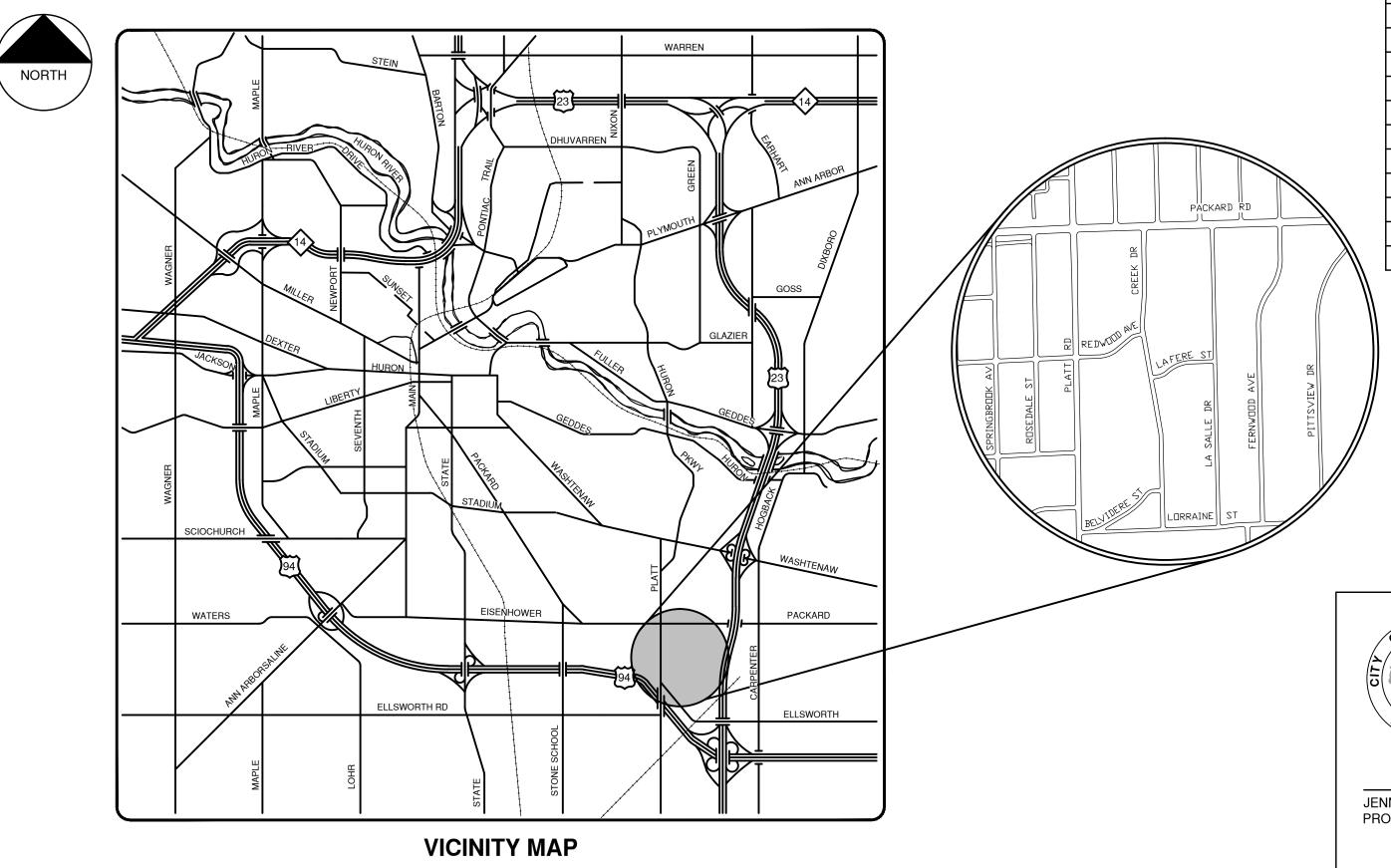


Huron River Huron River Huron Watershed HURON RIVER WATERSHED COUNCIL IN COOPERATION WITH CITY OF ANN ARBOR

