

THE CITY OF MARQUETTE

PROJECT FOR

SUGARLOAF AVENUE MULTI-USE PATH EXTENSION

MQ24-019

STANDARDS:

EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED THEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2020 VERSION, AND THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

DESIGN STANDARD

THE PROPOSED IMPROVEMENTS COVERED BY THESE PLANS ARE IN ACCORDANCE WITH THE AASHTO; A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, 2018.

MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD PLANS

WHERE THE FOLLOWING ITEMS ARE CALLED OUT ON THE PLANS, THEY ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD PLAN GIVEN BELOW OPPOSITE EACH ITEM UNLESS OTHERWISE INDICATED.

- R-1-G DRAINAGE STRUCTURES
- * R-28-K SIDEWALK RAMP AND DETECTABLE WARNING DETAILS
- R-30-G CONCRETE CURB AND CONCRETE CURB AND GUTTER
- R-83-C UTILITY TRENCHES
- R-86-F PRECAST CONCRETE END SECTION FOR PIPE CULVERT
- R-96-E SOIL EROSION & SEDIMENTATION CONTROL MEASURES
- R-105-D GRADING CROSS-SECTIONS

TRAFFIC AND SAFETY STANDARD PLANS

- WZD-100-A GROUND DRIVEN SIGN SUPPORTS FOR TEMP SIGNS
- WZD-125-E TEMPORARY TRAFFIC CONTROL DEVICES
- 00-TRAFFIC CONTROL TYPICALS - COMPLETE SET

* SPECIAL DETAIL

UTILITIES

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 53, THE CONTRACTOR SHALL CALL MISS DIG AT 1-800-482-7171 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.

THE FOLLOWING UTILITIES ARE LOCATED IN OR NEAR THE RIGHT-OF-WAY FOR THIS PROJECT:

- SANITARY SEWER MAIN AND LATERALS
- WATERMAIN AND WATER SERVICES
- STORM SEWER MAIN
- GAS MAIN AND SERVICES
- UNDERGROUND TELEPHONE, ELECTRICAL, CABLE TV
- OVERHEAD TELEPHONE, ELECTRICAL, CABLE TV, AND FIBER OPTICS

LEGEND

=====	EXISTING STORM SEWER	=====	PROPOSED SANITARY SEWER
-----	EXISTING SANITARY SEWER	=====	PROPOSED WATER MAIN
=====	EXISTING WATER MAIN	=====	PROPOSED STORM SEWER
-----	EXISTING GAS MAIN/SERVICE	-----	RIGHT OF WAY
-----	EXISTING TELECOMMUNICATION CABLE	-----	PROPERTY LINE, APPROXIMATE
-----	EXISTING ELECTRIC CABLE	-----	EXISTING CABLE TV CABLE
⊙	EXISTING LIGHT POLE	⊙	PROPOSED CATCH BASIN
⊙	EXISTING SANITARY/STORM SEWER MANHOLE	⊙	PROPOSED MANHOLE
⊙	EXISTING POWER POLE	⊙	PROPOSED WATER VALVE
⊙	GUY ANCHOR	⊙	PROPOSED FIRE HYDRANT
⊙	EXISTING CATCH BASIN	⊙	PROPOSED 6" SIDEWALK
⊙	EXISTING TRAFFIC SIGN	⊙	PROPOSED 4" SIDEWALK
⊙	EXISTING WATER VALVE	⊙	PROPOSED ADA RAMP (6")
⊙	EXISTING FIRE HYDRANT	⊙	PROPOSED 4" STAMPED CONCRETE
⊙	SOIL BORING LOCATION AND NUMBER	⊙	PROPOSED DETECTABLE SURFACE
⊙	EXISTING WATER SHUT OFF	⊙	HMA, 1.3A OR LVSP
⊙	EXISTING CLEAN OUT		

LOCATION MAP



INDEX OF SHEETS

- 1 COVER SHEET
- 2 TYPICAL CROSS SECTIONS
- 3-5 PLAN SHEETS
- 6 PROFILE SHEET
- 7 RAMP DETAILS / PAVEMENT MARKING PLAN
- 8 TRAFFIC CONTROL PLAN
- 9 UTILITY SCHEMATICS
- 10 SESC PLAN
- 11 STANDARD STORM SEWER DETAILS



PUBLIC UTILITIES

MARQUETTE BOARD OF LIGHT AND POWER
2200 WRIGHT STREET
MARQUETTE, MICHIGAN 49855
PH. (906) 228-0300

SPECTRUM MID-AMERICA, LLC
359 US-41 EAST
NEGAUNEE, MICHIGAN 49866
PH. (906) 228-2900

MARQUETTE WATER AND SEWER DEPARTMENT
1100 WRIGHT STREET
MARQUETTE, MICHIGAN 49855
PH. (906) 228-0444

AT&T
3255 US-41 WEST
MARQUETTE, MICHIGAN 49855
PH. (906) 221-2121

SEMCO ENERGY
34 US-41 EAST
NEGAUNEE, MICHIGAN 49866
PH. (906) 475-9901

PENINSULA FIBER NETWORK
1901 WEST RIDGE STREET #2
MARQUETTE, MICHIGAN 49855
PH. (906) 226-7102

CONTRACT FOR:
SUGARLOAF AVENUE MULTI-USE PATH EXTENSION

MUNICIPAL APPROVAL:

Karen Kovacs 3/20/2024
KAREN KOVACS, CITY MANAGER DATE

PREPARED UNDER THE SUPERVISION OF:

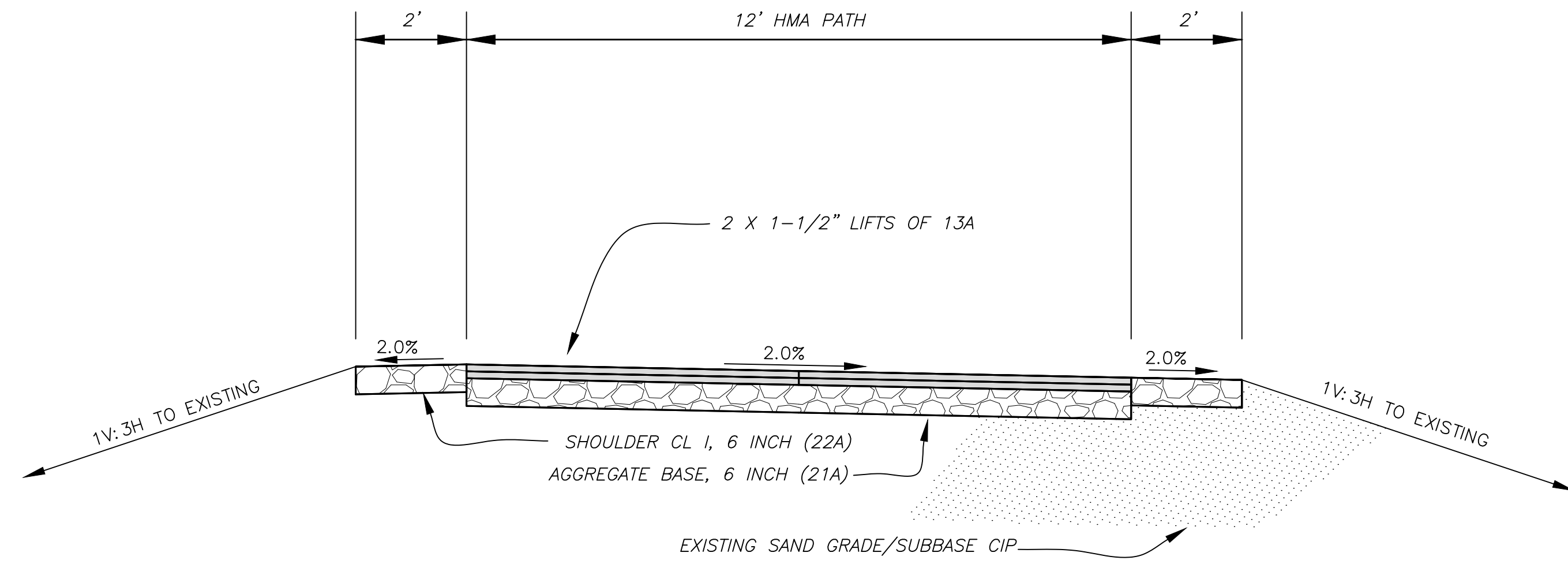
Kellen J. Wessels 3/20/2024
KELLEN J. WESSELS, ASST. CITY ENGINEER DATE
P.E. NO. 6201311206



CITY OF MARQUETTE

CITY ENGINEER'S OFFICE
1100 WRIGHT STREET
MARQUETTE, MICHIGAN 49855
PH. (906) 228-0440

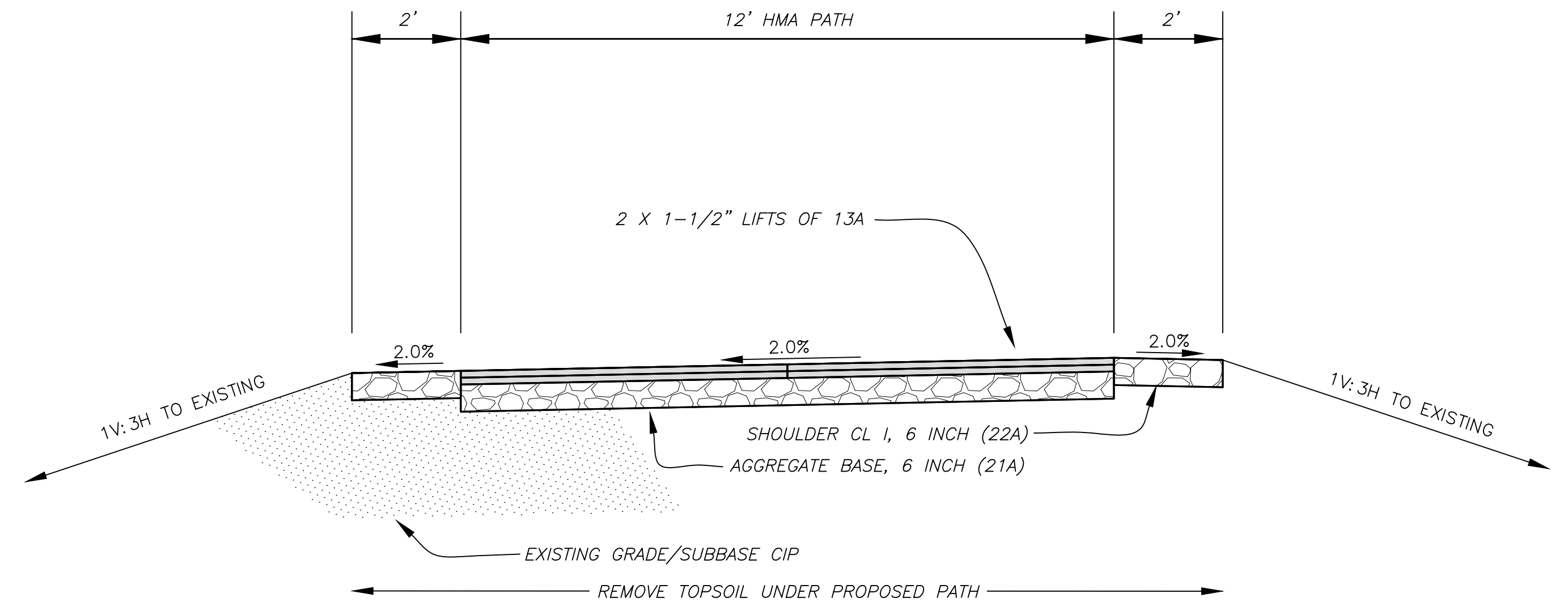
STATION 1+35 TO 5+25 AND 12+90 TO 13+75



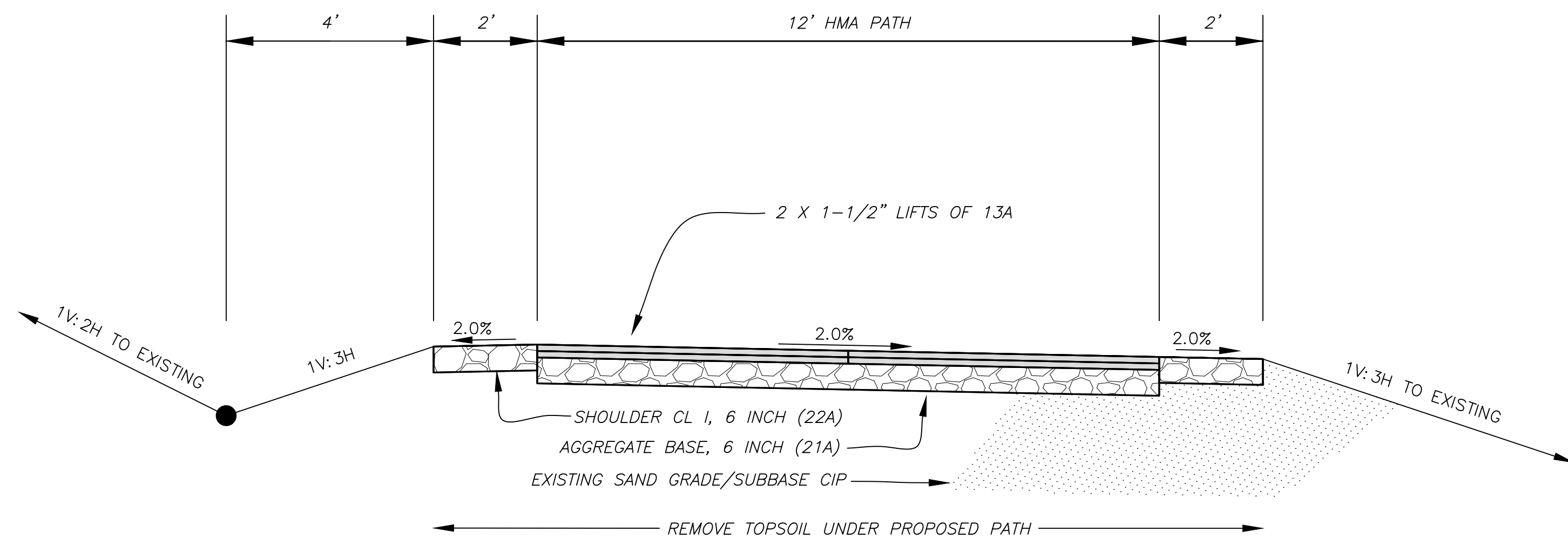
NOTE: STATION 5+25 TO 5+72 IS CROSSING AT POWDER MILL ROAD

STATION 5+72 TO 9+75 AND 18+00 TO 18+55

Know what's below.
Call 811 before you dig.

