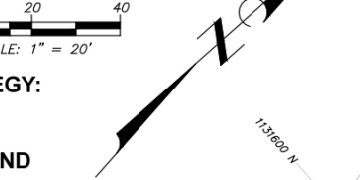


**NATIVE GRASS AND FORB MIX: POLLINATOR AND BUTTERFLY MIX**

**SCREEN PLANTINGS TO HIDE MANHOLES**

**NATIVE GRASS AND FORB MIX: POLLINATOR AND BUTTERFLY MIX**

**MAINTENANCE STRATEGY: AREA MOWED BY P&R STAFF ANNUALLY TO PROMOTE FLOWERS AND PRAIRIE PLANTS**



CONTRACTOR SHALL MONITOR WATER LEVELS IN FLAT BRANCH CREEK AND RAINFALL PREDICTIONS. CONTRACTOR TO TAKE ALL NECESSARY ACTIONS TO PREVENT FLAT BRANCH CREEK FROM BACKING UP INTO THE QUARRY HEIGHTS LAKE DUE TO CONTRACTOR'S ACTIVITIES.

**PROPOSED TREE PLANTING**

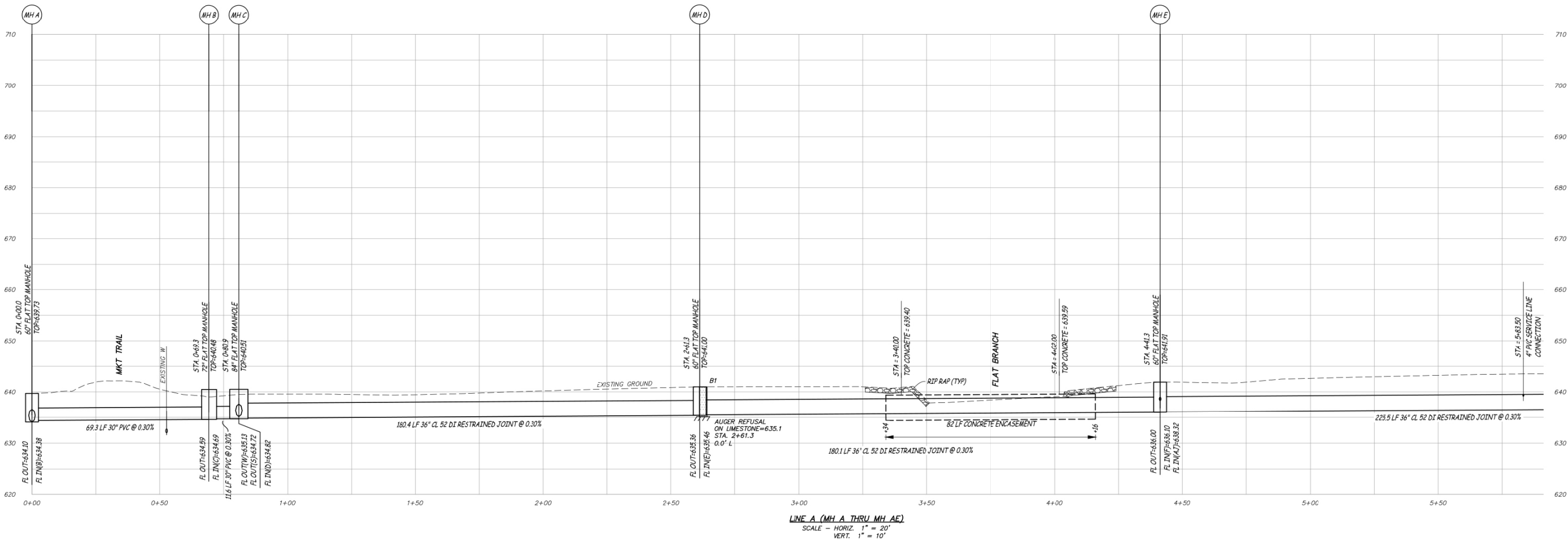
- LARGE TREES: SYCAMORE (PT), SWAMP WHITE OAK (SW), PIN OAK (PO), RED OAK (RO), SILVER MAPLE (SM), KENTUCKY COFFEE TREE (KC), CATALPA (CT), WALNUT (WT)
- SMALL TREES: RED BUD (RB), PAW PAW (PP), BUCKEYE (BE), SASSAFRAS (SA), PERSIMMON (PE), SANDBAR WILLOW (SW)
- LARGE SHRUBS: BLACKHAW VIBURNUM (BV), HAZELNUT (HN), WITCHHAZEL (WH), SMOOTH SUMAC (SS), BLACK CHOKECHERRY (BC)