GREEN INFRASTRUCTURE IN SWIFT RUN

Issued for MDEQ Submittal 07/06/16

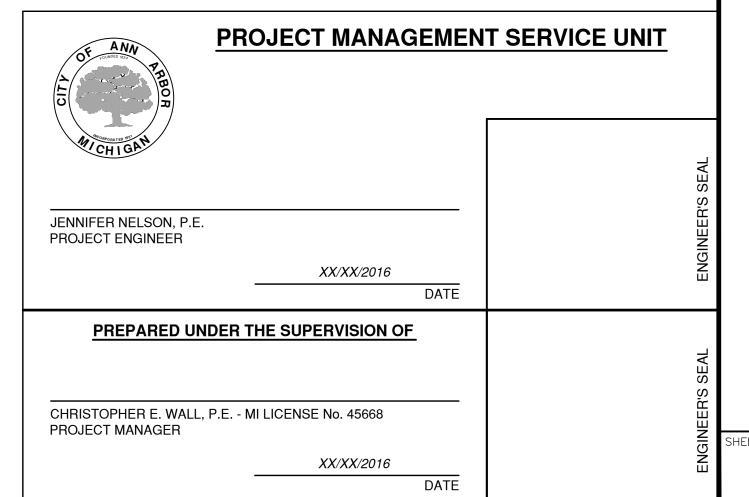


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//		

THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO THE 1994 EDITION OF THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS AND IT'S DETAILS WHICH ARE INCLUDED BY REFERENCE. THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR FROM THIS REQUIREMENT.

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 53, THE CONTRACTOR SHALL CALL 811 OR 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. 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.

THE UNDERGROUND LOCATIONS SHOWN FOR NATURAL GAS (GAS), TELEPHONE (TEL), ELECTRICAL POWER (PWR), CABLE TV (CTV) AND FIBER OPTIC LINES (FIBER) ARE APPROXIMATE. THE CITY OF ANN ARBOR ASSUMES NO RESPONSIBILITY FOR THEIR ACCURATE REPRESENTATION IN THIS DRAWING. MISS DIG MUST BE CONTACTED PRIOR TO CONSTRUCTION TO LOCATE THESE



BID RUN

PERMITS REQUIRED TO BE OBTAINED BY THE CONTRACTOR PRIOR TO THE BEGINNING OF CONSTRUCTION.

PERMIT	ISSUING AUTHORITY
LANE CLOSURE PERMIT	CITY OF ANN ARBOR PROJECT MANAGEMENT UNIT
"NO PARKING" SIGNS PERMIT	CITY OF ANN ARBOR PROJECT MANAGEMENT UNIT
GRADING/SOIL EROSION & SEDIMENTATION CONTROL PERMIT	CITY OF ANN ARBOR CUSTOMER SERVICE
RIGHT-OF-WAY PERMIT	CITY OF ANN ARBOR CUSTOMER SERVICE

PUBLIC UTILITIES	OWNER	CONTACT
WATER SEWER		DAN WOODEN (734)794-6350
STORM FORESTRY SIGNS SIGNALS	CITY OF ANN ARBOR FIELD OPERATIONS SERVICE UNIT W.R. WHEELER SERVICE CENTER 4251 STONE SCHOOL ROAD ANN ARBOR, MI 48108	KEVIN ERNST (734) 794-6350 BILL MEEKS (734) 794-6350 CHUCK FOJTIK (734) 794-6361
STREET LIGHTS		<u> </u>
PRIVATE UTILITIES	OWNER	CONTACT
GAS	DTE ENERGY 17150 ALLEN ROAD MELVINDALE, MI 48122	JAY WILLIAMS (313) 380-7303
ELECTRIC	DTE ENERGY WESTERN WAYNE SERVICE CENTER 8001 HAGGERTY ROAD BELLEVILLE, MI 48111	CLAY COMBEE (734) 397-4112
	COMCAST	RON SUTHERLAND
CABLE	27800 FRANLKIN ROAD SOUTHFIELD, MI 48034	(313) 999–8300
CABLE	27800 FRANLKIN ROAD	(313) 999–8300 (734) 996–2135

