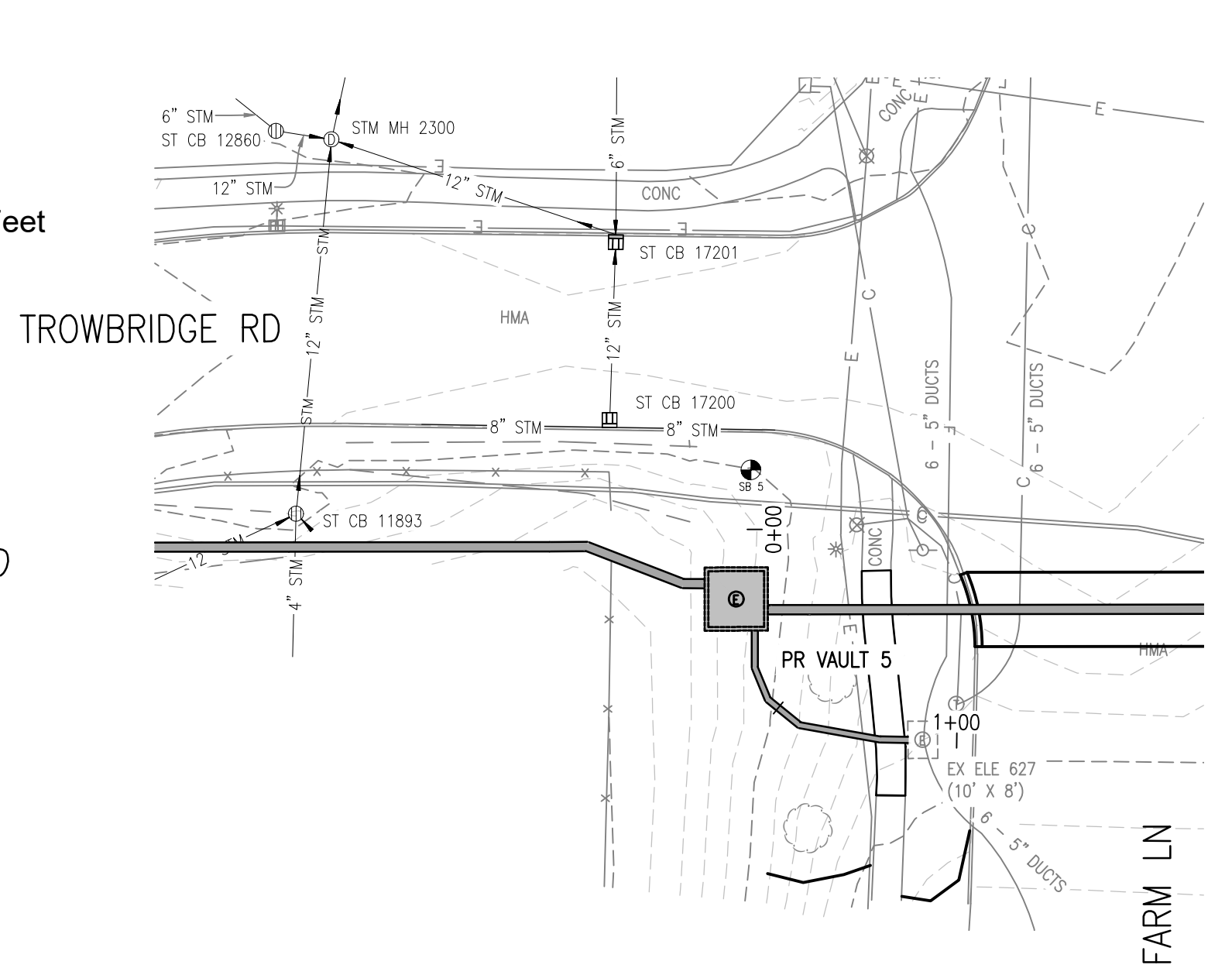
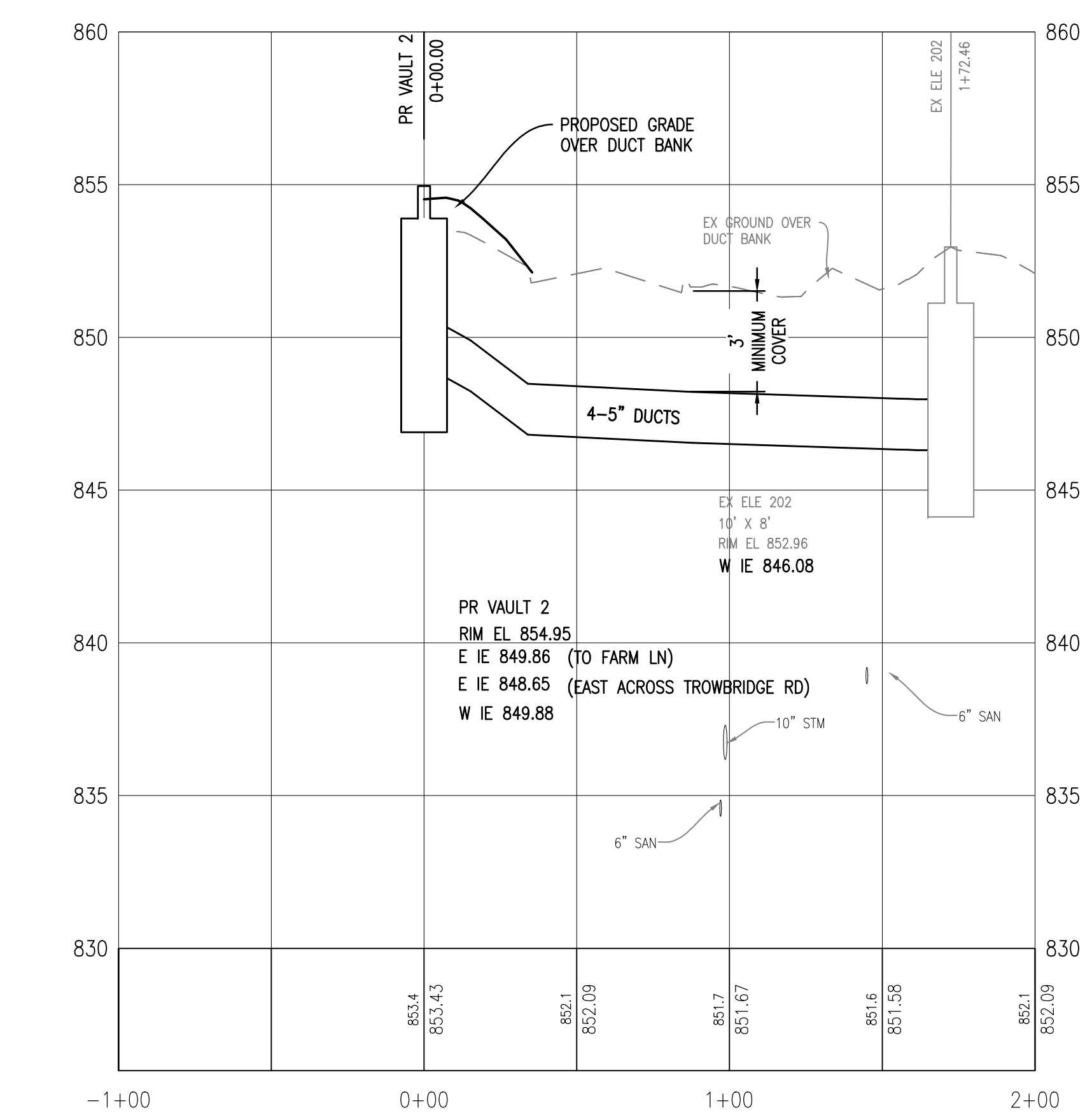