**MAINTENANCE STRATEGY: AREA MOWED BY P&R STAFF ANNUALLY TO PROMOTE FLOWERS AND PRAIRIE PLANTS**

**NATIVE GRASS AND FORB MIX: POLLINATOR AND BUTTERFLY MIX**

**EXISTING WATER LINE FIELD VERIFICATION**  
CONTRACTOR SHALL FIELD VERIFY ALL EXISTING WATER LINE LOCATIONS AT PROPOSED SPLIT STEEL CASING LOCATIONS AND AT THE FLAT BRANCH STREAM CROSSING PRIOR TO INSTALLING ANY NEW SEWER PIPE OR MANHOLES.

**CONCRETE CASING NOTE**  
TOP OF PROPOSED CONCRETE CASING SHALL BE LOWER THAN THE TOP OF THE ADJACENT EXISTING CONCRETE CASING, WHEN MEASURED PERPENDICULAR TO THE PROPOSED SEWER PIPE.



**LINE A (MH A THRU MH E)**  
SCALE - HORIZ. 1" = 20'  
VERT. 1" = 10'

No.	Date	By	Revision

**FLAT BRANCH WATERSHED  
RELIEF SEWER PROJECT 1  
SANITARY SEWER PLAN & PROFILES**

City of Columbia, Missouri  
Department of Public Works

Engineering Surveys and Services  
317 W. Main Street, Suite 101  
Columbia, MO 65201  
314.744.3545  
www.ESS1.com  
Missouri Registration # 001000018



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BENJAMIN A. ROSS  
REGISTERED PROFESSIONAL ENGINEER E-30054

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**MAINTENANCE STRATEGY:  
AREA MOWED BY P&R  
STAFF ANNUALLY TO  
PROMOTE FLOWERS AND  
PRAIRIE PLANTS**

**NATIVE GRASS  
AND FORB MIX:  
POLLINATOR AND  
BUTTERFLY MIX**

**SCREEN  
PLANTINGS TO  
HIDE MANHOLES**




**POTENTIAL EDIBLE LANDSCAPING  
AREA TO BE INSTALLED BY FUTURE  
TRAIL ADOPTERS**

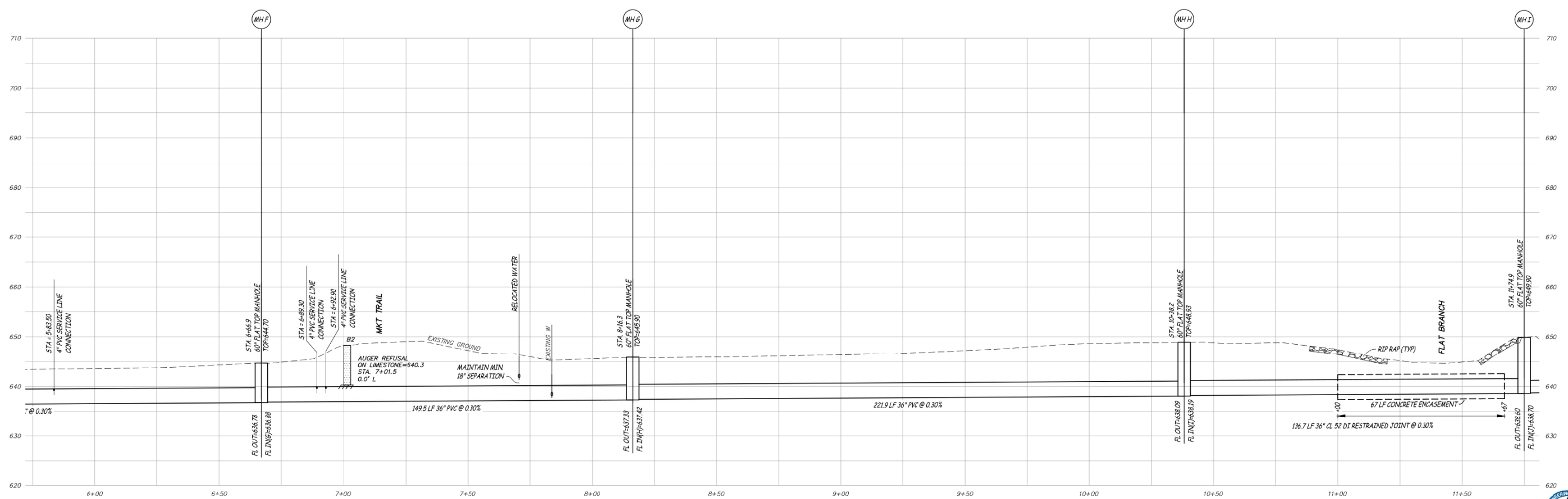
**NATIVE GRASS  
AND FORB MIX:  
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**MAINTENANCE STRATEGY:  
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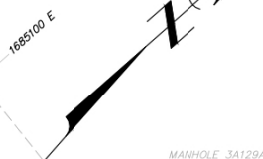
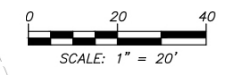
**MAINTENANCE STRATEGY: 8'  
WIDE TURF PATH MOWED BY  
P&R STAFF EVERY TIME THE  
EDGE OF THE MKT TRAIL IS  
MOWED. GOAL IS TO MAINTAIN  
ACCESS TO THE CREEK AND A  
PATH THROUGH PRAIRIE  
PLANTINGS.**