CIVIL SYMBOL LEGEND

_	JIVIL OTIVID	OL LLOLIND	•
	<u>TOPOGRAPI</u>	<u>HY — PLAN</u>	
	SHRUBS		PAVED SURFACE
			EXISTING CURB & GUTTER
	CONIFEROUS TREE		PROPOSED CURB & GUTTER
		0	CONCRETE MONUMENT
(•)	DECIDUOUS TREE	0	PROPERTY IRON
	_ EXISTING DITCH	•	SET PROPERTY IRON
*	LIGHT		LOT LINE (AS PLATTED)
	GUY ANCHOR		R.O.W. LINE
-	UTILITY POLE		SECTION LINE
\Diamond	SIGN		SECTION CORNER
	GUARD RAIL	Υ	- VALVE
×	EXISTING FENCE	.	_ HYDRANT
——×——	PROPOSED FENCE		_ HIDRANI
	GRAVEL SURFACE		PLUG
	ITICO	6" WT	R WATER MAIN
EXISTING UTIL	<u>IIIES</u>		
8" SAN SANIT	ARY SEWER & MANHOLE	2" GA	AS GAS MAIN
12" STM STOR	M SEWER & MANHOLE		— UNDERGROUND ELECTRIC
E CATC	H BASIN CURB TYPE	OP	— FIBER OPTICS
⊕ CATCI	H BASIN LAWN TYPE	TEL	— UNDERGROUND TELEPHONE
-		P	TELEPHONE PEDESTAL

<u>MISCELLANEOUS</u>



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
- 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. SUPPORTING EXISTING UTILITIES SHALL BE INCLUDED IN "SIDEWALK GRADING".
- 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 TRENCH SHALL REMAIN OPEN; ANY OPEN TRENCH SHALL BE PROPERLY SECURED WITH PROTECTIVE FENCING. THIS WORK SHALL BE INCLUDED IN THE ITEM OF WORK "MINOR TRAFFIC DEVICES".
- 6. TRENCHES FOR TRANSFERRING WATER SERVICES SHALL BI EXCAVATED TO MIOSHA AND CITY OF ANN ARBOR FIELD SERVICES REQUIREMENTS.
- 7. CITY OF ANN ARBOR FIELD SERVICES 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 SERVICES.
- 8. 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 SERVICES.
- 9. THE CONTRACTOR SHALL BACKFILL TRENCHES IN ACCORDANCE WITH TRENCH DETAIL. THIS WORK SHALL BE INCLUDED IN THE ITEM OF
- 10. TEMPORARY "NO PARKING" SIGNS SHALL BE INSTALLED BY THE CONTRACTOR AT LOCATIONS AS APPROVED OR DIRECTED BY THE FUGINFER ALL SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILED SPECIFICATIONS. THE COST OF PARKING METER BAGS TO BE INCLUDED IN PAY ITEM "MINOR TRAFFIC DEVICES".
- 11. POSTAL DELIVERY AND REFUSE PICKUP SERVICE SHALL BE MAINTAINED AT ALL TIMES BY THE CONTRACTOR.
- 12. 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
- 13. WHERE STREET CURBS ARE UNDERMINED DUE TO CONSTRUCTION ACTIVITIES, THEY SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ENGINEER.
- 14. 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. THE CONTRACTOR SHALL COMPLY WITH THE CONDITIONS AND REQUIREMENTS OF THE SOIL EROSION AND SEDIMENTATION CONTROL PERMIT, INCLUDING BUT NOT LIMITED TO, CERTIFIED STORM WATER OPERATOR REQUIREMENTS. INSTALL ALL CONTROL MEASURES PRIOR TO COMMENCING CONSTRUCTION.
- 15. ALL CURB, SIDEWALK, DRIVEWAY APPROACH REMOVALS SHALL BE APPROVED BY ENGINEER BEFORE THE WORK IS DONE.
- 16. SAWED SEWER PIPE CONNECTIONS SHALL BE COUPLED WITH A

17. THE LOCATION OF MATERIAL STOCK PILES AND ON-SITE STAGING

FERNCO FLEXIBLE COUPLING AND A STAINLESS STEEL SHEAR RING.

ANY MODIFICATIONS OR

SOIL EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL IMPLEMENT AND

MAINTAIN THE SOIL EROSION CONTROL

MEASURES AS SHOWN ON THE PLANS AT

ALL TIMES DURING CONSTRUCTION ON THIS

ADDITIONS TO THE SOIL EROSION CONTROL

WITH AS REQUIRED OR DIRECTED BY THE

OWNER, PROJECT ENGINEER, OR THE CITY

OF ANN ARBOR. THE CONTRACTOR IS

REQUIRED TO OBTAIN A SOIL EROSION

2. ALL SOIL EROSION AND SEDIMENTATION

3. DAILY OR AFTER STORM EVENTS INSPECTIONS

SHALL BE MADE BY THE CONTRACTOR.