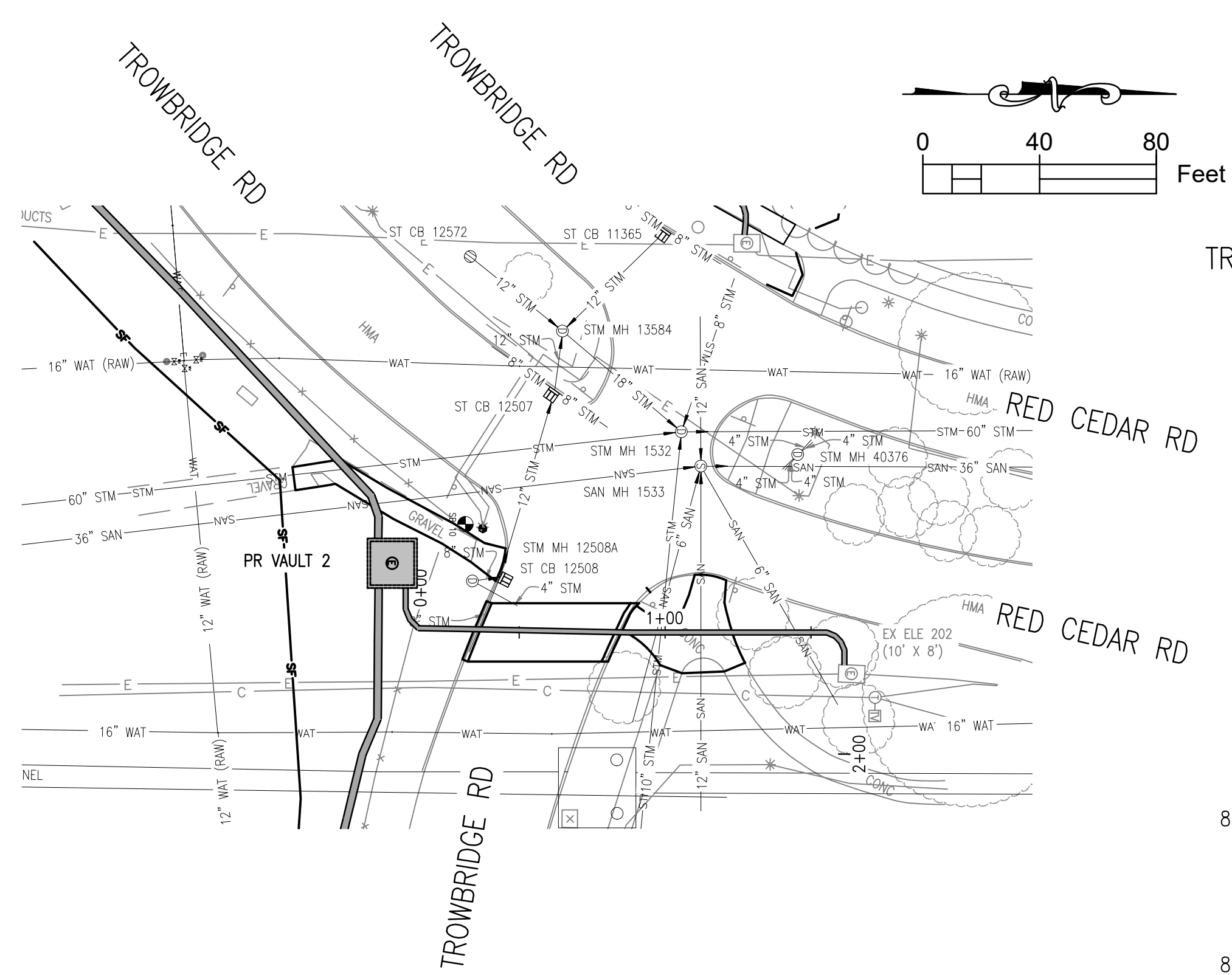
POTHOLE LOCATION TABLE