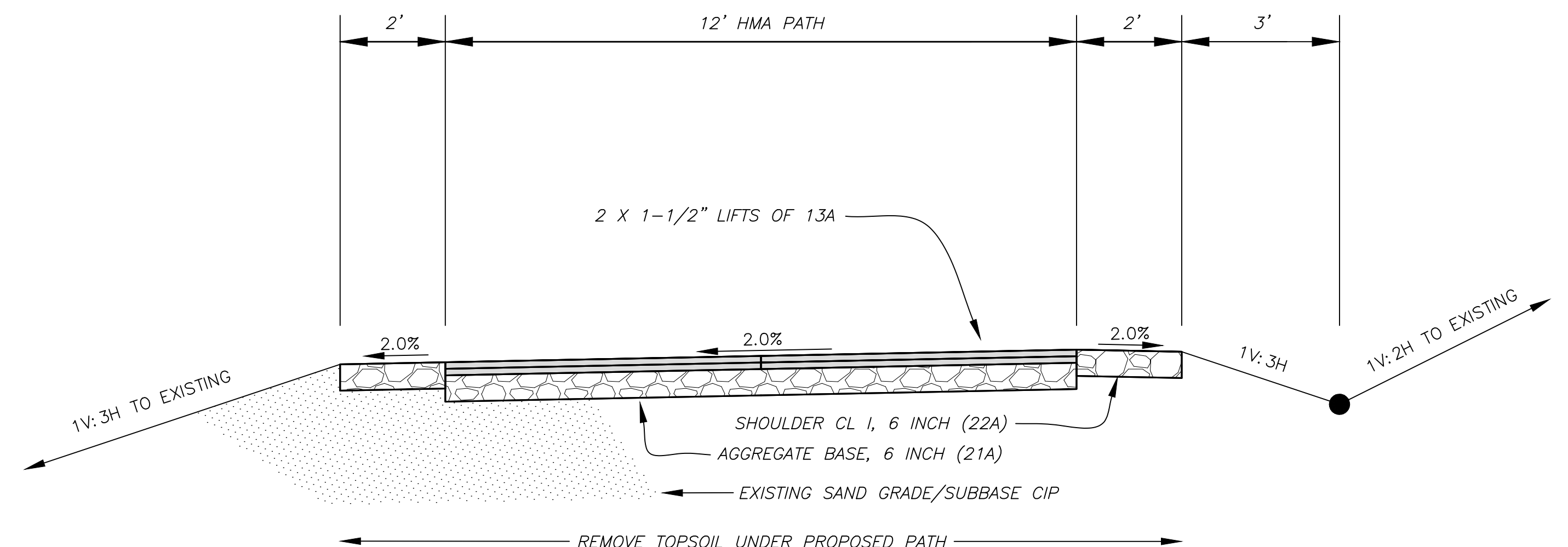


STATION 10+25 TO 12+90



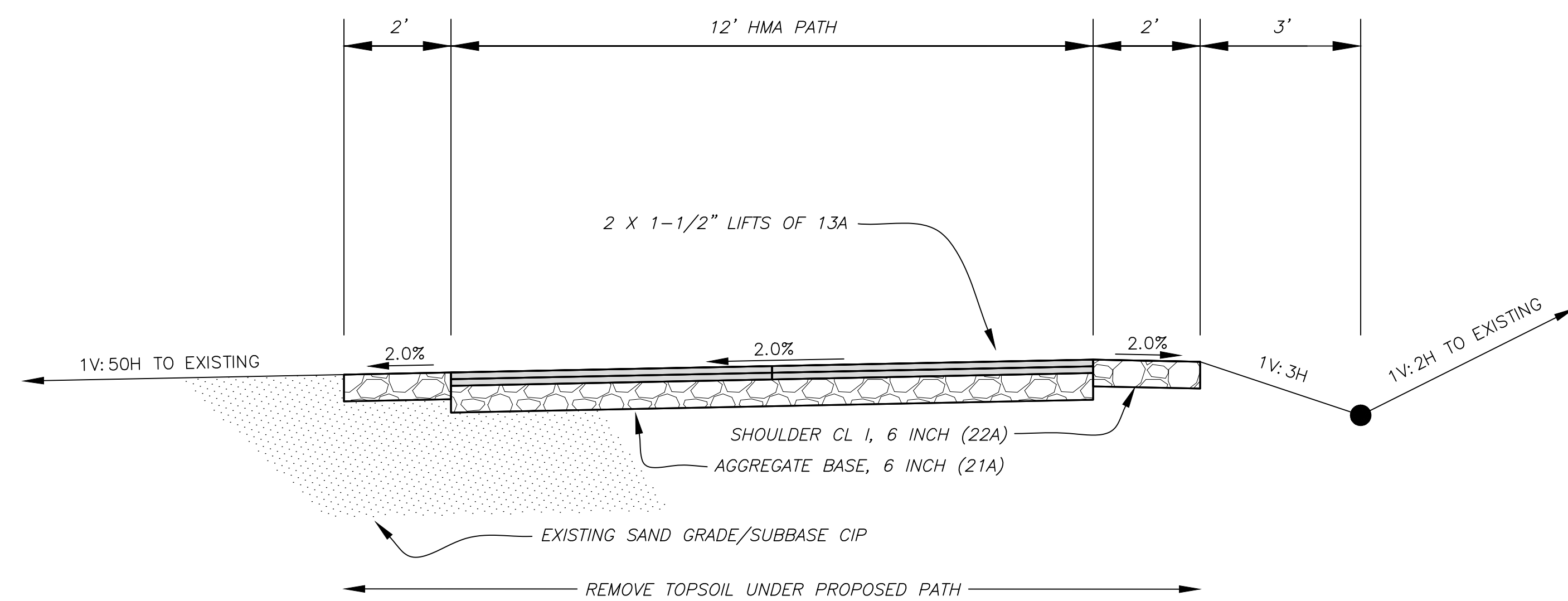
NOTE: STATION 9+75 TO 10+25 IS TRANSITION BETWEEN STANDARD CROSS SECTIONS

STATION 14+25 TO 16+90 AND 17+25 TO 18+00

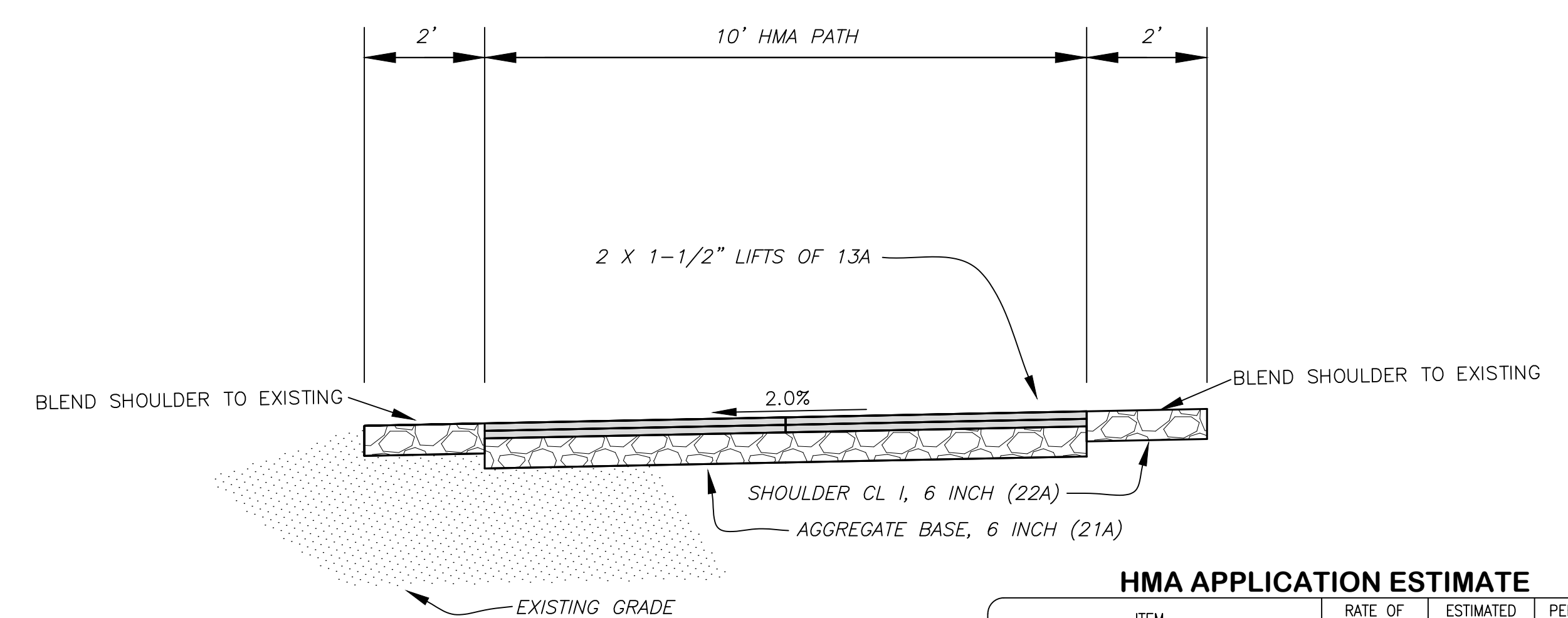


NOTE: STATION 13+75 TO 14+25 IS TRANSITION BETWEEN STANDARD CROSS SECTIONS

STATION 16+90 TO 17+25



STATION 18+55 TO 19+00



HMA APPLICATION ESTIMATE

ITEM	RATE OF APPLICATION	ESTIMATED THICKNESS	PERFORMANCE GRADE	REMARKS
HMA, 13A, (TOP COURSE)	165#/SYD	1-1/2"	58-28	AWI = 260 MIN.
HMA, 13A, (BASE COURSE)	165#/SYD	1-1/2"	58-28	



CITY ENGINEER'S OFFICE
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1100 WRIGHT STREET, MARQUETTE, MI 49855
PHONE (906)228-0440

REVISIONS:

INTERNAL REVIEW	03-04-24
BID READY	03-11-24
BID SET	03-19-24

DESIGN BY: KELLEN WESSELS P.E.
DRAWN BY: KELLEN WESSELS P.E.
DATE: MARCH 19, 2024
FILE NAME: MQ24-019 BASE.dwg

HOR. SCALE: 1" = 2'
VERT. SCALE: 1" = 2'

SUGARLOAF MULTI-USE PATH EXTENSION PROJECT
TYPICAL CROSS SECTIONS

PROJECT MQ24-019
SHEET 2 OF 11

PROJECT NO. MQ24-019
SUGARLOAF BIKE PATH EXTENSION DESIGN AND DRAFTING PROJECT DRAWINGS MQ24-019 BASE.DWG
SUGARLOAF MULTI-USE PATH EXTENSION PROJECT

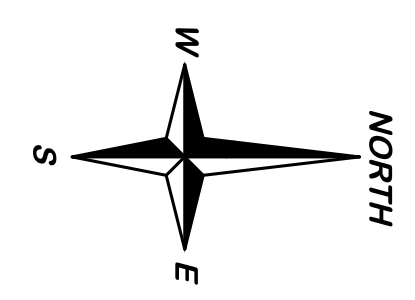
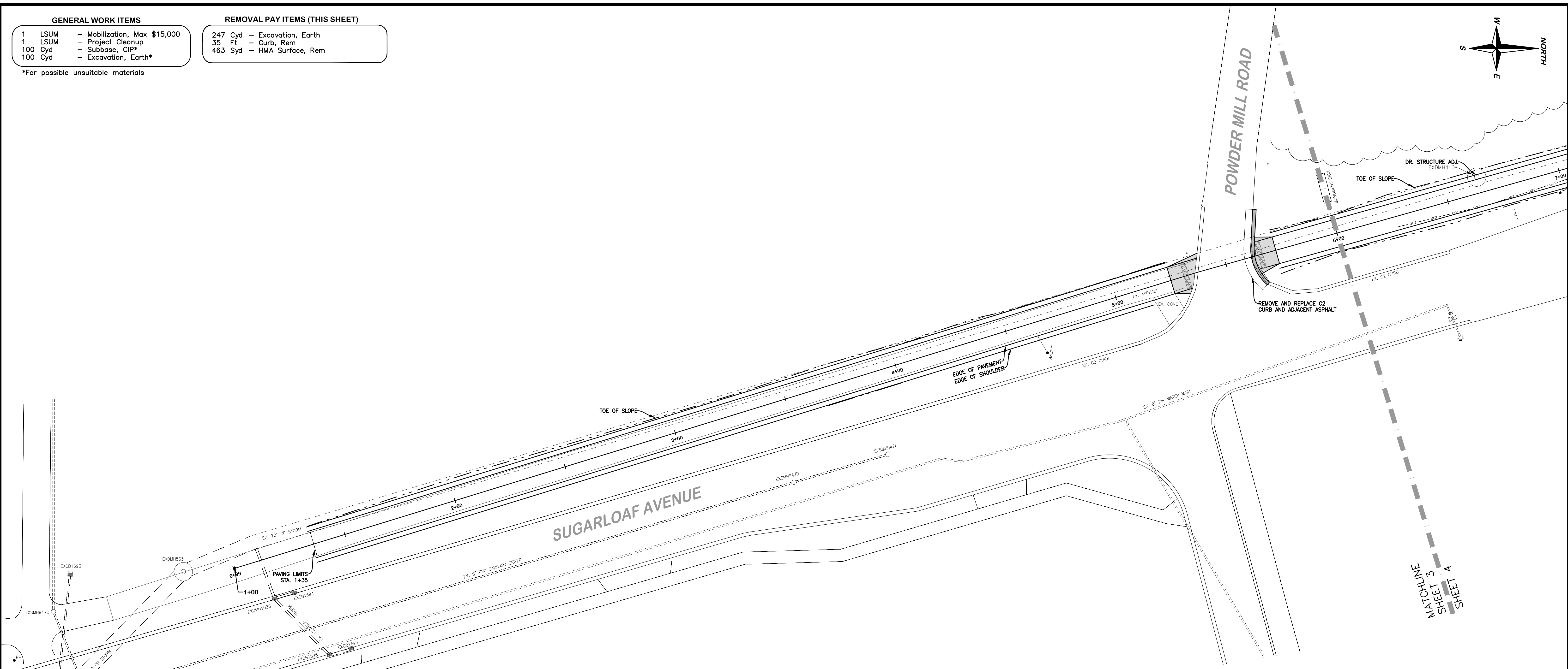
GENERAL WORK ITEMS