PERIODIC INSPECTIONS MAY BE MADE BY

THE OWNER/PROJECT ENGINEER TO

DETERMINE THÉ EFFECTIVENESS OF EROSION

AND SEDIMENTATION CONTROL MEASURES.

ANY NECESSARY CORRECTIONS SHALL BE

MADE WITHOUT DELAY, AND WITHOUT

4. EROSION AND SEDIMENTATION FROM WORK

5. ALL MUD/DIRT TRACKED ONTO ROADS FROM

THE SITE DUE TO CONSTRUCTION, SHALL BE

PROMPTLY REMOVED BY THE CONTRACTOR.

IF SO ORDERED, THE CONTRACTOR SHALL

EMPLOY A MECHANICAL STREET SWEEPER AT

6. RESTORATION OF ALL DISTURBED AREAS,

INCLUDING PLACEMENT OF TOPSOIL, SEED,

FERTILIZER AND MULCH AND/OR SOD SHALL BE DONE WITHIN 5 DAYS OF THE

7. CONSTRUCTION OPERATIONS SHALL BE

SCHEDULED AND PERFORMED SO THAT

PREVENTATIVE SOIL EROSION CONTROL EXCAVATION IN CRITICAL AREAS AND

ANY OFF-SITE AREAS OR WATERWAYS.

NO ADDITIONAL COST TO THE OWNER.

COMPLETION OF FINAL GRADE

ON THE SITE SHALL BE CONTAINED ON THE

SITE AND NOT BE ALLOWED TO COLLECT ON

ADDITIONAL COST TO THE OWNER.

CONTROL WORK SHALL CONFORM TO THE

PERMIT REQUIREMENTS OF THE CITY OF ANN

ARBOR, CHAPTER 63, AND THE LAWS OF

AREA EXCEEDS 1 ACRE.

THE STATE OF MICHIGAN.

CONTROL PERMIT ANYTIME THE DISTURBED

MEASURES DUE TO CONSTRUCTION OR CHANGED CONDITIONS SHALL BE COMPLIED

<u>GENERAL</u>

AREAS TO BE APPROVED BY THE ENGINEER. AT NO TIME SHALL THE CONTRACTOR BE ALLOWED TO STORE MATERIALS OR EQUIPMENT ON BARTON DRIVE OR SCIO CHURCH ROAD. SWEEP BARTION AND SCIO CHURCH REGULARLY TO AND VACUUM ENTIRE STREET AFTER PROJECT COMPLETION.

- 18. 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.
- 19. ALL STRUCTURES SHALL RECEIVE NEW CASTINGS AS DIRECTED BY THE ENGINEER, EITHER TYPE B OR TYPE K, OR 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.
- 20. PAYMENT FOR DRAINAGE STRUCTURE SUMPS, WHERE SPECIFIED, SHALL BE INCLUDED IN THE PAYMENT FOR THE VARIOUS DRAINAGE STRUCTURE SIZES AND OR TYPES.
- 21. 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 TO PROPOSED PAVEMENT.

CONTRACTOR SHALL:

TEMPORARY STABILIZATION MEASURES ARE IN

PLACE IMMEDIATELY FOLLOWING BACKFILLING

8. SPECIAL PRECAUTIONS WILL BE TAKEN IN

MAINTAINED DURING CONSTRUCTION BY USE

OF WATER TRUCKS AND/OR CHLORIDE AS

FOR MAINTAINING ALL TEMPORARY SOIL

EROSION CONTROL MEASURES AND REMOVAL

OF THE PROJECT. COMPLETION OF PROJECT

WILL NOT BE AUTHORIZED UNTIL ALL SITE

WORK AND UTILITY CONSTRUCTION IS

COMPLETE AND ALL SOILS ARE STABILIZED.