NUMBER	STATION	UTILITY NAME	TOP OF UTILITY EL
P8	22+94	ELECTRIC	849.50
P9	23+22	ELECTRIC/COMMUNICATION	847.99
P10	23+45	WATER	846.42
P11	26+04	ELECTRIC/COMMUNICATION (UNDER SIDEWALK)	853.47



MSU PROJ. NO.
CP23036

PR. MGR.	A. LINEBAUGH
ARCH.	-
MECH.	-
ELEC.	K. BEACH
CIVIL	S. LAUGHLIN
L.A.	D. WILBER
INT. DES.	-
CONST. REP.	-
APPR.	-
DATE	11/15/2024
SCALE	1"=40'
ISSUED	-
2/20/24 - PRELIMINARY	-
2/21/24 - 95% SUBMITTAL	-
11/15/24 - ISSUED FOR BIDS	-
---	-



GRADING PLAN

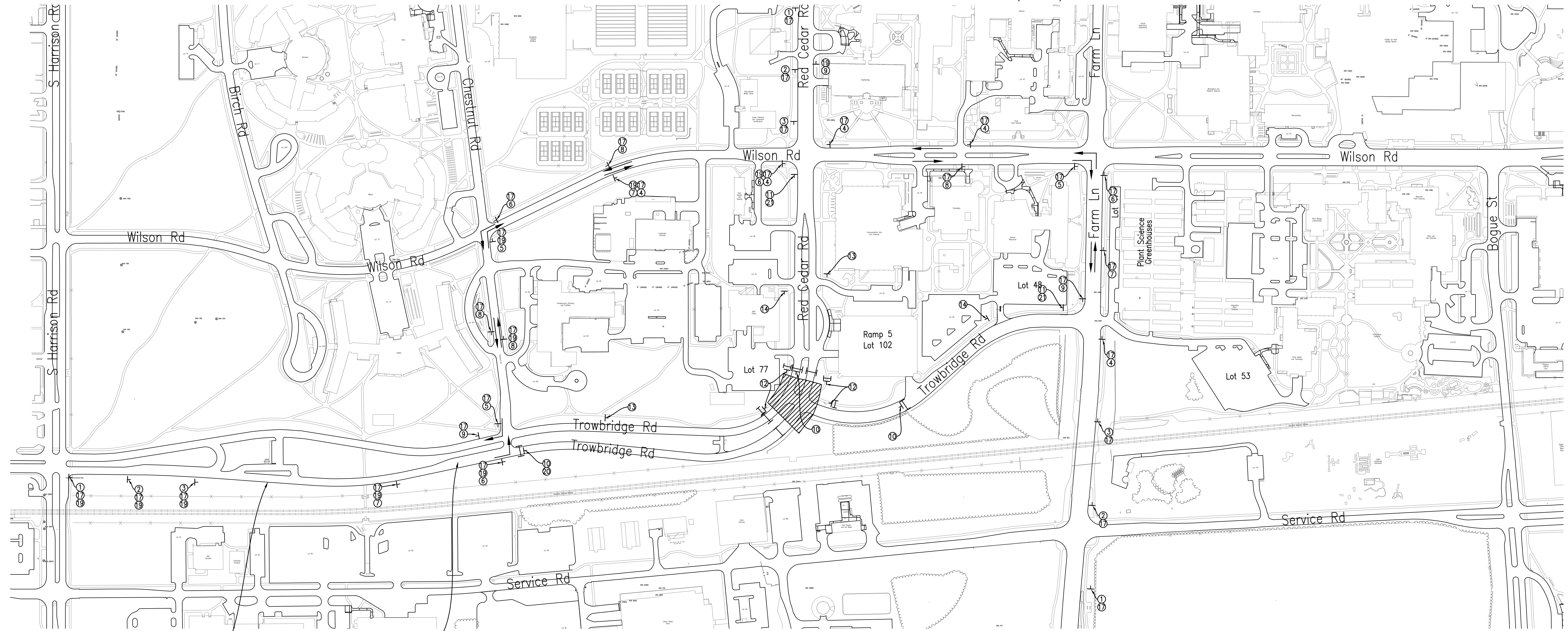
**ELECTRICAL DISTRIBUTION - FARM LN DUCT BANK EXTENSION
RED CEDAR TO FARM LN/WILSON RD - PHASE 1
INFRASTRUCTURE PLANNING FACILITIES**
DUCT BANK PROFILE CONNECTIONS

MSU PROJ. NO.
CP23036

PR. MGR.	A. LINEBAUGH
ARCH.	-
MECH.	-
ELEC.	K. BEACH
CIVIL	S. LAUGHLIN
L.A.	D. WILBER
INT. DES.	-
CONST. REP.	-
APPR.	-
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SCALE	-
ISSUED	-
2/20/24 - PRELIMINARY	-
2/21/24 - 95% SUBMITTAL	-
11/15/24 - ISSUED FOR BIDS	-
---	-

SIGN LEGEND

- | | | | | | |
|---|---|--|--|---|--|
| ① ROAD WORK AHEAD
W20-1 (48") | ② DETOUR AHEAD
W20-2 (48") | ③ ROAD CLOSED AHEAD
W20-3 (48") | ④ DETOUR
M4-9J (30" X 24") | ⑤ DETOUR
M4-9R (30" X 24") | ⑥ DETOUR
M4-9L (30" X 24") |
| ⑦ DETOUR
M4-9KL (30" X 30") | ⑧ DETOUR
M4-9KR (30" X 30") | ⑨ END DETOUR
M4-8A (24" X 18") | ⑩ ROAD CLOSED
R11-2 (48" X 30") | ⑪ ROAD CLOSED TO THRU TRAFFIC
R11-4 (60" X 30") | ⑫ SIDEWALK CLOSED
R9-9 (30" X 18") |
| ⑬ SIDEWALK CLOSED AHEAD CROSS HERE
R9-11L (48" X 36") | ⑭ SIDEWALK CLOSED AHEAD CROSS HERE
R9-11R (48" X 36") | ⑮ SIDEWALK CLOSED CROSS HERE
R9-11dL (48" X 24") | ⑯ SIDEWALK CLOSED CROSS HERE
R9-11dR (48" X 24") | ⑰ TROWBRIDGE RD
W20-12P (48" X 12") | ⑱ FARM LN
W20-12P (30" X 12") |
| ⑲ RED CEDAR RD
W20-12P (48" X 12") | ⑳ DETOUR
M4-10L (48" X 18") | ㉑ DETOUR
M4-10R (48" X 18") | ㉒ R3-1 (24" X 24") | ㉓ R3-2 (24" X 24") | ㉔ ONE WAY
R6-1L (36" X 12") |
| ㉕ DO NOT ENTER
R5-1 (30" X 30") | ㉖ WORK ZONE BEGINS
R5-18c (48" X 48") | ㉗ END ROAD WORK
G20-2 (48" X 24") | ㉘ ONE WAY
R6-1R (36" X 12") | | |



CLOSE RIGHT LANE AND BIKE LANE IN ACCORDANCE WITH 203-FW-11C-(R)
SHIFT TRAFFIC INTO LEFT TURN LANE 90' SHIFT (12' OFFSET, 30 MPH)

PLACE W11-1 (BIKE SYMBOL) AND W16-1P (SHARE THE ROAD) WARNING SIGNS 150' IN ADVANCE OF LANE CLOSURE

TROWBRIDGE RD CLOSED AT RED CEDAR RD
FAB #1 (78" X 24")
PLACE 500' IN ADVANCE OF FARM LANE AND MT HOPE INTERSECTION, EAST, WEST AND SOUTH LEG.