1	LSUM	- Mobilization, Max \$15,000
1	LSUM	- Project Cleanup
100	Cyd	- Subbase, CIP*
100	Cyd	- Excavation, Earth*

*For possible unsuitable materials

REMOVAL PAY ITEMS (THIS SHEET)

247	Cyd	- Excavation, Earth
35	Ft	- Curb, Rem
463	Syd	- HMA Surface, Rem



NOTES

POWER POLES, UNDERGROUND ELECTRIC, CABLE, AND TELEPHONE CONFLICTING WITH PROPOSED WORK TO BE MOVED BY THE CORRESPONDING UTILITY COMPANY. CONTRACTOR SHALL COORDINATE THEIR WORK WITH THOSE UTILITIES.

REMOVE EXISTING CONCRETE AND BITUMINOUS SURFACES AS SHOWN. CONCRETE REMOVAL PAID FOR AS "Pavt. Rem." AND BIT. REMOVAL PAID FOR AS "HMA Surf, Rem"

REMOVE EXISTING CURB AND GUTTER, PAID FOR AS "CURB, REM" OR "Curb and Gutter, Rem."

CONTRACTOR TO COORDINATE WITH THE MARQUETTE B.L.P. TO HOLD ANY POWER POLE NEAR CONSTRUCTION ACTIVITY. COST OF POLE HOLDING IS INCLUDED WITH UTILITY CONSTRUCTION AND SHALL BE DONE BY THE MARQUETTE B.L.P..

CONTRACTOR TO PROTECT EXISTING UTILITIES AT ALL CROSSINGS. PROTECTION INCLUDED WITH PATH PLACEMENT.

MINIMIZE DISTURBANCE TO EXISTING TREES AND PERENNIAL FLOWER GARDENS. ALL AREAS OF DISTURBANCE OUTSIDE OF INFLUENCE AREA OF WORK SHALL BE RESTORED WITH TOPSOIL, SEED, AND MULCH PAID BY THE CONTRACTOR.

REMOVE STREET SIGNS, STOCKPILE ON SITE FOR CITY DPW PICK UP. PAID AS "Sign, Type 1, Rem"

RESTORATION (THIS SHEET)

1	Cyd	- Subbase, CIP	105	Ton	- HMA, 13a
278	Sft	- Curb Ramp, Conc, 6 inch, Modified	820	Syd	- Topsoil Surface, Furn, 4 Inch, Modified
15	Ft	- Curb and Gutter, Conc, Det C2, Modified	820	Syd	- Mulch
20	Ft	- Curb Ramp Opening, Conc, Modified	38	Lb	- Seeding, Mixture TUF
24	Ft	- Detectable Warning Surface, Modified	30	Lb	- Fertilizer, Chemical Nutrient, CI A
556	Syd	- Aggregate Base, 6 inch			
186	Syd	- Shld, CI 1, 6 Inch			

NOTE: ALL CURBING SHALL BE 3500 PSI AND INCLUDE THE ADDITION OF FIBERGLASS FIBERS.

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Call 811 before you dig.**

CITY ENGINEER'S OFFICE
MARQUETTE, MICHIGAN
 1100 WRIGHT STREET, MARQUETTE, MI 49855
 PHONE (906)228-0440

REVISIONS:

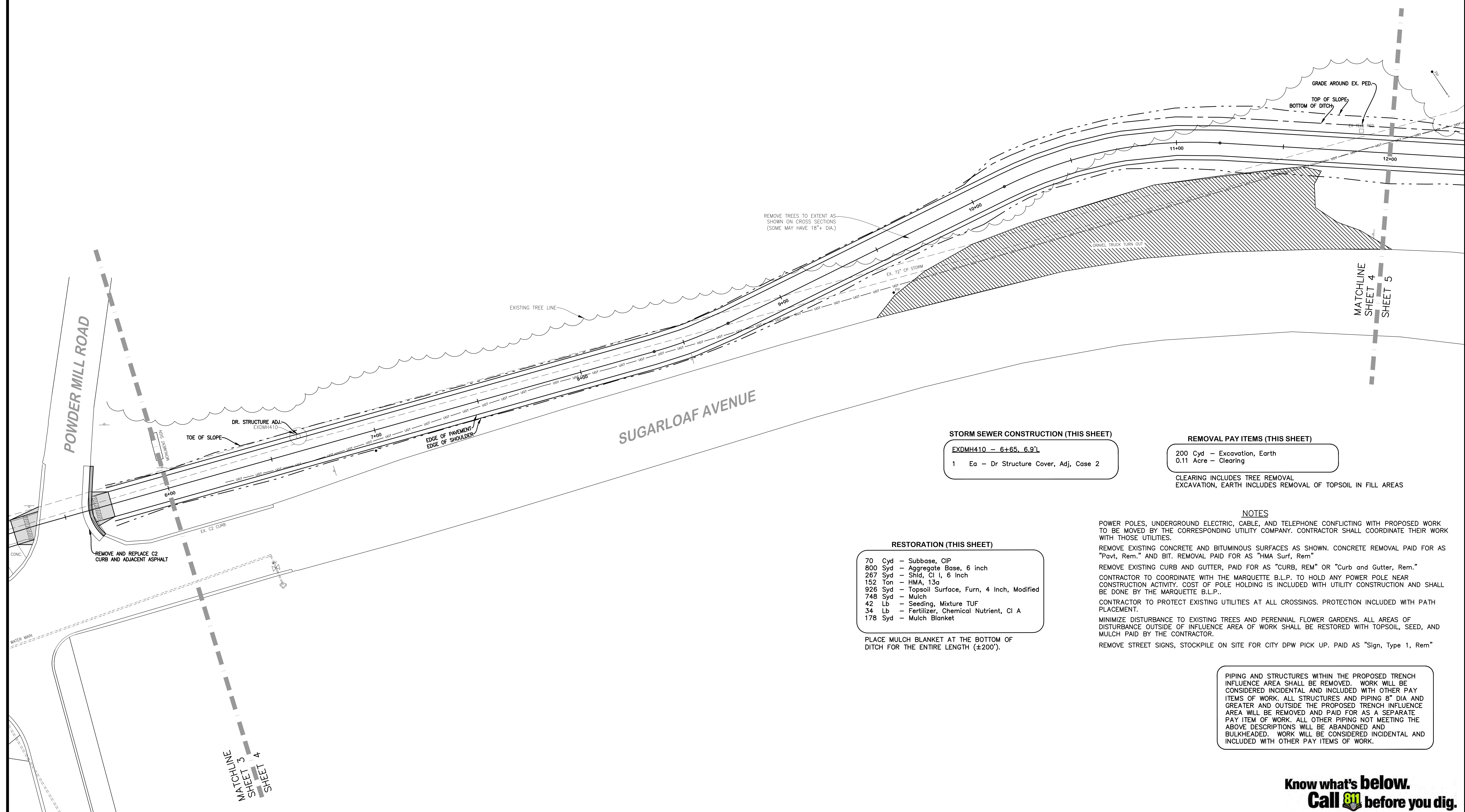
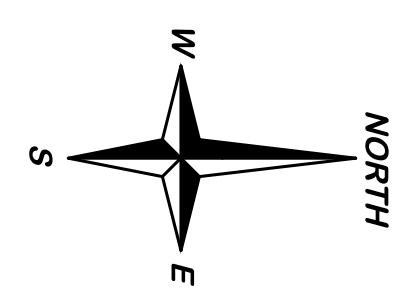
INTERNAL REVIEW	03-04-24
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DESIGN BY: KELLEN WESSELS P.E.
 DRAWN BY: KELLEN WESSELS P.E.
 DATE: MARCH 19, 2024
 FILE NAME: MQ24-019 BASE.dwg

HOR. SCALE: 1" = 20'
 VERT. SCALE: N.A.

SUGARLOAF MULTI-USE PATH EXTENSION PROJECT
 PLAN STATION 1+00 TO 6+00

PROJECT MQ24-019
SHEET 3 OF 11



STORM SEWER CONSTRUCTION (THIS SHEET)

- EXDMH410 - 6+65. 6.9'L
- 1 Ea - Dr Structure Cover, Adj, Case 2

REMOVAL PAY ITEMS (THIS SHEET)

- 200 Cyd - Excavation, Earth
- 0.11 Acre - Clearing

CLEARING INCLUDES TREE REMOVAL
EXCAVATION, EARTH INCLUDES REMOVAL OF TOPSOIL IN FILL AREAS

RESTORATION (THIS SHEET)

- 70 Cyd - Subbase, CIP
- 800 Syd - Aggregate Base, 6 inch
- 267 Syd - Shld, CI I, 6 Inch
- 152 Ton - HMA, 13a
- 926 Syd - Topsoil Surface, Furn, 4 Inch, Modified
- 748 Syd - Mulch
- 42 Lb - Seeding, Mixture TUF
- 34 Lb - Fertilizer, Chemical Nutrient, CI A
- 178 Syd - Mulch Blanket

PLACE MULCH BLANKET AT THE BOTTOM OF
DITCH FOR THE ENTIRE LENGTH (±200').

NOTES

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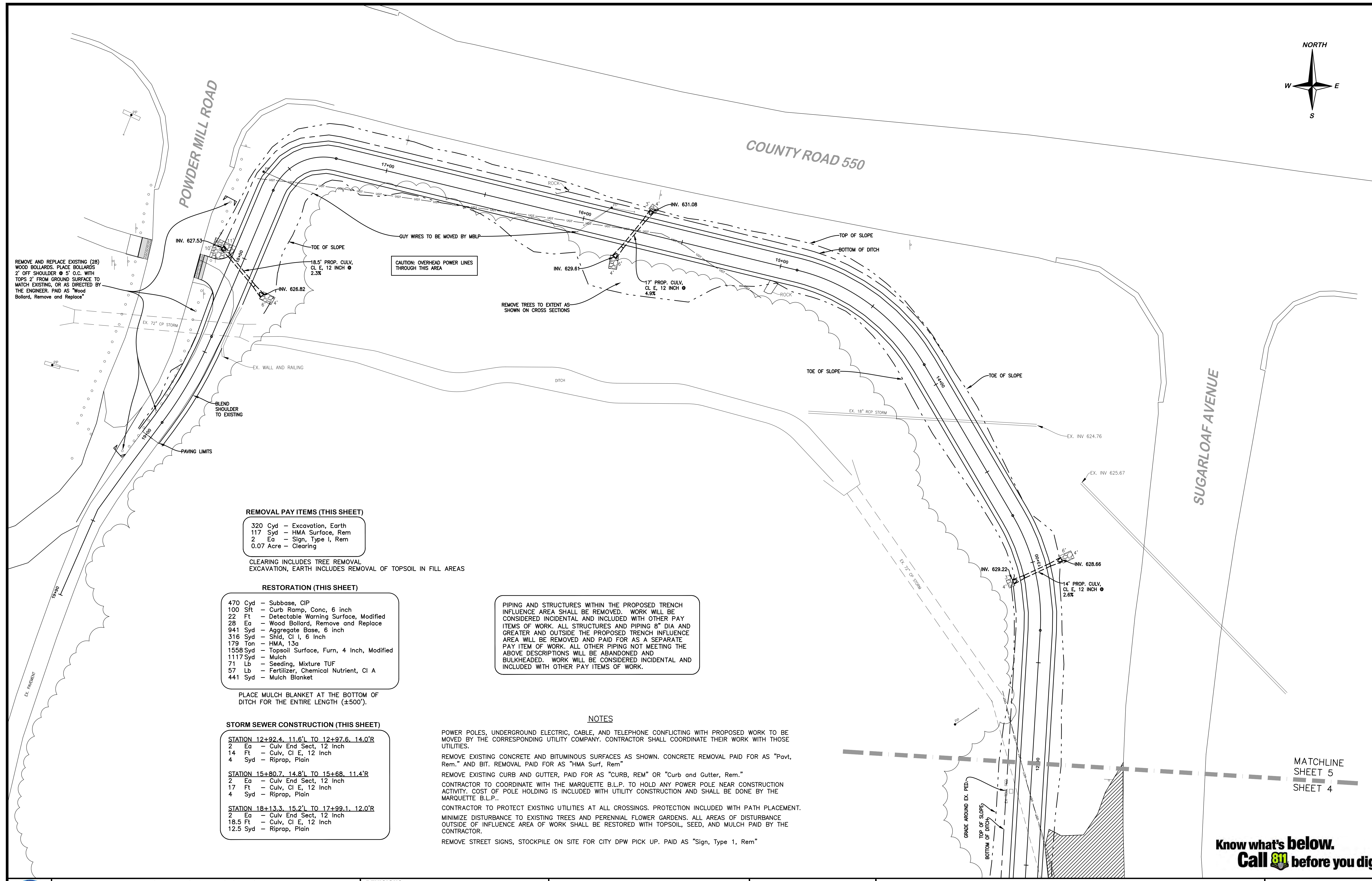
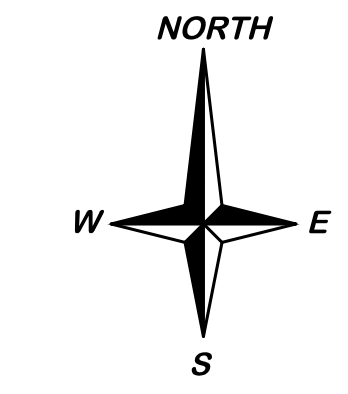
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SUGARLOAF MUTLI-USE PATH EXTENSION PROJECT
 PLAN STATION 6+00 TO 12+00