11. THE CONTRACTOR SHALL NOT GRADE INTO

ADJACENT PROPERTIES. SILT FENCE SHALL

GRADING, EROSION AND SEDIMENTATION INTO

BE INSTALLED AND MAINTAINED TO PREVENT

12. TREE PROTECTION FENCING MUST REMAIN

1. INSTALL SILT FENCE, TREE PROTECTION

2. INSTALL INLET FILTERS IMMEDIATELY

FOLLOWING INSTALLATION OF PROPOSED

3. CONTRACTOR TO CONTINUALLY MAINTAIN

EROSION AND SEDIMENTATION CONTROL

MEASURES, AS REQUIRED TO ALLOW

DRAINAGE AND SEDIMENT REMOVAL. REMOVE

4. STRIP AND CLEAR - MAINTAIN EROSION

FENCING AND INLET FILTERS ON EXISTING

STORM INLETS PRIOR TO ANY CLEARING OR

SEQUENCE OF EROSION CONTROL MEASURES:

EARTH MOVING OPERATION.

STORM DRAINAGE SYSTEM.

ANY ACCUMULATED SEDIMENT.

INTACT UNTIL RESTORATION OF THE SITE IS

OF SOME UPON AUTHORIZED COMPLETION

REQUIRED OR AS DIRECTED BY ENGINEER.

10. THE CONTRACTOR SHALL BE RESPONSIBLE

OPERATIONS.

EROSION.

- 1. TAKE ALL PRECAUTIONS TO SUPPORT UTILITY POLES, COORDINATE WITH APPROPRIATE UTILITY COMPANIES AND MINIMIZE SCHEDULE
- 2. COMPLETE ALL WORK IN ACCORDANCE WITH APPLICABLE LOCAL. STATE AND FEDERAL CODES, RULES AND REGULATIONS. OBTAIN ALL NECESSARY LOCAL, STATE AND FEDERAL PERMITS AND PAY PERMIT FEES FOR THE WORK OR CONFIRM REQUIRED PERMITS HAVE BEEN OBTAINED BY OTHERS PRIOR TO COMMENCING CONSTRUCTION.
- 3. BE RESPONSIBLE AT ALL TIMES FOR SITE SAFETY IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY AUTHORITY HAVING JURISDICTION.
- 4. CALL MISS DIG @ 1-800-482-7171 AT LEAST 3 WORKING DAYS PRIOR TO ANY EXCAVATION TO CONFIRM THE LOCATIONS OF EXISTING BURIED UTILITIES. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE PART OF THE "MISS DIG" ALERT SYSTEM. COORDINATE THE RELOCATION OF EXISTING UTILITIES WITH THE UTILITY OWNER. BE RESPONSIBLE FOR PROTECTING EXISTING UTILITIES AND REPAIRING DAMAGE TO EXISTING UTILITIES RESULTING FROM THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COSTS OF REPAIRING OR REPLACING ANY DAMAGED UTILITIES AT NO EXPENSE TO THE
- PROVIDE TRAFFIC CONTROL BARRICADES, SIGNS, LIGHTS, ETC. IN ACCORDANCE WITH THE LATEST EDITION OF THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PART 6 AS NECESSARY FOR THE PROTECTION AND SAFETY OF THE PUBLIC. MAINTAIN THESE DEVICES AT ALL TIMES DURING CONSTRUCTION.
- 6. MAINTAIN A CLEAN WORK AREA. THOROUGHLY CLEAN AND/OR SWEEP STREETS AND ROADWAYS AS NEEDED AND AS REQUIRED BY THE ENGINEER.
- MAINTAIN ACCESS TO PROPERTIES AND FOR POSTAL SERVICE DURING CONSTRUCTION. COORDINATE WITH THE APPROPRIATE JURISDICTIONAL AUTHORITIES. CONDUCT OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS AND OTHER ADJACENT OCCUPIED OR USED FACILITIES. ANY CLOSURE REQUIRES PERMISSION FROM ENGINEER AND COORDINATION WITH PROPERTY OWNERS AND RESIDENTS.
- 8. RESTORE ALL DISTURBED AREAS NOT COVERED BY OTHER SURFACE TREATMENT WITH 4" TOPSOIL, SEED, FERTILIZER AND MULCH BLANKETS.
- 9. PROTECT EXISTING SITE IMPROVEMENTS AND LANDSCAPING FROM DAMAGE. RESTORE/REPLACE DAMAGED IMPROVEMENTS AND LANDSCAPING TO ORIGINAL CONDITION ACCEPTABLE TO THE ENGINEER.
- 10. PROTECT TREES AND SHRUBS FROM DAMAGE DURING CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

5. ROUGH GRADE

- CONTROL MEASURES AROUND TEMPORARY STOCK PILES.
- THE USE OF CONSTRUCTION EQUIPMENT TO 6. INSTALL STORMWATER MANAGEMENT SYSTEM. PREVENT SITUATIONS THAT PROMOTE 7. CONNECT STORMWATER MANAGEMENT SYSTEM.
- 9. PROPER DUST CONTROL SHALL BE 8. ENSURE ALL SOIL IS STABILIZED. REMOVE ALL TEMPORARY SOIL EROSION CONTROL MEASURES.