DETOUR LEGEND

- DETOUR ROUTE
- CONSTRUCTION ZONE
- TEMPORARY SIGN
- TYPE III BARRICADE
- TYPE II PEDESTRIAN BARRICADE

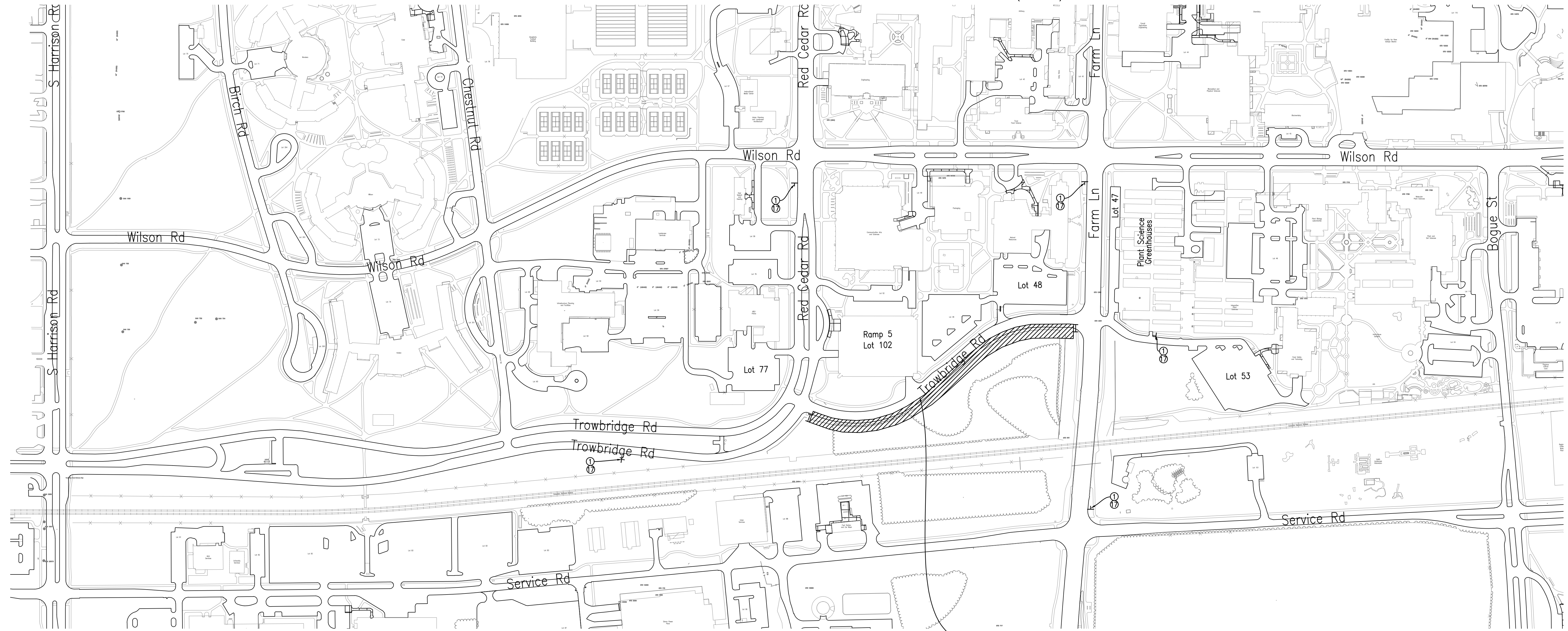
* WHEN CLOSING ROADWAYS, PLACE SUFFICIENT NUMBER OF TYPE III BARRICADES TO CLOSE THE ROAD FROM EDGE TO EDGE WITH NO GAPS BETWEEN BARRICADES

MSU PROJ. NO. CP23036	
PR. MGR.	A. LINEBAUGH
ARCH.	
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INT. DES.	
CONST. REP.	
APPR.	
DATE	11/15/2024
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SIGN LEGEND

① ROAD WORK AHEAD W20-1 (48")	② DETOUR AHEAD W20-2 (48")	③ ROAD CLOSED AHEAD W20-3 (48")	④ DETOUR M4-9J (30" X 24")	⑤ DETOUR M4-9R (30" X 24")	⑥ DETOUR M4-9L (30" X 24")
⑦ DETOUR M4-9KL (30" X 30")	⑧ DETOUR M4-9KR (30" X 30")	⑨ END DETOUR M4-8A (24" X 18")	⑩ ROAD CLOSED R11-2 (48" X 30")	⑪ ROAD CLOSED TO THRU TRAFFIC R11-4 (60" X 30")	⑫ SIDEWALK CLOSED R9-9 (30" X 18")
⑬ SIDEWALK CLOSED AHEAD CROSS HERE R9-11L (48" X 36")	⑭ SIDEWALK CLOSED AHEAD CROSS HERE R9-11R (48" X 36")	⑮ SIDEWALK CLOSED CROSS HERE R9-11dL (48" X 24")	⑯ SIDEWALK CLOSED CROSS HERE R9-11dR (48" X 24")	⑰ TROWBRIDGE RD W20-12P (48" X 12")	⑱ FARM LN W20-12P (30" X 12")
⑲ RED CEDAR RD W20-12P (48" X 12")	⑳ DETOUR M4-10L (48" X 18")	㉑ DETOUR M4-10R (48" X 18")	㉒ R3-1 (24" X 24")	㉓ R3-2 (24" X 24")	㉔ ONE WAY R6-1L (36" X 12")
㉕ DO NOT ENTER R5-1 (30" X 30")	㉖ WORK ZONE BEGINS R5-18c (48" X 48")	㉗ END ROAD WORK G20-2 (48" X 24")	㉘ ONE WAY R6-1R (36" X 12")		