**PROPOSED TREE PLANTING**

-  **LARGE TREES:** SYCAMORE (PT), SWAMP WHITE OAK (SW), PIN OAK (PO), RED OAK (RO), SILVER MAPLE (SM), KENTUCKY COFFEE TREE (KC), CATALPA (CT), WALNUT (WT)
-  **SMALL TREES:** RED BUD (RB), PAW PAW (PP), BUCKEYE (BE), SASSAFRAS (SA), PERSIMMON (PE), SANDBAR WILLOW (SW)
-  **LARGE SHRUBS:** BLACKHAW VIBURNUM (BV), HAZELNUT (HN), WITCHHAZEL (WH), SMOOTH SUMAC (SS), BLACK CHOKECHERRY (BC)



**LINE A (MH A THRU MH AE)**  
SCALE - HORIZ. 1" = 20'  
VERT. 1" = 10'



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**FLAT BRANCH WATERSHED  
RELIEF SEWER PROJECT 1  
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**City of Columbia, Missouri**  
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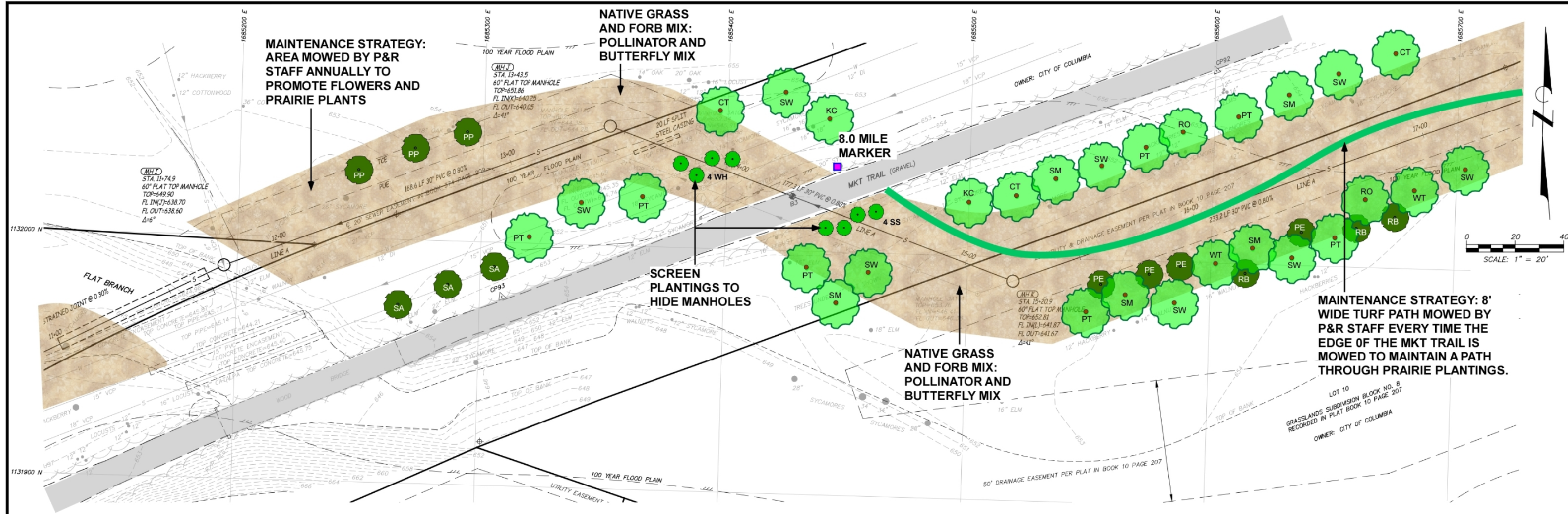
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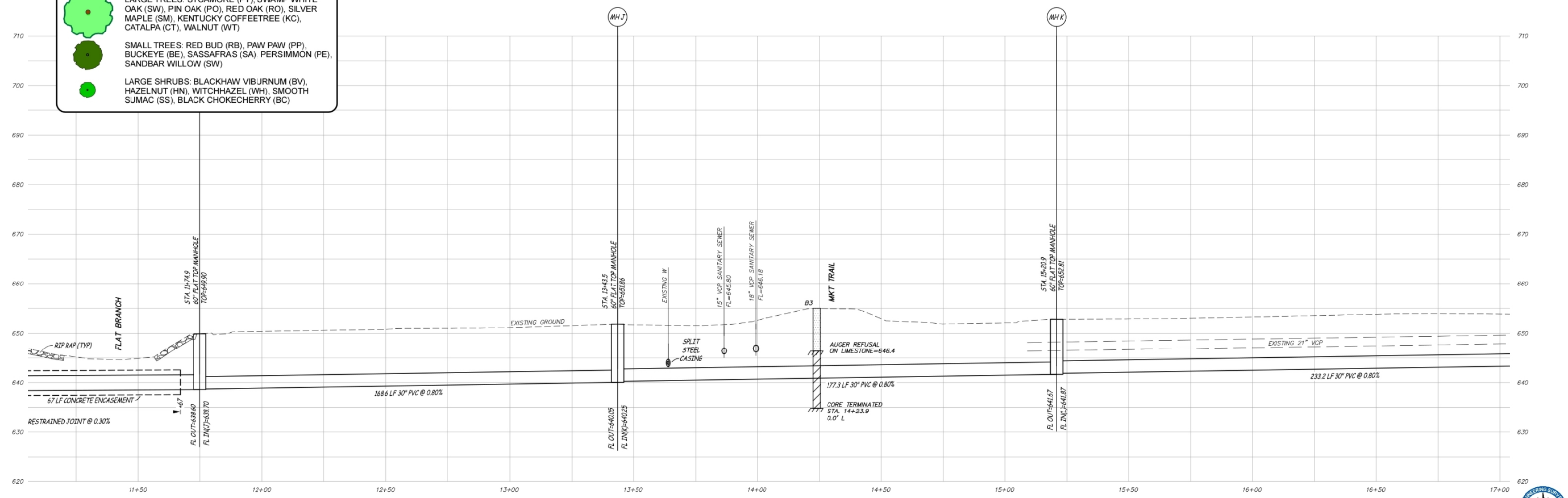
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- PROPOSED TREE PLANTING**
- LARGE TREES:** SYCAMORE (PT), SWAMP WHITE OAK (SW), PIN OAK (PO), RED OAK (RO), SILVER MAPLE (SM), KENTUCKY COFFEETREE (KC), CATALPA (CT), WALNUT (WT)
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  - LARGE SHRUBS:** BLACKHAW VIBURNUM (BV), HAZELNUT (HN), WITCHHAZEL (WH), SMOOTH SUMAC (SS), BLACK CHOKECHERRY (BC)