PROJECT MQ24-019
SHEET 4 OF 11



REMOVE AND REPLACE EXISTING (28) WOOD BOLLARDS. PLACE BOLLARDS 2' OFF SHOULDER @ 5' O.C. WITH TOPS 2' FROM GROUND SURFACE TO MATCH EXISTING, OR AS DIRECTED BY THE ENGINEER. PAID AS "Wood Bollard, Remove and Replace"

CAUTION: OVERHEAD POWER LINES THROUGH THIS AREA

REMOVE TREES TO EXTENT AS SHOWN ON CROSS SECTIONS

REMOVAL PAY ITEMS (THIS SHEET)

- 320 Cyd - Excavation, Earth
- 117 Syd - HMA Surface, Rem
- 2 Ea - Sign, Type 1, Rem
- 0.07 Acre - Clearing

CLEARING INCLUDES TREE REMOVAL EXCAVATION, EARTH INCLUDES REMOVAL OF TOPSOIL IN FILL AREAS

RESTORATION (THIS SHEET)

- 470 Cyd - Subbase, CIP
- 100 Sft - Curb Ramp, Conc, 6 inch
- 22 Ft - Detectable Warning Surface, Modified
- 28 Ea - Wood Bollard, Remove and Replace
- 941 Syd - Aggregate Base, 6 inch
- 316 Syd - Shld, Cl 1, 6 inch
- 179 Ton - HMA, 13a
- 1558 Syd - Topsoil Surface, Furn, 4 Inch, Modified
- 1117 Syd - Mulch
- 71 Lb - Seeding, Mixture TUF
- 57 Lb - Fertilizer, Chemical Nutrient, Cl A
- 441 Syd - Mulch Blanket

PLACE MULCH BLANKET AT THE BOTTOM OF DITCH FOR THE ENTIRE LENGTH (±500').

STORM SEWER CONSTRUCTION (THIS SHEET)

- STATION 12+92.4, 11.6'L TO 12+97.6, 14.0'R
 - 2 Ea - Culv End Sect, 12 Inch
 - 14 Ft - Culv, Cl E, 12 Inch
 - 4 Syd - Riprap, Plain
- STATION 15+80.7, 14.8'L TO 15+68, 11.4'R
 - 2 Ea - Culv End Sect, 12 Inch
 - 17 Ft - Culv, Cl E, 12 Inch
 - 4 Syd - Riprap, Plain
- STATION 18+13.3, 15.2'L TO 17+99.1, 12.0'R
 - 2 Ea - Culv End Sect, 12 Inch
 - 18.5 Ft - Culv, Cl E, 12 Inch
 - 12.5 Syd - Riprap, Plain

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- REMOVE EXISTING CURB AND GUTTER, PAID FOR AS "CURB, REM" OR "Curb and Gutter, Rem."
- CONTRACTOR TO COORDINATE WITH THE MARQUETTE B.L.P. TO HOLD ANY POWER POLE NEAR CONSTRUCTION ACTIVITY. COST OF POLE HOLDING IS INCLUDED WITH UTILITY CONSTRUCTION AND SHALL BE DONE BY THE MARQUETTE B.L.P..
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- REMOVE STREET SIGNS, STOCKPILE ON SITE FOR CITY DPW PICK UP. PAID AS "Sign, Type 1, Rem"

MATCHLINE SHEET 5 SHEET 4

Know what's below. Call 811 before you dig.



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1100 WRIGHT STREET, MARQUETTE, MI 49855
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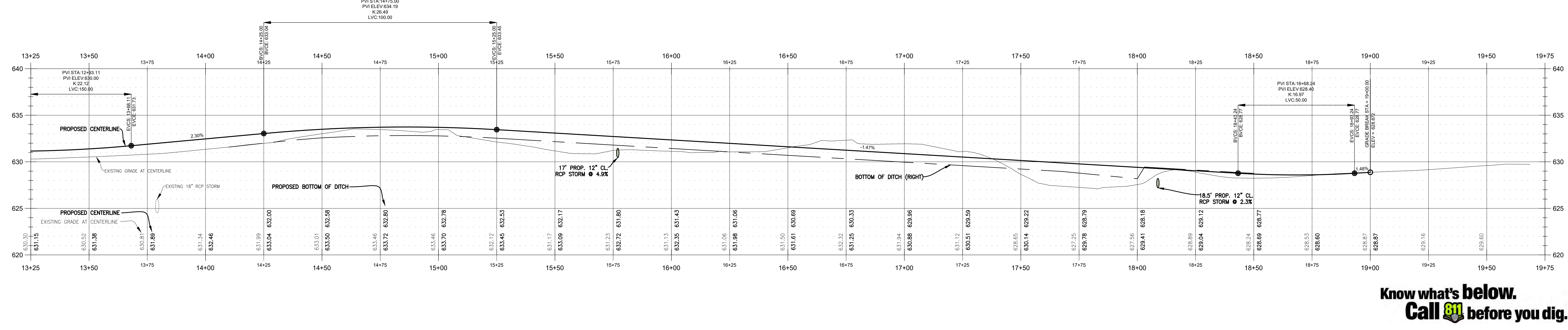
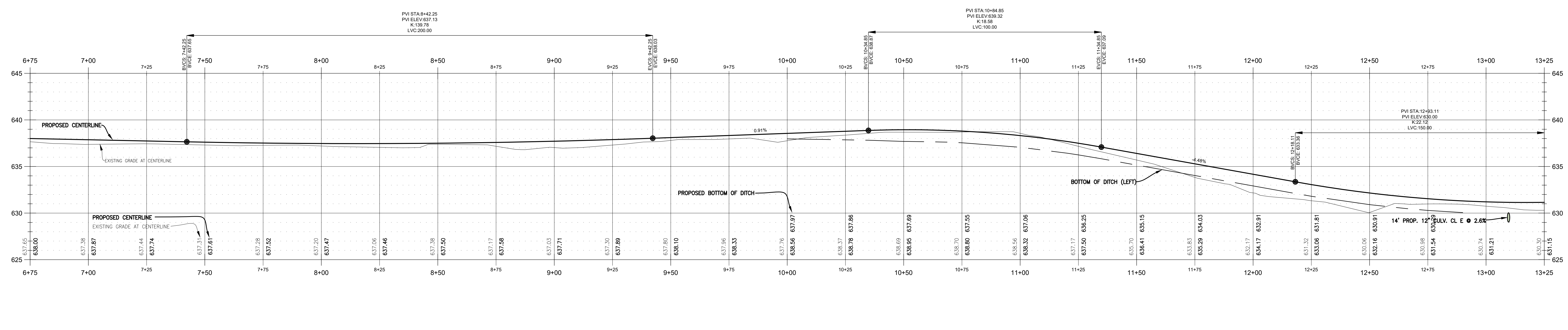
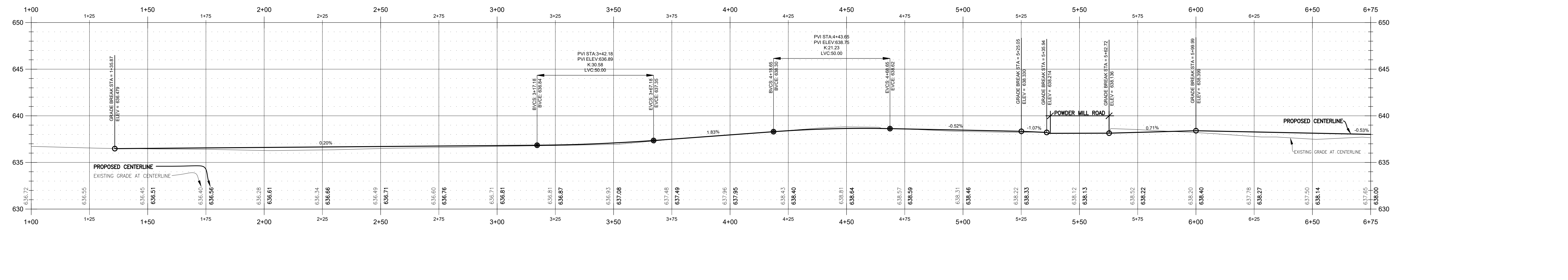
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INTERNAL REVIEW	03-04-24
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HOR. SCALE: 1" = 20'
VERT. SCALE: N.A.

SUGARLOAF MULTI-USE PATH EXTENSION PROJECT
PLAN STATION 12+00 TO 19+00

PROJECT MQ24-019
SHEET 5 OF 11



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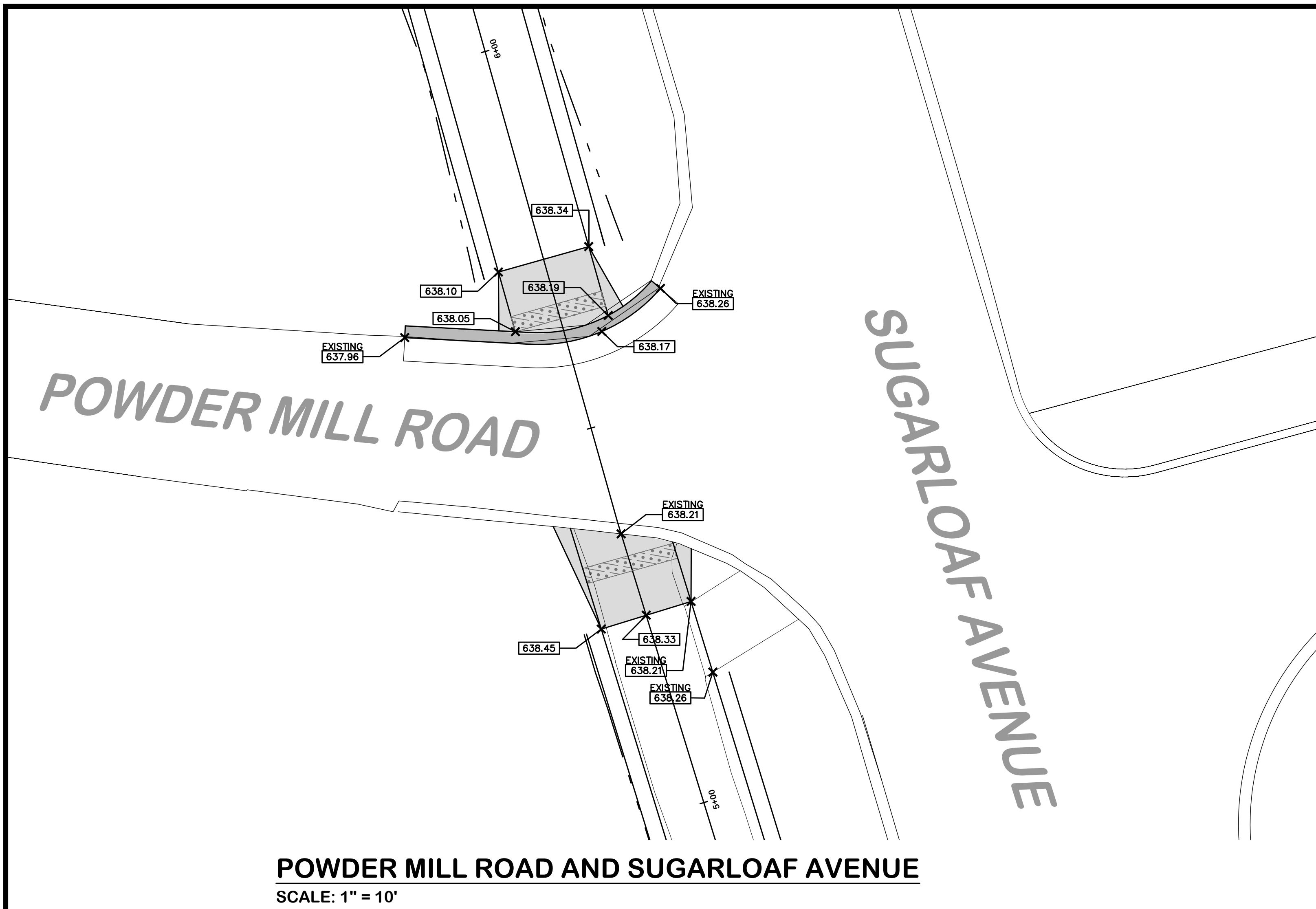
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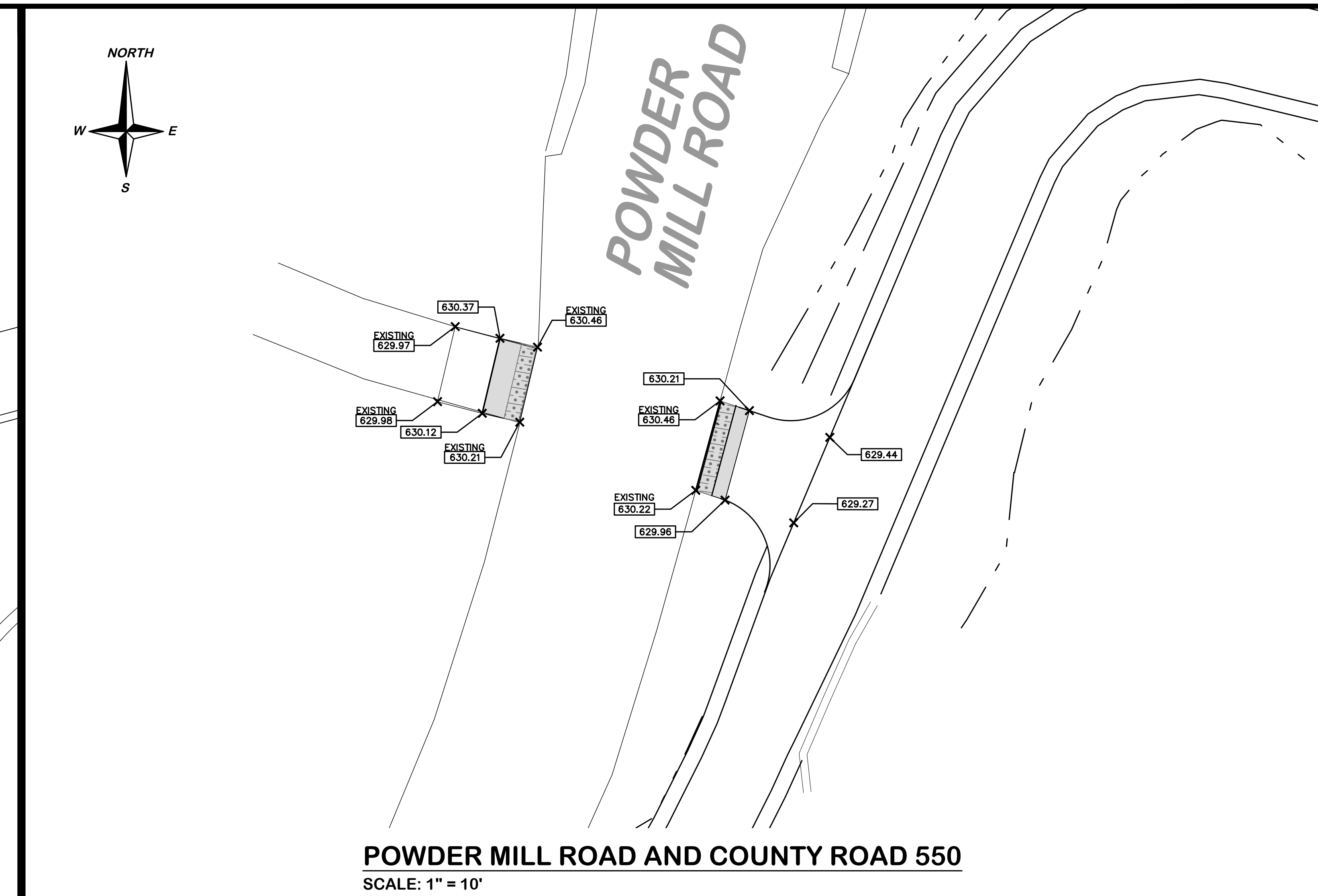
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VERT. SCALE: 1" = 5'