CLOSE EB LANE AND MAINTAIN TRAFFIC IN ACCORDANCE WITH MDT 137-CLT-SHIFT-OLC MAINTAINING TRAFFIC TYPICAL

CLOSE OUTSIDE RIGHT TURN LANE AT FARM LN

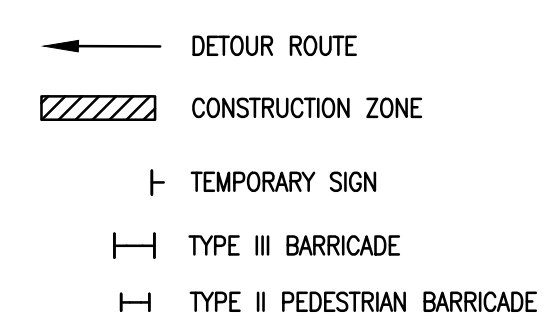
CLOSE EB BIKE LANE

REMOVE EX PAVEMENT MARKINGS IN CONFLICT

PLACE 6" DOUBLE YELLOW TEMP TAPE PAVEMENT MARKING TO DELINEATE THE CENTERLINE

PLACE 6" SINGLE WHITE TEMP TAPE PAVEMENT MARKING TO DELINEATE THE EB EDGE LINE

DETOUR LEGEND

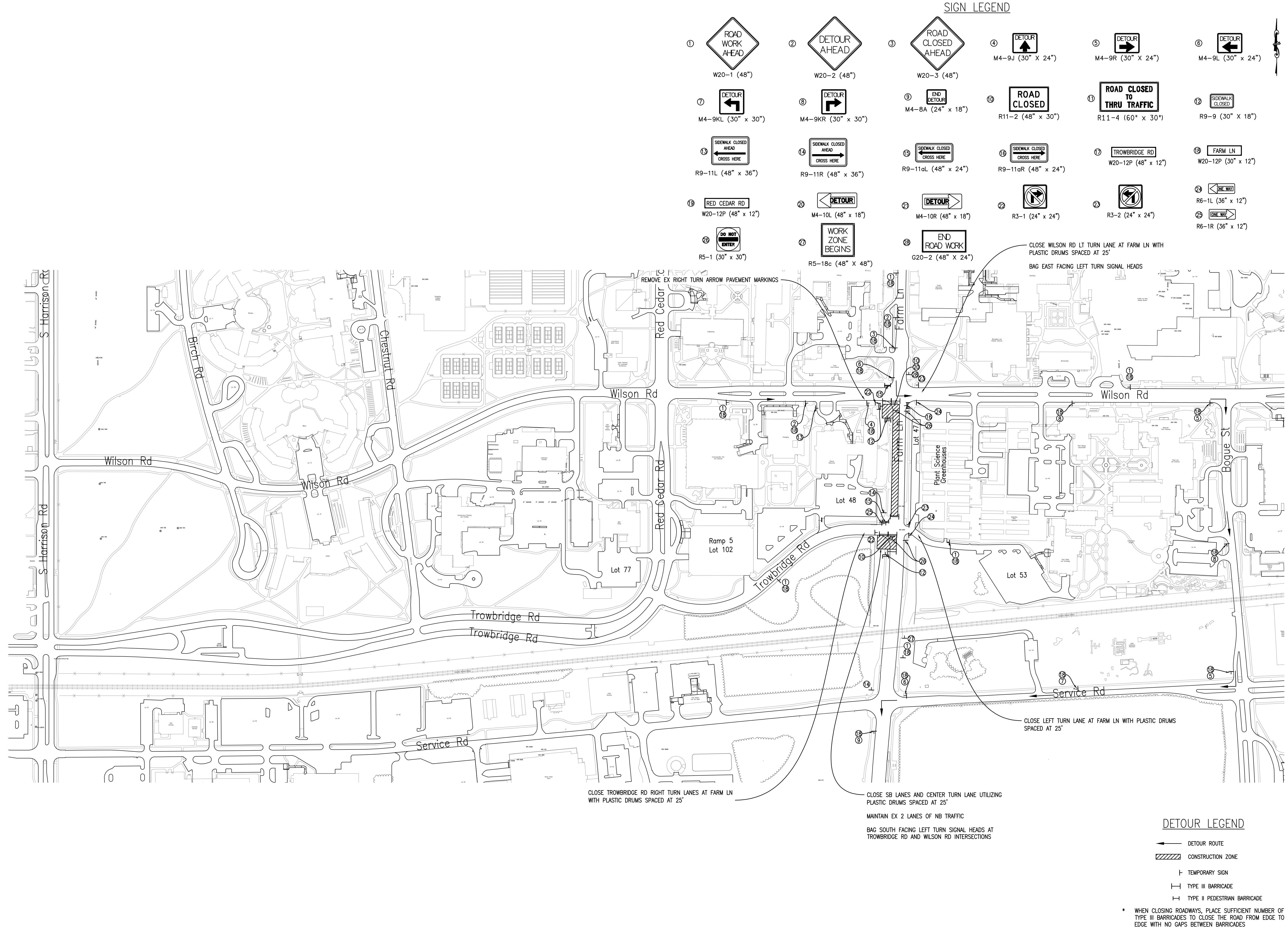


* WHEN CLOSING ROADWAYS, PLACE SUFFICIENT NUMBER OF TYPE III BARRICADES TO CLOSE THE ROAD FROM EDGE TO EDGE WITH NO GAPS BETWEEN BARRICADES

**ELECTRICAL DISTRIBUTION - FARM LN DUCT BANK EXTENSION
RED CEDAR TO FARM LN/WILSON RD - PHASE 1
INFRASTRUCTURE PLANNING FACILITIES**

MAINTENANCE OF TRAFFIC PLAN - STAGE 3

MSU PROJ. NO. CP23036	
PR. MGR.	A. LINEBAUGH
ARCH.	
MECH.	
ELEC.	K. BEACH
CIVIL	S. LAUGHLIN
L.A.	D. WILBER
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SIGN LEGEND

- ① ROAD WORK AHEAD
W20-1 (48")
- ② DETOUR AHEAD
W20-2 (48")
- ③ ROAD CLOSED AHEAD
W20-3 (48")
- ④ DETOUR
M4-9J (30" X 24")
- ⑤ DETOUR
M4-9R (30" X 24")
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M4-9KL (30" X 30")
- ⑧ DETOUR
M4-9KR (30" X 30")
- ⑨ END DETOUR
M4-8A (24" X 18")
- ⑩ ROAD CLOSED
R11-2 (48" X 30")
- ⑪ ROAD CLOSED TO THRU TRAFFIC
R11-4 (60" X 30")
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R9-9 (30" X 18")
- ⑬ SIDEWALK CLOSED AHEAD CROSS HERE
R9-11L (48" X 36")
- ⑭ SIDEWALK CLOSED AHEAD CROSS HERE
R9-11R (48" X 36")
- ⑮ SIDEWALK CLOSED CROSS HERE
R9-11dL (48" X 24")
- ⑯ SIDEWALK CLOSED CROSS HERE
R9-11dR (48" X 24")
- ⑰ TROWBRIDGE RD
W20-12P (48" X 12")
- ⑱ FARM LN
W20-12P (30" X 12")
- ⑲ RED CEDAR RD
W20-12P (48" X 12")
- ⑳ DETOUR
M4-10L (48" X 18")
- ㉑ DETOUR
M4-10R (48" X 18")
- ㉒ R3-1 (24" X 24")
- ㉓ R3-2 (24" X 24")
- ㉔ ONE WAY
R6-1L (36" X 12")
- ㉕ ONE WAY
R6-1R (36" X 12")
- ㉖ DO NOT ENTER
R5-1 (30" X 30")
- ㉗ WORK ZONE BEGINS
R5-18c (48" X 48")
- ㉘ END ROAD WORK
G20-2 (48" X 24")