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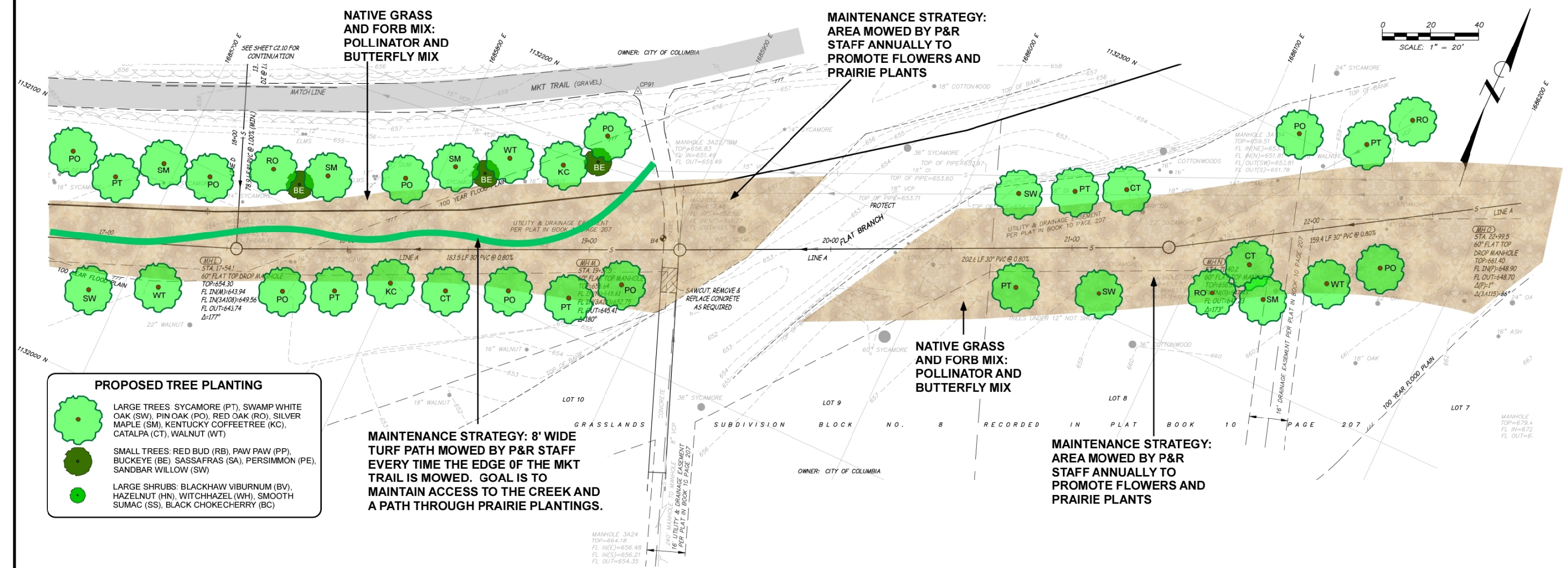
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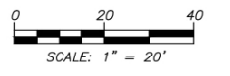


- PROPOSED TREE PLANTING**
- LARGE TREES: SYCAMORE (PT), SWAMP WHITE OAK (SW), PIN OAK (PO), RED OAK (RO), SILVER MAPLE (SM), KENTUCKY COFFEETREE (KC), CATALPA (CT), WALNUT (WT)
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**MAINTENANCE STRATEGY: 8' WIDE TURF PATH MOWED BY P&R STAFF EVERY TIME THE EDGE OF THE MKT TRAIL IS MOWED. GOAL IS TO MAINTAIN ACCESS TO THE CREEK AND A PATH THROUGH PRAIRIE PLANTINGS.**