SUGARLOAF MULTI-USE PATH EXTENSION PROJECT
PROFILES

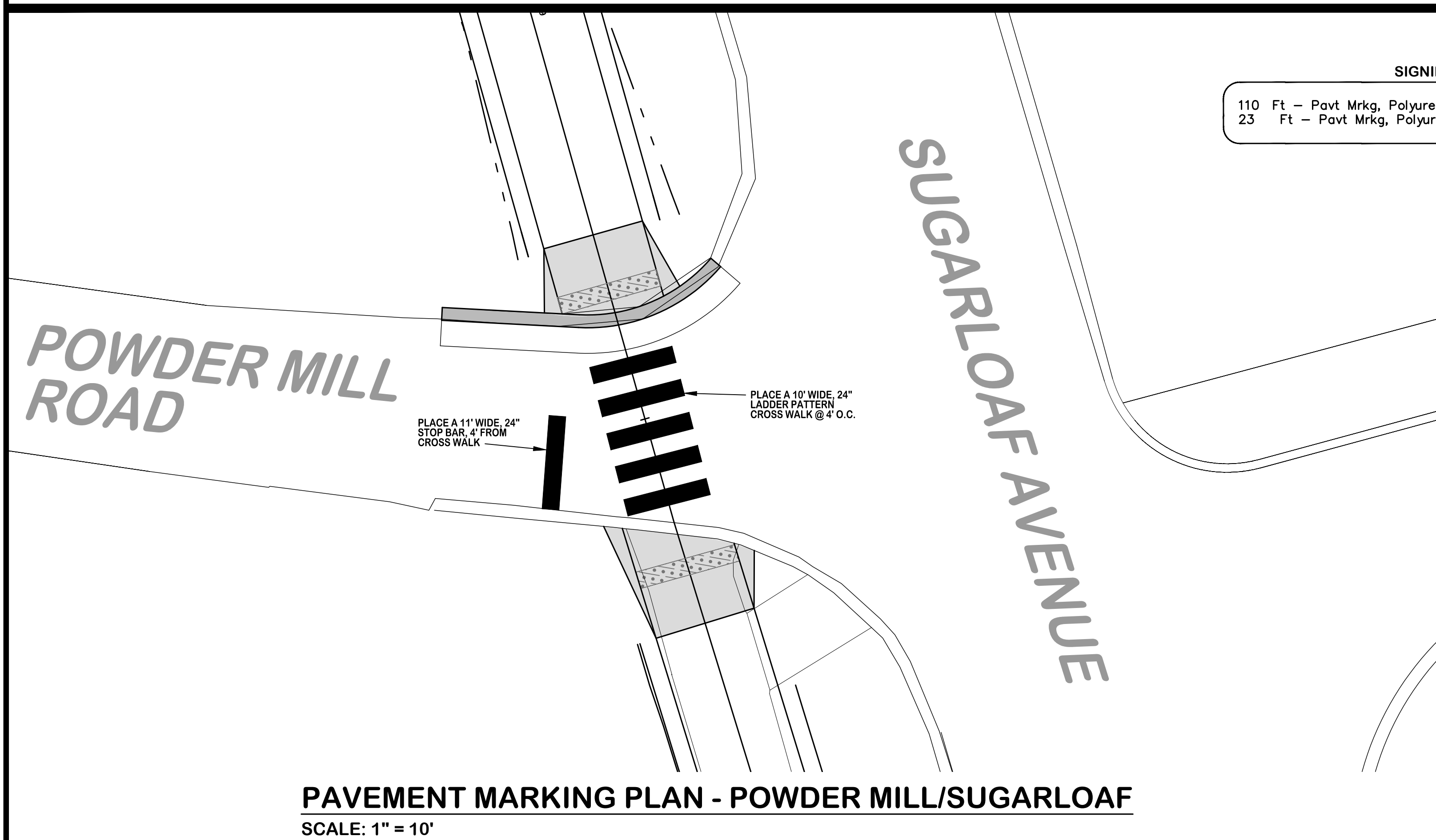
PROJECT MQ24-019
SHEET 6 OF 11



POWDER MILL ROAD AND SUGARLOAF AVENUE
SCALE: 1" = 10'



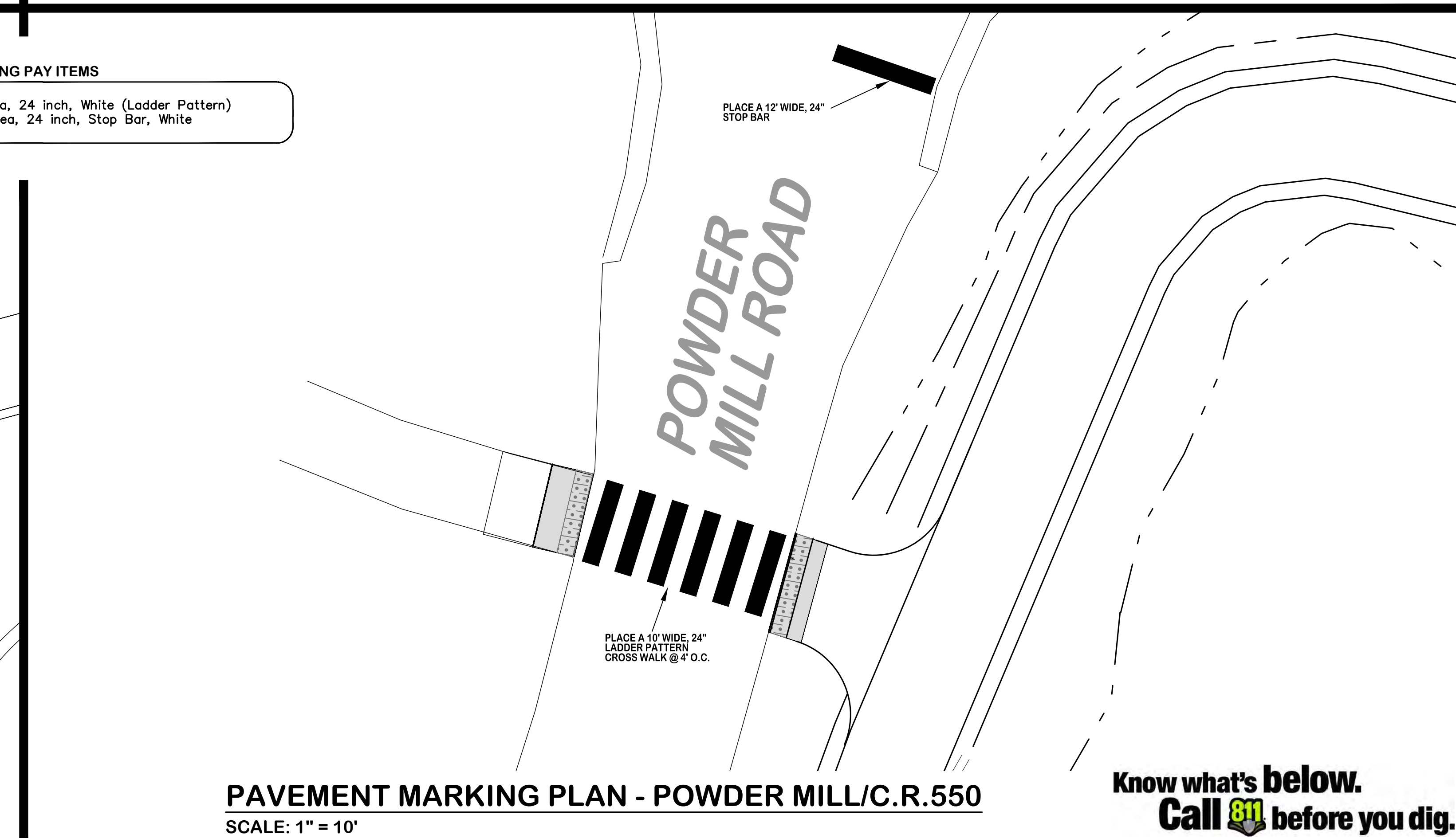
POWDER MILL ROAD AND COUNTY ROAD 550
SCALE: 1" = 10'



PAVEMENT MARKING PLAN - POWDER MILL/SUGARLOAF
SCALE: 1" = 10'

SIGNING PAY ITEMS

110 Ft - Pavt Mrkg, Polyurea, 24 inch, White (Ladder Pattern)
23 Ft - Pavt Mrkg, Polyurea, 24 inch, Stop Bar, White



PAVEMENT MARKING PLAN - POWDER MILL/C.R.550
SCALE: 1" = 10'

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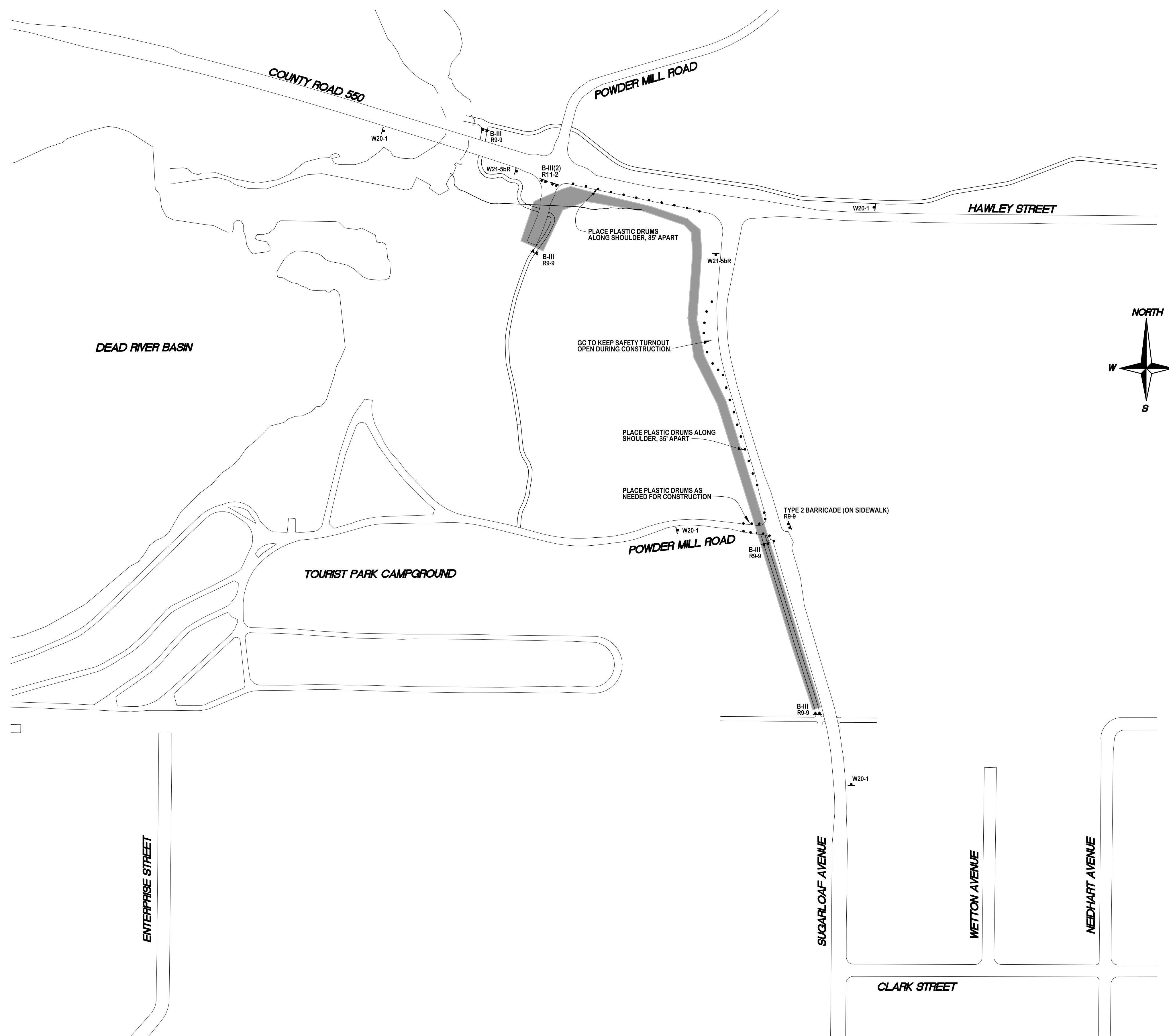
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DESIGN BY: KELLEN WESSELS P.E.
DRAWN BY: KELLEN WESSELS P.E.
DATE: MARCH 19, 2024
FILE NAME: MQ24-019 BASE.dwg