DETOUR LEGEND

- DETOUR ROUTE
- CONSTRUCTION ZONE
- TEMPORARY SIGN
- TYPE III BARRICADE
- TYPE II PEDESTRIAN BARRICADE

* WHEN CLOSING ROADWAYS, PLACE SUFFICIENT NUMBER OF TYPE III BARRICADES TO CLOSE THE ROAD FROM EDGE TO EDGE WITH NO GAPS BETWEEN BARRICADES

CLOSE TROWBRIDGE RD RIGHT TURN LANES AT FARM LN WITH PLASTIC DRUMS SPACED AT 25'

CLOSE SB LANES AND CENTER TURN LANE UTILIZING PLASTIC DRUMS SPACED AT 25'

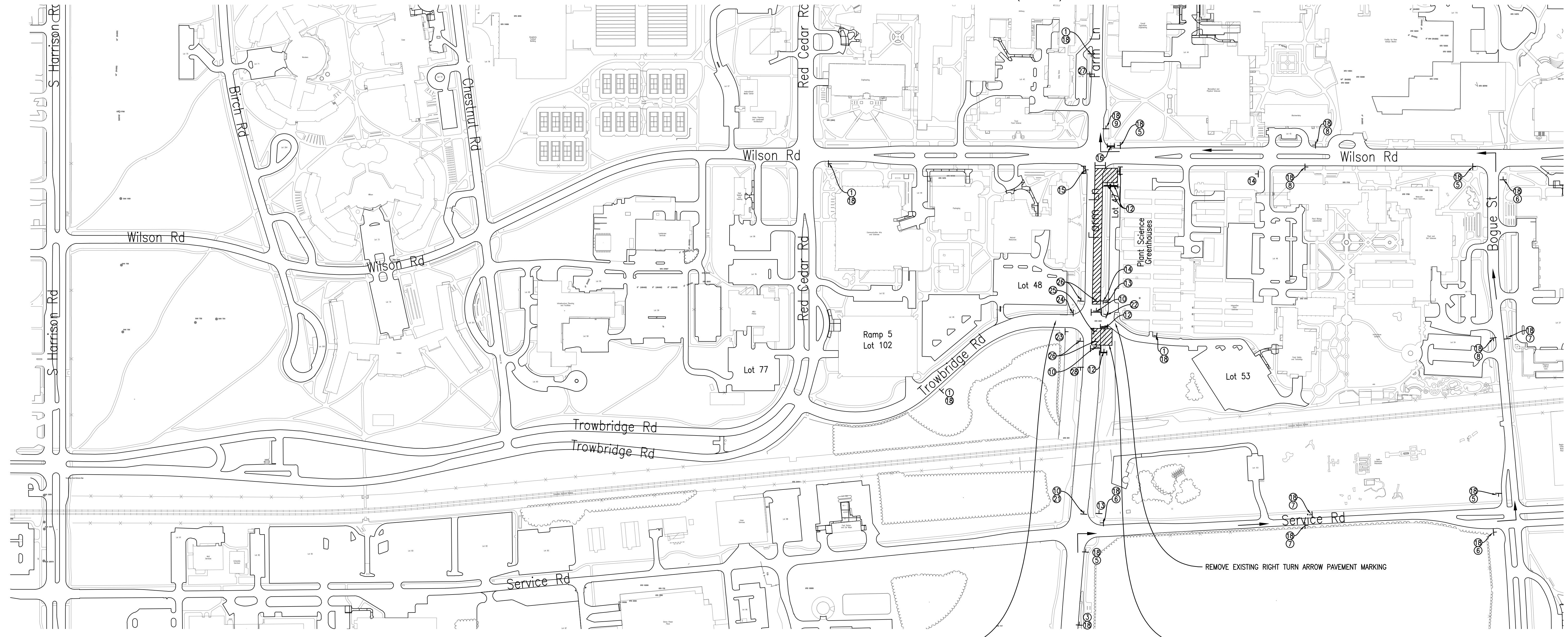
MAINTAIN EX 2 LANES OF NB TRAFFIC

BAG SOUTH FACING LEFT TURN SIGNAL HEADS AT TROWBRIDGE RD AND WILSON RD INTERSECTIONS

CLOSE LEFT TURN LANE AT FARM LN WITH PLASTIC DRUMS SPACED AT 25'

CLOSE WILSON RD LT TURN LANE AT FARM LN WITH PLASTIC DRUMS SPACED AT 25'
BAG EAST FACING LEFT TURN SIGNAL HEADS

REMOVE EX RIGHT TURN ARROW PAVEMENT MARKINGS



REMOVE EXISTING LEFT TURN ARROW PAVEMENT MARKING

REMOVE EXISTING RIGHT TURN ARROW PAVEMENT MARKING

CLOSE NB LANES AND CENTER TURN LANE UTILIZING PLASTIC DRUMS SPACED AT 25'