TEMPORARY SEEDING:

- 1. SEED IN ACCORDANCE WITH PROJECT DRAWINGS AND SPECIFICATIONS.
- 2. ANY DISTURBED AREA NOT PAVED, SEEDED, MULCHED, SODDED OR BUILT UPON BY NOVEMBER 15TH OR JUNE 30TH IS TO BE TEMPORARILY STABILIZED SPECIFICATIONS.

- 1. DURING CONSTRUCTION, ALL ROADS SHALL BE PROTECTED FROM UNVEGETATED AREAS WASHING ONTO ROAD SURFACE BY PLACEMENT OF SILT FENCE BEHIND CURB OR A 10 FOOT WIDE STRAW MULCH BANK BEHIND CURB OR OTHER APPROVED METHOD AND/OR AS SHOWN ON THE PLANS.
- 2. DURING CONSTRUCTION OF ANY PORTION OF THE PROJECT, ADJOINING ROADS SHALL BE MAINTAINED FREE OF DIRT, SILT AND CONSTRUCTION DEBRIS. CONTRACTOR REQUIRED TO USE VACUUM SWEEPER EQUIPMENT FOR CLEANING CONSTRUCTION SITE AND ADJOINING ROADS. THE USE OF BROOM SWEEPER IS NOT PERMITTED.

CATCH BASIN/MANHOLE PROTECTION:

1. PROTECT STORM SEWER CATCH BASINS WITH APPROVED INLET FILTERS.

- 11. REFER DISCREPANCIES TO THE ENGINEER FOR CLARIFICATION.
- 12. ALL REMOVED MATERIALS ARE THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE NOTED IN CONTRACT DOCUMENTS OR AS DIRECTED BY THE ENGINEER. CLEANUP AND DISPOSE OF ALL EXCESS MATERIALS OFF SITE AT A LOCATION DESIGNATED FOR THIS USE AND IN ACCORDANCE WITH LOCAL REGULATIONS OR AT AN ON SITE LOCATION DESIGNATED BY THE OWNER.
- 13. USE (2) TWO BENCHMARKS FOR VERIFICATION OF ALL CONSTRUCTION ELEVATIONS. SET ADDITIONAL BENCH MARKS TO COMPLY WITH THIS REQUIREMENT.
- 14. RESTORE ALL STREET SURFACES, DRIVEWAYS, CULVERTS, ROADSIDE DRAINAGE DITCHES, AND OTHER PUBLIC OR PRIVATE STRUCTURES THAT ARE DISTURBED OR DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES TO A CONDITION EQUAL TO OR BETTER THAN EXISTING CONDITIONS AND TO THE SATISFACTION OF THOSE HAVING JURISDICTION, UNLESS NOTED OTHERWISE IN THE PLANS.