HOR. SCALE: 1" = 10'
VERT. SCALE: N/A

SUGARLOAF MULTI-USE PATH EXTENSION PROJECT
RAMP DETAILS/PAVEMENT MARKINGS

PROJECT MQ24-019
SHEET 7 OF 11



TEMPORARY SIGNING PAY ITEMS FOR ENTIRE PROJECT

50	EA	PLASTIC DRUM, FLUORESCENT, FURN
50	EA	PLASTIC DRUM, FLUORESCENT, OPER
116	SFT	SIGN, TYPE B, TEMP, PRISMATIC, FURN
116	SFT	SIGN, TYPE B, TEMP, PRISMATIC, OPER
6	EA	BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED, FURN
6	EA	BARRICADE, TYPE III, HIGH INTENSITY, DOUBLE SIDED, LIGHTED, OPER

TEMPORARY SIGNING FOR ENTIRE PROJECT

SIGN	TYPE	DESCRIPTION	MAX. NO. EACH	DIMENSIONS (INCHES)
		PLASTIC DRUM, LIGHTED	50	
B-III		BARRICADE, TYPE III, LIGHTED	6	
R9-9	IIB	SIDEWALK CLOSED	5	24x12
R11-2	IIB	STREET CLOSED	1	48x30
W20-1	IIB	ROAD WORK AHEAD	4	48x48
W21-5bR	IIB	RIGHT SHOULDER CLOSED AHEAD	2	48x48

**Know what's below.
Call 811 before you dig.**

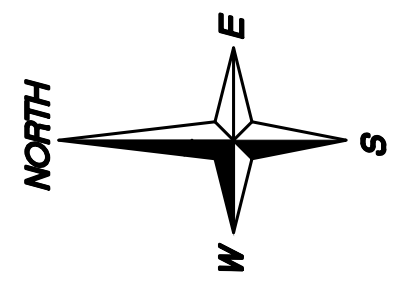


LEGEND

Street Labels

Streets

- Streets
- 🔥 Fire Hydrants
- 🚰 Water Shut Off
- ⚙️ Water Valves & Gates
- Water Lateral Lines
- Water mains
- 🏠 Water Structures
- 🟢 Storm Manholes
- 🟢 Storm Catch Basins
- Storm Pipes
- 🌊 Sewer Lift Stations
- 🏠 Sewer Clean Outs
- 🏠 Sewer System Valves
- 🟡 Sewer Manholes
- Sewer Lateral Lines
- Sewer Pressurized Mains
- Sewer Gravity Mains
- 🟡 Easements_Update
- 🟡 PROPOSED WORK



NOTE:
 THIS SCHEMATIC DRAWING IS FOR INFORMATIONAL PURPOSES ONLY. EXACT LOCATION OF VALVES, HYDRANTS, AND MANHOLES SHALL BE FIELD VERIFIED. PROPOSED WORK SHALL BE REFERENCED FROM PLAN SHEETS OF CONSTRUCTION SET OF DRAWINGS.

**Know what's below.
 Call 811 before you dig.**



**CITY ENGINEER'S OFFICE
 MARQUETTE, MICHIGAN
 1100 WRIGHT STREET, MARQUETTE, MI 49855
 PHONE (806)228-0440**

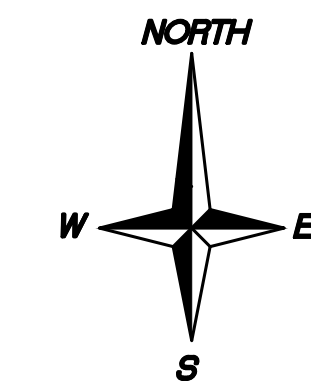
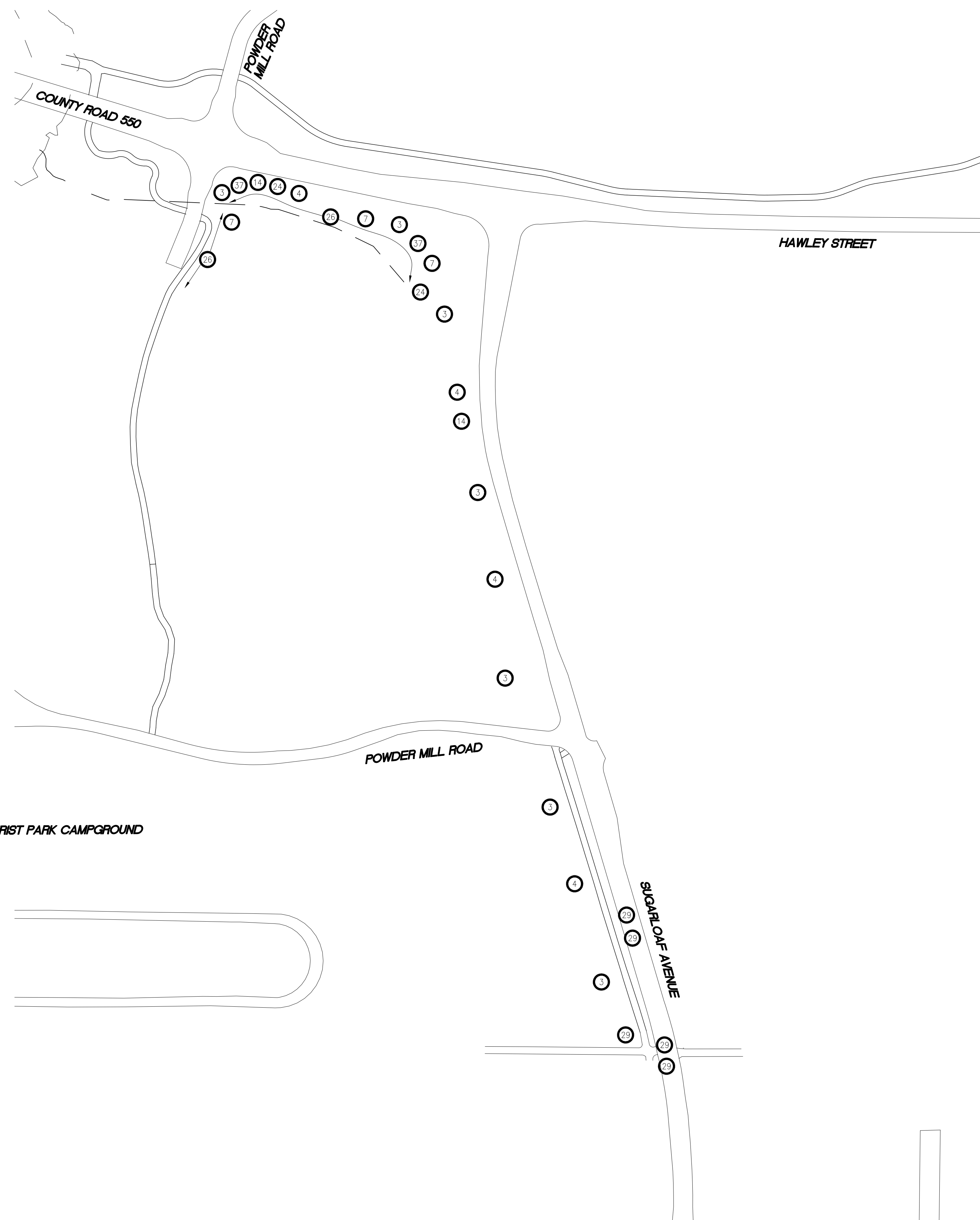
REVISIONS:	
PRELIMINARY	02-09-24
BID READY	03-11-24
BID SET	03-19-24

**DESIGN BY: KELLEN WESSELS P.E.
 DRAWN BY: D. SALMON
 DATE: MARCH 19, 2024
 FILE NAME: MQ24-019 UTILITY SCHEMATICS.dwg**

**HOR. SCALE: N.A.
 VERT. SCALE: N.A.**

**SUGARLOAF MULTI-USE PATH EXTENSION PROJECT
 UTILITY SCHEMATICS**

**PROJECT MQ24-019
 SHEET 9 OF 11**



SOIL EROSION AND SEDIMENTATION CONTROL QUANTITIES

40 FT	-	EROSION CONTROL, CHECK DAM, STONE
550 FT	-	EROSION CONTROL, SILT FENCE
3 EA	-	EROSION CONTROL, GRAVEL ACCESS APPROACH
100 EA	-	EROSION CONTROL, SAND BAG
5 EA	-	EROSION CONTROL, FILTER BAG
2 TON	-	DUST PALLIATIVE, APPLIED

NOTES:

- ALL CATCH BASINS AND STORMWATER INLETS WITHIN THE PROJECT LIMITS AS WELL AS DOWNSTREAM CATCH BASINS, SHALL HAVE SILT SACKS PLACED IN THEM. CURB HEAD OPENINGS ARE TO BE BLOCKED SUCH THAT WATER IS DEFLECTED INTO THE SILT SACK. SILT SACKS SHALL BE CLEANED OR REPLACED WHEN 1/3 FULL OF SEDIMENT. CATCH BASINS OUTSIDE OF PROJECT LIMITS THAT RECEIVE FABRIC SHALL HAVE THE CURB HEAD OPENINGS COVERED IN FABRIC AS WELL.
- STOCKPILE 100 READY TO USE SAND BAGS TO BE USED TO DIRECT STORM WATER AS DEEMED NECESSARY BY THE ENGINEER.
- CONTRACTOR IS RESPONSIBLE FOR SWEEPING SAND AND DEBRIS THAT IS TRACKED ONTO ALL ADJOINING STREETS AT THE END OF EACH WORKDAY, BEFORE RAIN EVENTS, AND AS DIRECTED BY ENGINEER. COST INCLUDED IN "EROSION CONTROL, GRAVEL ACCESS APPROACH"
- ALL DISTURBED LANDSCAPE AREA'S SHALL RECEIVE 4" TOPSOIL, SEED, AND MULCH.
- SOIL EROSION PAY ITEMS SHALL COVER THE COST OF PLACING AND REMOVING THEM, MAINTAINING THEM AND ANY RE-INSTALLATION REQUIRED DUE TO CONSTRUCTION ACTIVITY.
- SILT FENCE SHALL BE PLACED PRIOR TO EARTHWORK AND SHALL BE APPROVED BY THE ENGINEER.

APPLICABLE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES (COMPREHENSIVE DETAILS ARE LOCATED IN SECTION 6 OF THE SOIL EROSION & SEDIMENTATION CONTROL MANUAL)									
KEY	DETAIL	CHARACTERISTICS	A	B	C	D	E	F	G
3	PERMANENT/TEMPORARY SEEDING	Inexpensive but effective erosion control measure to stabilize flat areas and mild slopes. Permits runoff to infiltrate soil, reducing runoff volumes. Proper preparation of the seed bed, fertilizing, mulching and watering is critical to its success.	•	•	•	•			
4	DUST CONTROL	Dust control can be accomplished by watering, and/or applying calcium chloride. The disturbed areas should be kept to a minimum. PERMANENT/TEMPORARY SEEDING (KEY 3) should be applied as soon as possible.	•				•	•	
7	RIPRAP	Used where vegetation cannot be established. Very effective in protecting against high velocity flows. Should be placed over a geotextile liner.	•	•	•	•	•		•
14	GRAVEL ACCESS APPROACH	Provides a stable access to roadways minimizing fugitive dust and tracking of materials onto public streets and highways.						•	•
24	SAND AND STONE BAGS	Sand and stone bags are a useful tool in the prevention of erosion. Can be used to divert water around a construction site by creating a DIVERSION DIKE (KEY 10). Works well for creating a CONSTRUCTION DAM (KEY 36) and temporary culvert end fill.	•	•	•	•	•	•	•
26	SILT FENCE	A permeable barrier injected below disturbed areas to capture sediments from sheet flow. Can be used to divert small volumes of water to stable outlets. Ineffective as a filter and should never be placed across streams or ditches where flow is concentrated.	•					•	•
29	INLET PROTECTION FABRIC DROP	Provides settling and filtering of silt laden water prior to its entry into the drainage system. Can be used in median and side ditches where vegetation will be disturbed. Allows for early use of drainage systems prior to project completion.					•	•	
37	CHECK DAM	Can be constructed across ditches or any area of concentrated flow. Protects vegetation in early stages of growth. A Check Dam is intended to reduce water velocities and capture sediment. A Check Dam is not a filtering device.	•	•				•	



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BID READY	03-11-24
BID SET	

DESIGN BY: D. SALMON
 DRAWN BY: D. SALMON
 DATE: MARCH 19, 2024
 FILE NAME: MQ24-019 SESS.dwg

HOR. SCALE: 1" = 100'
 VERT. SCALE: N.A.