MAINTAIN EX 2 LANES OF SB TRAFFIC

SIGN LEGEND

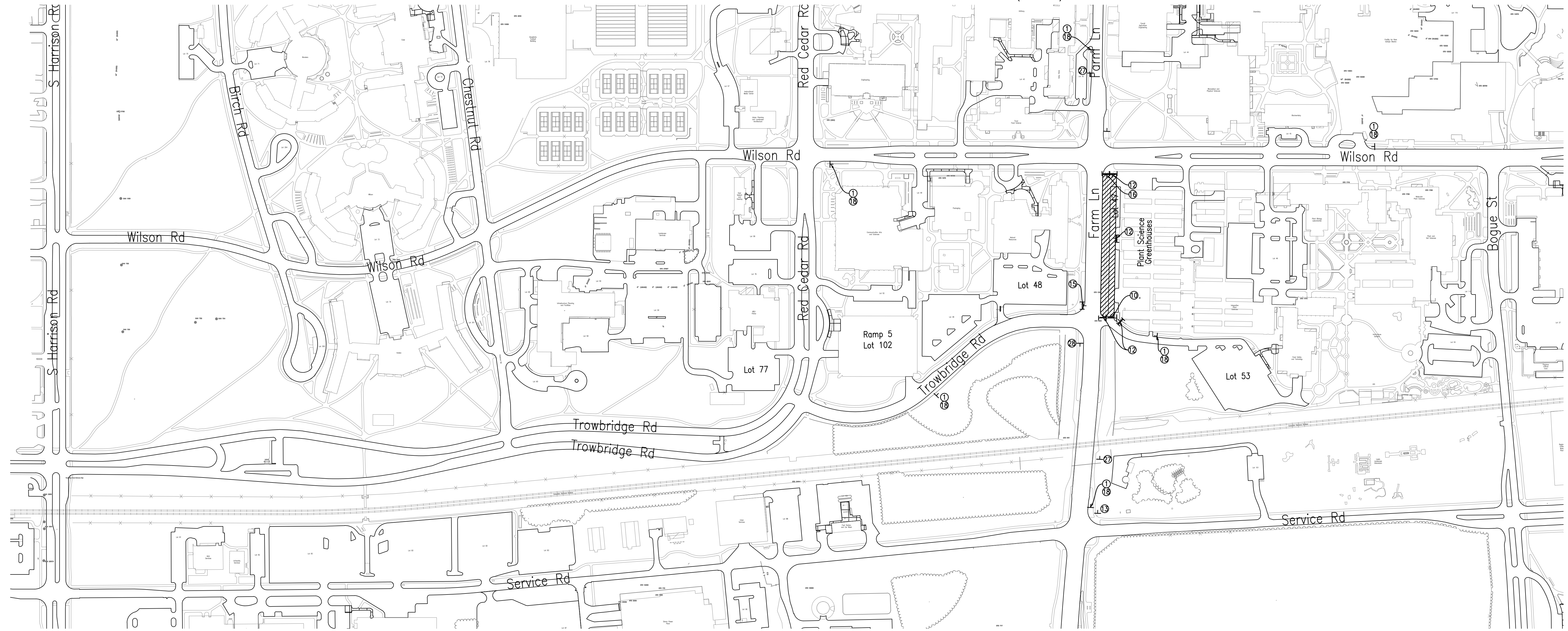
① ROAD WORK AHEAD W20-1 (48")	② DETOUR AHEAD W20-2 (48")	③ ROAD CLOSED AHEAD W20-3 (48")	④ DETOUR M4-9J (30" X 24")	⑤ DETOUR M4-9R (30" X 24")	⑥ DETOUR M4-9L (30" X 24")
⑦ DETOUR M4-9KL (30" X 30")	⑧ DETOUR M4-9KR (30" X 30")	⑨ END DETOUR M4-8A (24" X 18")	⑩ ROAD CLOSED R11-2 (48" X 30")	⑪ ROAD CLOSED TO THRU TRAFFIC R11-4 (60" X 30")	⑫ SIDEWALK CLOSED R9-9 (30" X 18")
⑬ SIDEWALK CLOSED AHEAD CROSS HERE R9-11L (48" X 36")	⑭ SIDEWALK CLOSED AHEAD CROSS HERE R9-11R (48" X 36")	⑮ SIDEWALK CLOSED CROSS HERE R9-11dL (48" X 24")	⑯ SIDEWALK CLOSED CROSS HERE R9-11aR (48" X 24")	⑰ TROWBRIDGE RD W20-12P (48" X 12")	⑱ FARM LN W20-12P (30" X 12")
⑲ RED CEDAR RD W20-12P (48" X 12")	⑳ DETOUR M4-10L (48" X 18")	㉑ DETOUR M4-10R (48" X 18")	㉒ R3-1 (24" X 24")	㉓ R3-2 (24" X 24")	㉔ ONE WAY R6-1L (36" X 12")
㉕ DO NOT ENTER R5-1 (30" X 30")	㉖ WORK ZONE BEGINS R5-18c (48" X 48")	㉗ END ROAD WORK G20-2 (48" X 24")			㉘ ONE WAY R6-1R (36" X 12")

DETOUR LEGEND

- ← DETOUR ROUTE
- ▨ CONSTRUCTION ZONE
- ⊥ TEMPORARY SIGN
- ⊥ TYPE III BARRICADE
- ⊥ TYPE II PEDESTRIAN BARRICADE

* WHEN CLOSING ROADWAYS, PLACE SUFFICIENT NUMBER OF TYPE III BARRICADES TO CLOSE THE ROAD FROM EDGE TO EDGE WITH NO GAPS BETWEEN BARRICADES

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ARCH.	
MECH.	
ELEC.	K. BEACH
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APPR.	
DATE	11/15/2024
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2/20/24 - PRELIMINARY	
2/21/24 - 95% SUBMITTAL	
11/15/24 - ISSUED FOR BIDS	



SIGN LEGEND

- ① ROAD WORK AHEAD
W20-1 (48")
- ② DETOUR AHEAD
W20-2 (48")
- ③ ROAD CLOSED AHEAD
W20-3 (48")
- ④ DETOUR
M4-9J (30" X 24")
- ⑤ DETOUR
M4-9R (30" X 24")
- ⑥ DETOUR
M4-9L (30" X 24")
- ⑦ DETOUR
M4-9KL (30" X 30")
- ⑧ DETOUR
M4-9KR (30" X 30")
- ⑨ END DETOUR
M4-8A (24" X 18")
- ⑩ ROAD CLOSED
R11-2 (48" X 30")
- ⑪ ROAD CLOSED TO THRU TRAFFIC
R11-4 (60" X 30")
- ⑫ SIDEWALK CLOSED
R9-9 (30" X 18")
- ⑬ SIDEWALK CLOSED AHEAD CROSS HERE
R9-11L (48" X 36")
- ⑭ SIDEWALK CLOSED AHEAD CROSS HERE
R9-11R (48" X 36")
- ⑮ SIDEWALK CLOSED CROSS HERE
R9-11dL (48" X 24")
- ⑯ SIDEWALK CLOSED CROSS HERE
R9-11dR (48" X 24")
- ⑰ TROWBRIDGE RD
W20-12P (48" X 12")
- ⑱ FARM LN
W20-12P (30" X 12")
- ⑲ RED CEDAR RD
W20-12P (48" X 12")
- ⑳ DETOUR
M4-10L (48" X 18")
- ㉑ DETOUR
M4-10R (48" X 18")
- ㉒ R3-1 (24" X 24")
- ㉓ R3-2 (24" X 24")
- ㉔ ONE WAY
R6-1L (36" X 12")
- ㉕ ONE WAY
R6-1R (36" X 12")
- ㉖ DO NOT ENTER
R5-1 (30" X 30")
- ㉗ WORK ZONE BEGINS
R5-18c (48" X 48")
- ㉘ END ROAD WORK
G20-2 (48" X 24")