**MAINTENANCE STRATEGY: AREA MOWED BY P&R STAFF ANNUALLY TO PROMOTE FLOWERS AND PRAIRIE PLANTS**

**MAINTENANCE STRATEGY: AREA MOWED BY P&R STAFF ANNUALLY TO PROMOTE FLOWERS AND PRAIRIE PLANTS**



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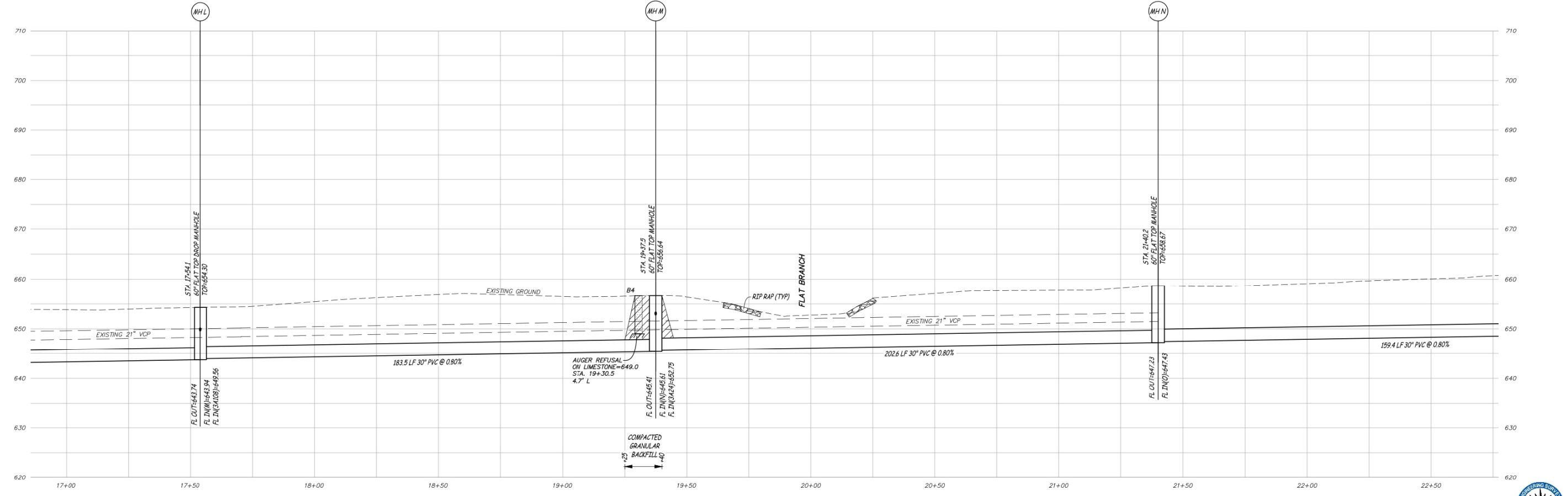