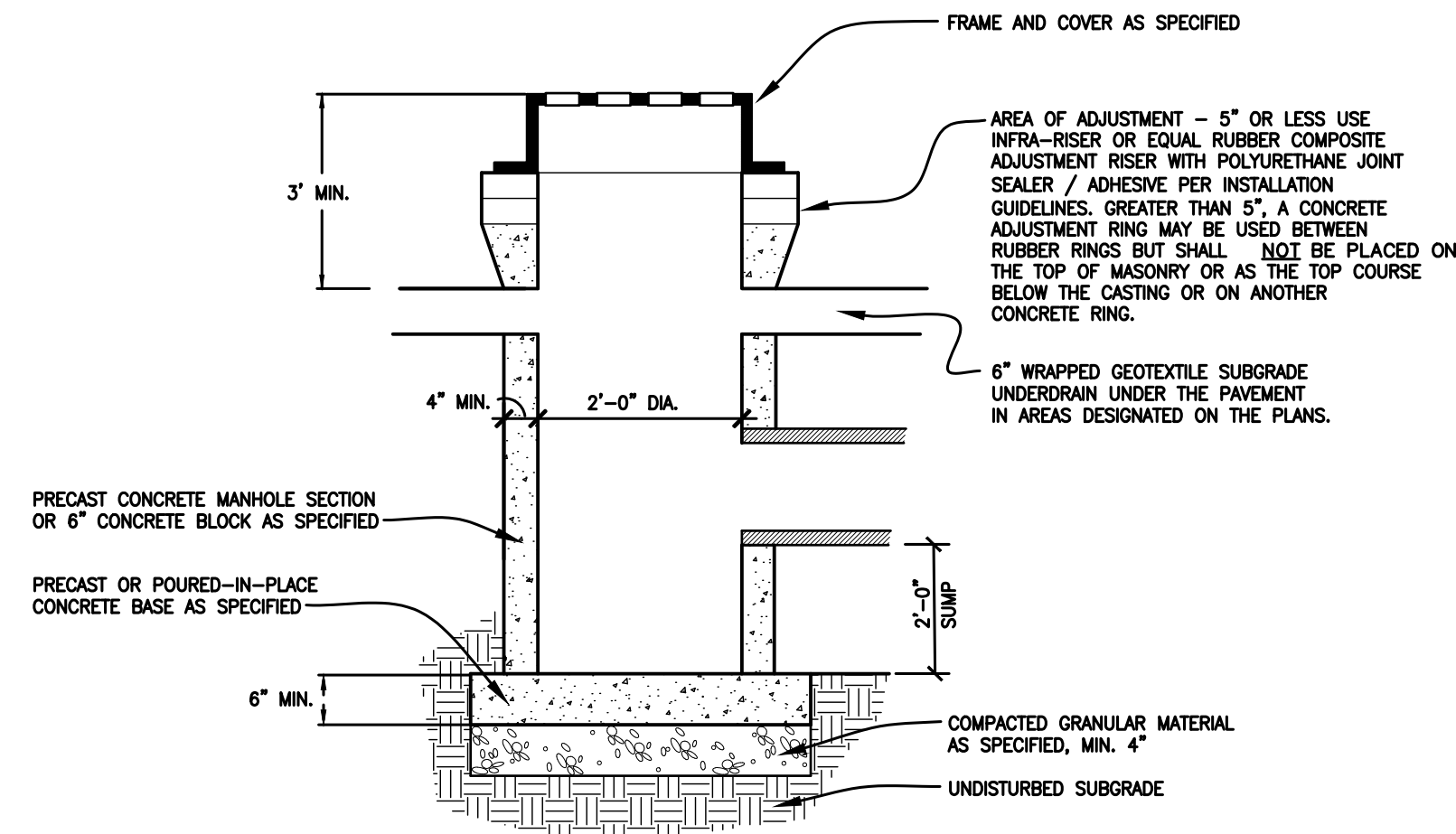
SUGARLOAF MULTI-USE PATH EXTENSION PROJECT
 SESS PLAN