DETOUR LEGEND

- DETOUR ROUTE
- CONSTRUCTION ZONE
- TEMPORARY SIGN
- TYPE III BARRICADE
- TYPE II PEDESTRIAN BARRICADE

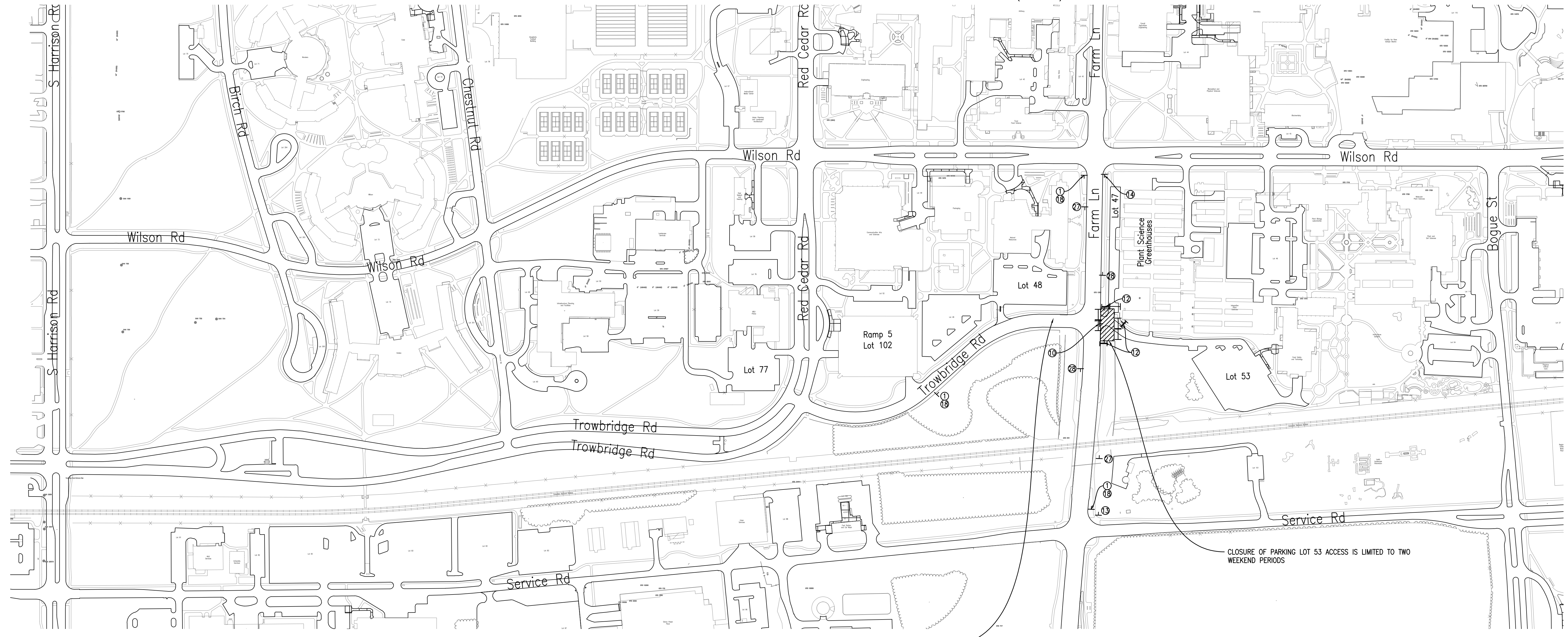
* WHEN CLOSING ROADWAYS, PLACE SUFFICIENT NUMBER OF TYPE III BARRICADES TO CLOSE THE ROAD FROM EDGE TO EDGE WITH NO GAPS BETWEEN BARRICADES

MSU PROJ. NO.	CP23036
PR. MGR.	A. LINEBAUGH
ARCH.	
MECH.	
ELEC.	K. BEACH
CIVIL	S. LAUGHLIN
L.A.	D. WILBER
INT. DES.	
CONST. REP.	
APPR.	
DATE	11/15/2024
SCALE	AS SHOWN
ISSUED	
	2/20/24 - PRELIMINARY
	2/21/24 - 95% SUBMITTAL
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MSU PROJ. NO. CP23036	
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SIGN LEGEND

- | | | | | | |
|---|---|--|--|---|--|
| ① ROAD WORK AHEAD
W20-1 (48") | ② DETOUR AHEAD
W20-2 (48") | ③ ROAD CLOSED AHEAD
W20-3 (48") | ④ DETOUR
M4-9J (30" X 24") | ⑤ DETOUR
M4-9R (30" X 24") | ⑥ DETOUR
M4-9L (30" X 24") |
| ⑦ DETOUR
M4-9KL (30" X 30") | ⑧ DETOUR
M4-9KR (30" X 30") | ⑨ END DETOUR
M4-8A (24" X 18") | ⑩ ROAD CLOSED
R11-2 (48" X 30") | ⑪ ROAD CLOSED TO THRU TRAFFIC
R11-4 (60" X 30") | ⑫ SIDEWALK CLOSED
R9-9 (30" X 18") |
| ⑬ SIDEWALK CLOSED AHEAD CROSS HERE
R9-11L (48" X 36") | ⑭ SIDEWALK CLOSED AHEAD CROSS HERE
R9-11R (48" X 36") | ⑮ SIDEWALK CLOSED CROSS HERE
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W20-12P (30" X 12") |
| ⑲ RED CEDAR RD
W20-12P (48" X 12") | ⑳ DETOUR
M4-10L (48" X 18") | ㉑ DETOUR
M4-10R (48" X 18") | ㉒ R3-1 (24" X 24") | ㉓ R3-2 (24" X 24") | ㉔ ONE WAY
R6-1L (36" X 12") |
| ㉕ DO NOT ENTER
R5-1 (30" X 30") | ㉖ WORK ZONE BEGINS
R5-18c (48" X 48") | ㉗ END ROAD WORK
G20-2 (48" X 24") | ㉘ ONE WAY
R6-1R (36" X 12") | | |



REMOVE EXISTING THRU ARROW PAVEMENT MARKING

DETOUR LEGEND

- DETOUR ROUTE
- CONSTRUCTION ZONE
- TEMPORARY SIGN
- TYPE III BARRICADE
- TYPE II PEDESTRIAN BARRICADE

* WHEN CLOSING ROADWAYS, PLACE SUFFICIENT NUMBER OF TYPE III BARRICADES TO CLOSE THE ROAD FROM EDGE TO EDGE WITH NO GAPS BETWEEN BARRICADES