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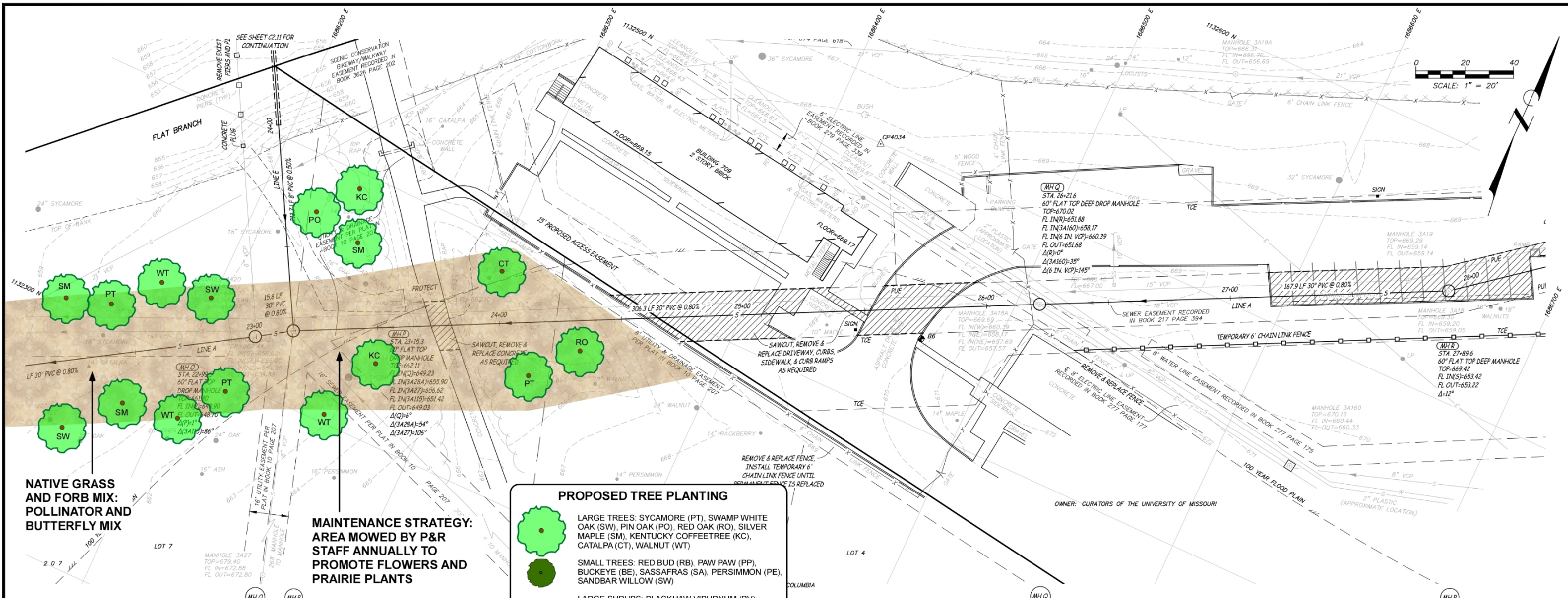
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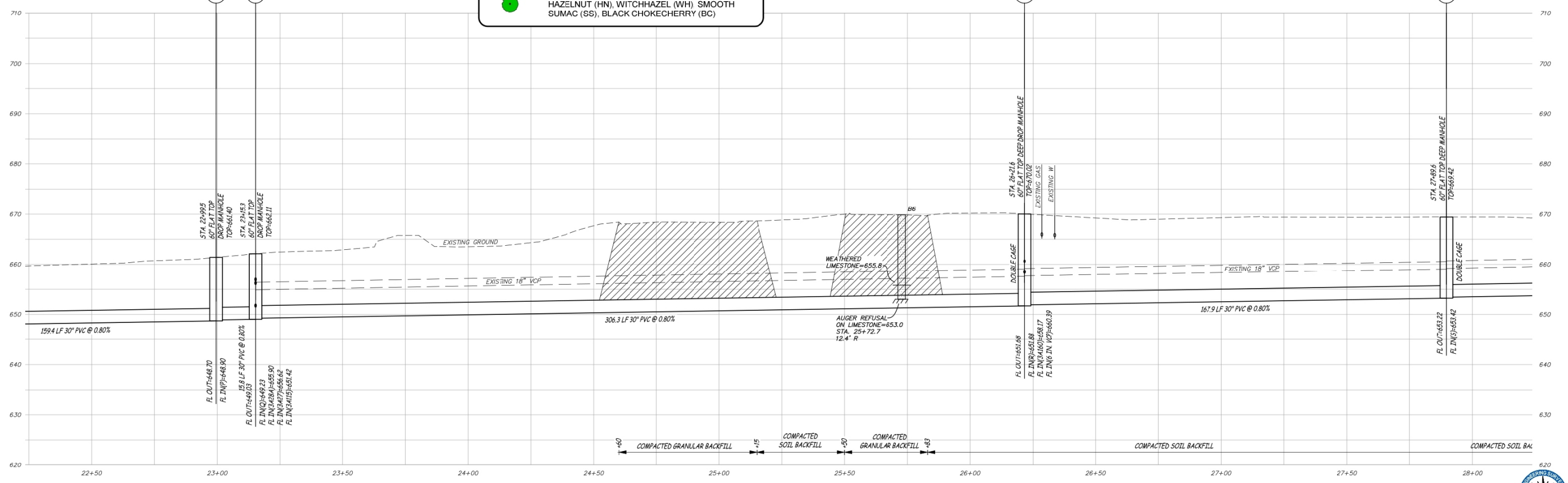


**NATIVE GRASS AND FORB MIX: POLLINATOR AND BUTTERFLY MIX**

**MAINTENANCE STRATEGY: AREA MOWED BY P&R STAFF ANNUALLY TO PROMOTE FLOWERS AND PRAIRIE PLANTS**

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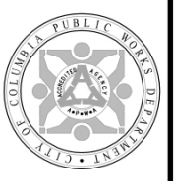
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