PROJECT MQ24-019
SHEET 10 OF 11



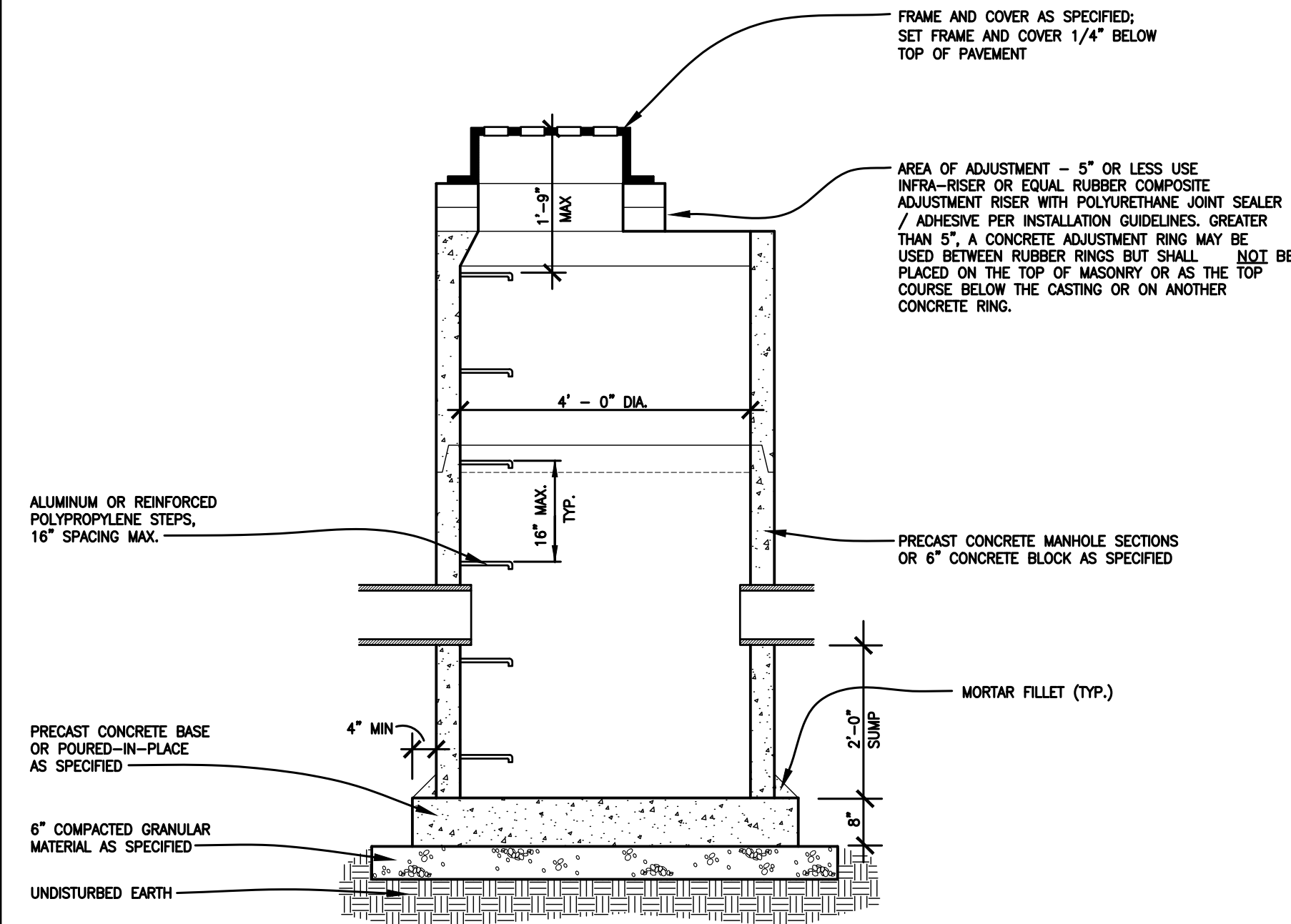
2' DIAMETER CATCH BASIN

NO SCALE

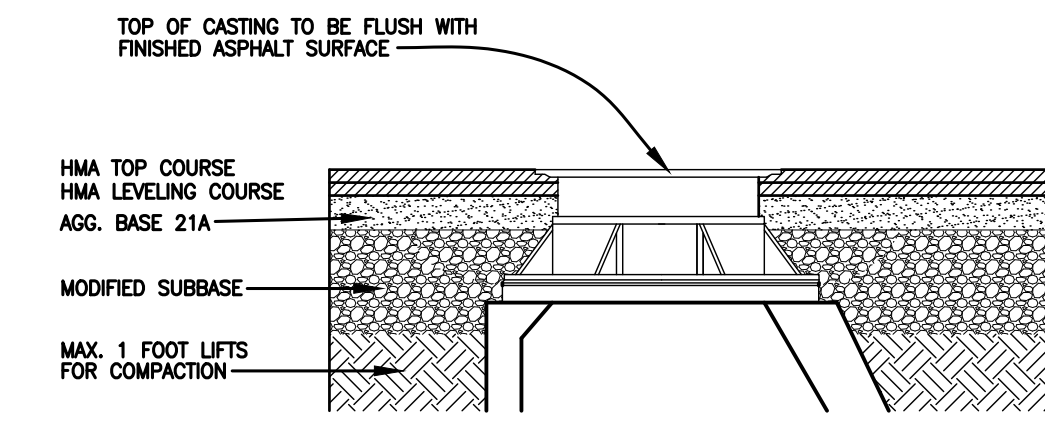


4' DIAMETER CATCH BASIN STRUCTURE

NO SCALE

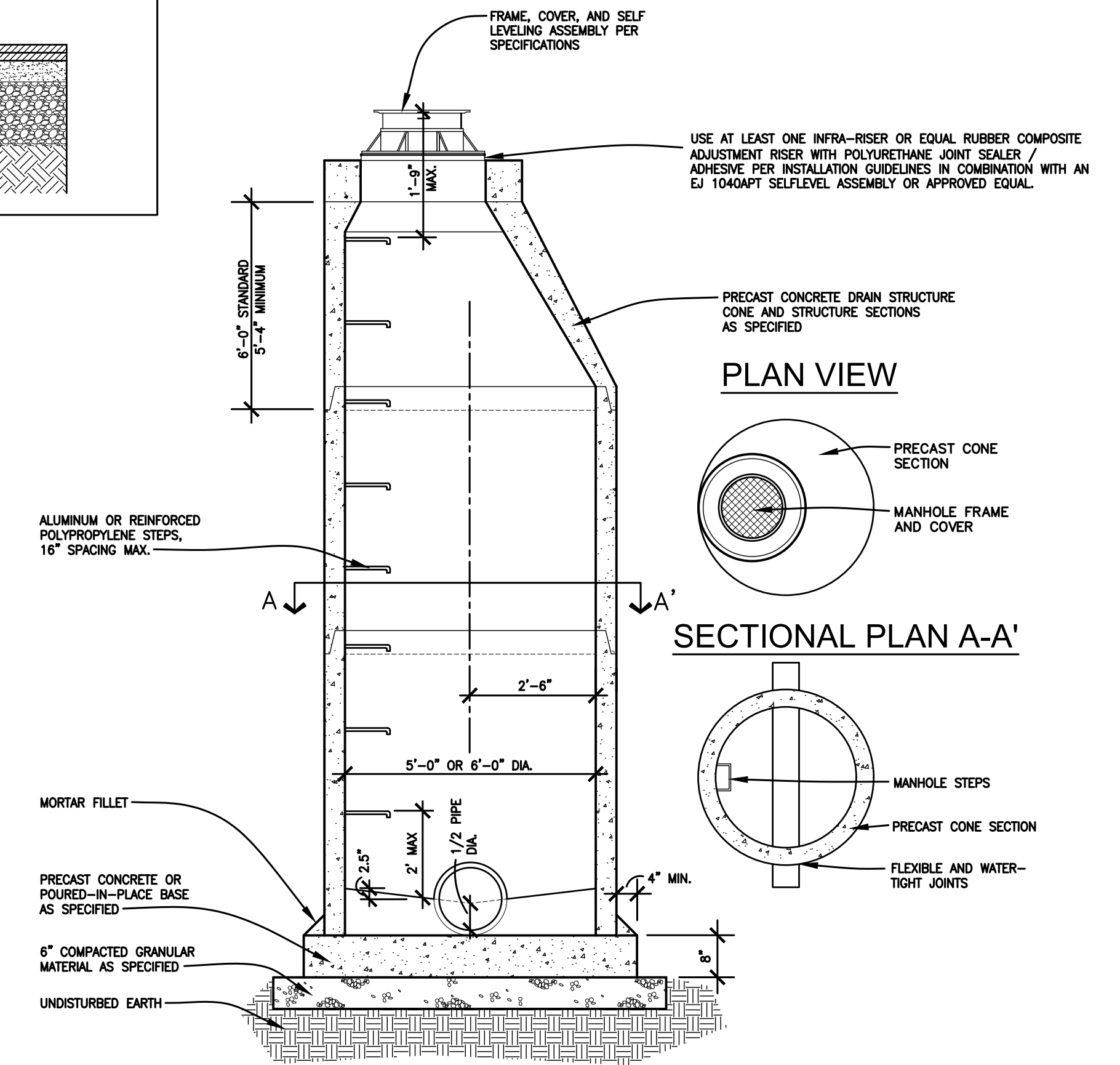


TYP. DRAIN STRUCTURE COVER INSTALLATION

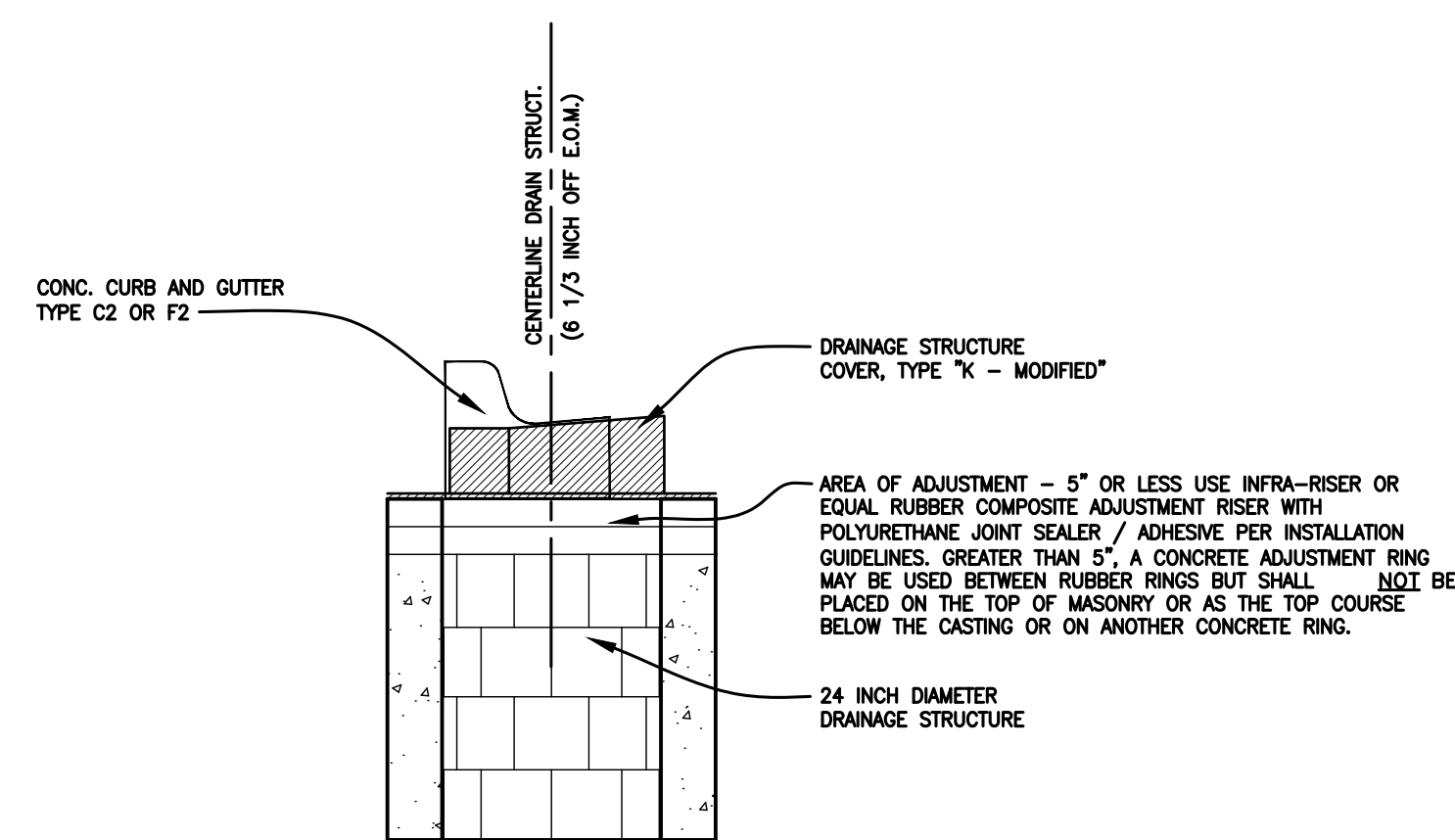


4', 5', OR 6' DIAMETER DRAIN STRUCTURE

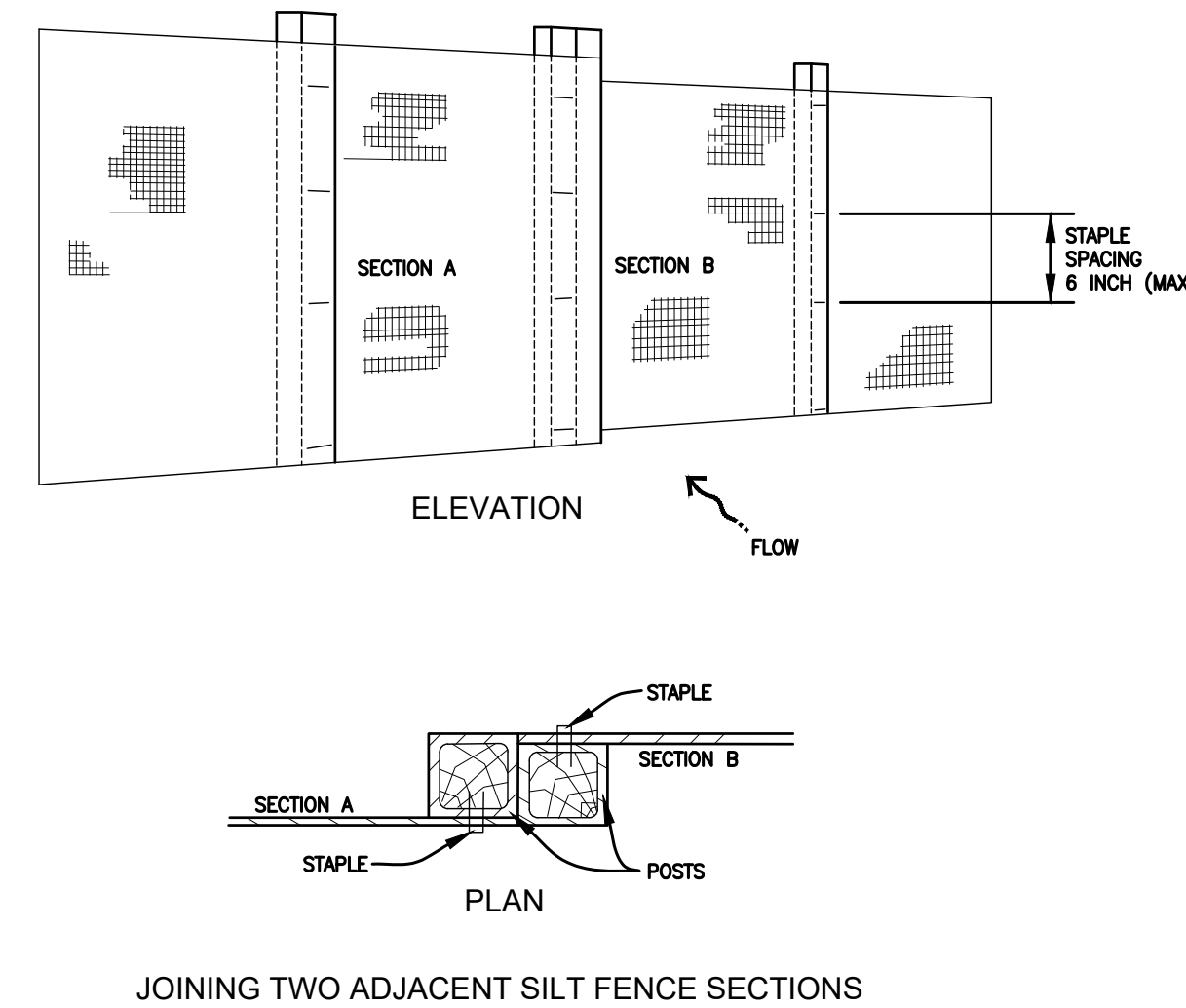
NO SCALE



CATCH BASIN DETAIL FOR C2 AND F2 CURBING

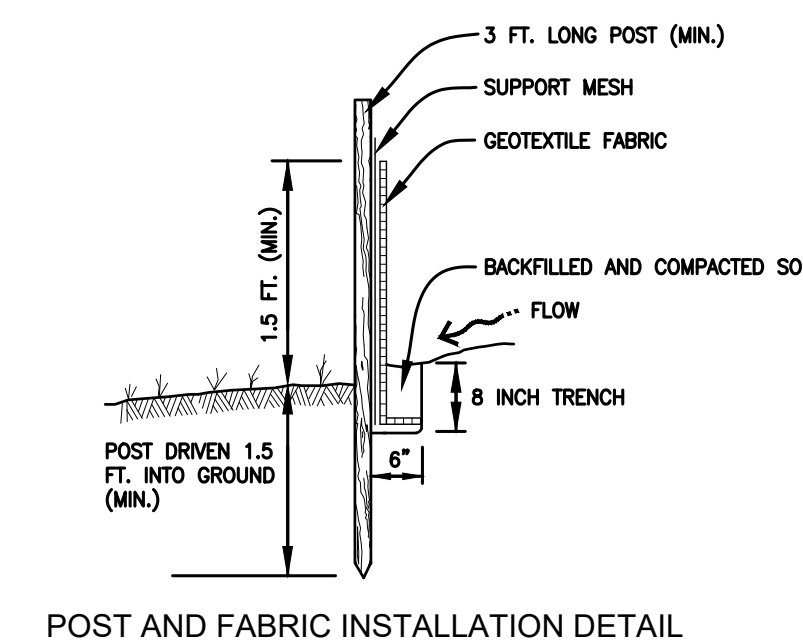
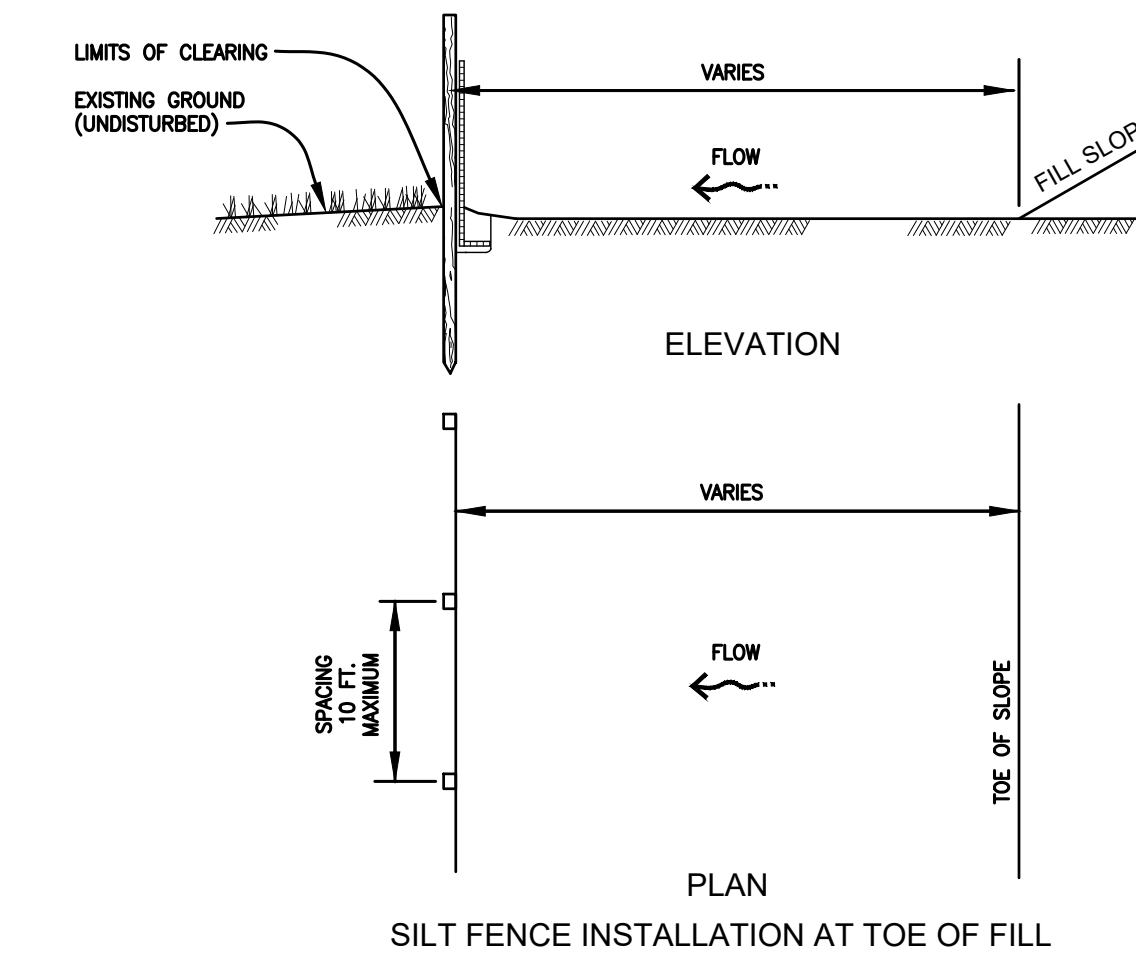


STANDARD DETAIL FOR SILT FENCE INSTALLATION



NOTE:

- DIMENSIONS NOT LABELED ARE IN INCHES
- ALTERNATE PRE-ASSEMBLED SILT FENCE OPTIONS WILL BE ALLOWED AS LONG AS SPECIFIED DIMENSIONS ARE SATISFIED. FOLLOW MANUFACTURER'S INFORMATION FOR INSTALLATION PROCEDURES.



Michigan's One-Call Utility Notification Organization

Three full days before you dig call the Miss Dig system 1-(800)-482-7171



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BID READY	03-11-24
BID SET	03-19-24

DESIGN BY: KELLEN WESSELS P.E.
DRAWN BY: D. SALMON
DATE: MARCH 19, 2024
FILE NAME: MQ24-019 STORM DETAILS.dwg

HOR. SCALE: N.A.
VERT. SCALE: N.A.

SUGARLOAF MULTI-USE PATH EXTENSION PROJECT
STORM SEWER DETAILS

PROJECT MQ24-019
SHEET 11 OF 11