PIPE CONTENTS ABBREVIATIONS NATURAL GAS SANITARY SEWER STM STORM SEWER WTR WATER FM FORCE MAIN

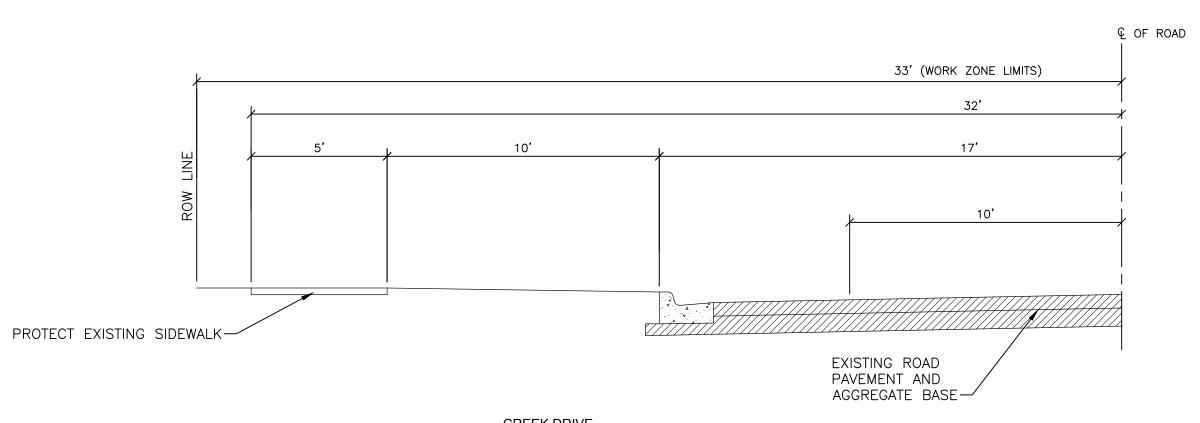
PIPE	MATERIAL ABBREVIATIONS
CSP	CORRUGATED STEEL PIPE
CSPA	CORRUGATED STEEL PIPE ARCH
DIP	DUCTILE IRON PIPE
NRCP	NON-REINFORCED CONCRETE PIPE
PE	POLYETHYLENE
PE PERF.	POLYETHYLENE PIPE PERFORATED
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
VCP	VITRIFIED CLAY PIPE

MDOT SOIL EROSION AND SEDIMENTATION CONTROL MEASURES

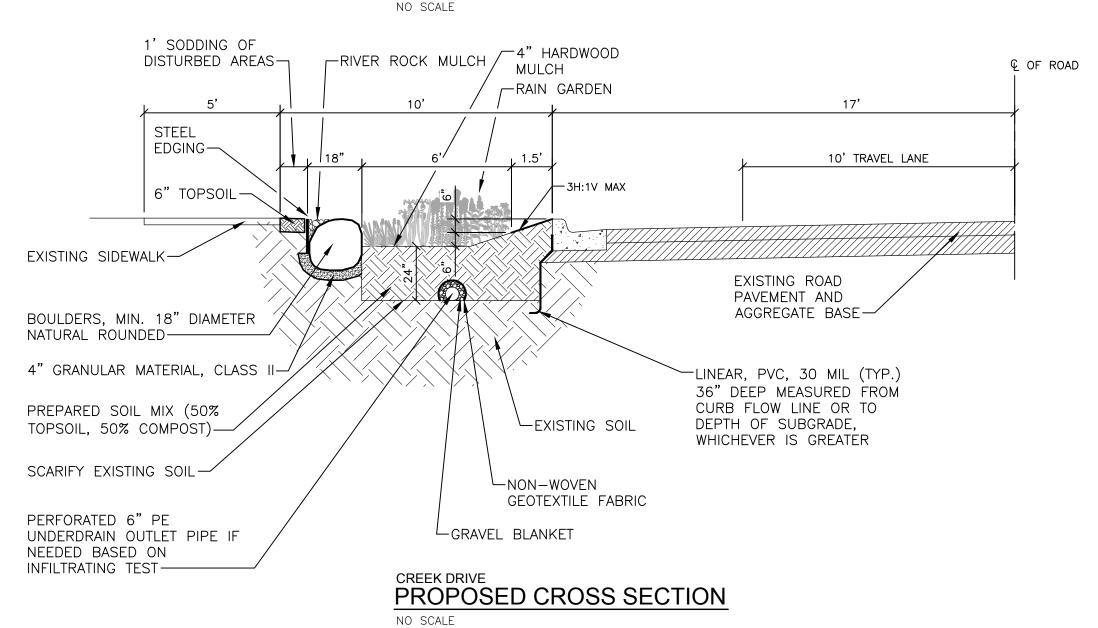
	OLDINLINIA	ION CONTROL MEACOREC
KEY	DETAIL	CHARACTERISTICS
3	Seeding	Inexpensive & very effective Stabilizes soil, thus minimizing erosion Permits runoff to infiltrate soil, reducing runoff volume Should include prepared topsoil bed Paid for as Turf Establishment, Performance
26	Silt Fence	Use geotextile and posts or poles May be constructed or prepackaged Easy to construct and locate as necessary
29	Catch Basin, Filter Bag	Manufactured filter bag inserted under casting. Collects sediment at catch basin inlet.

XX\TEMPORARY T J MEASURE

YY PERMANENT (P) MEASURE

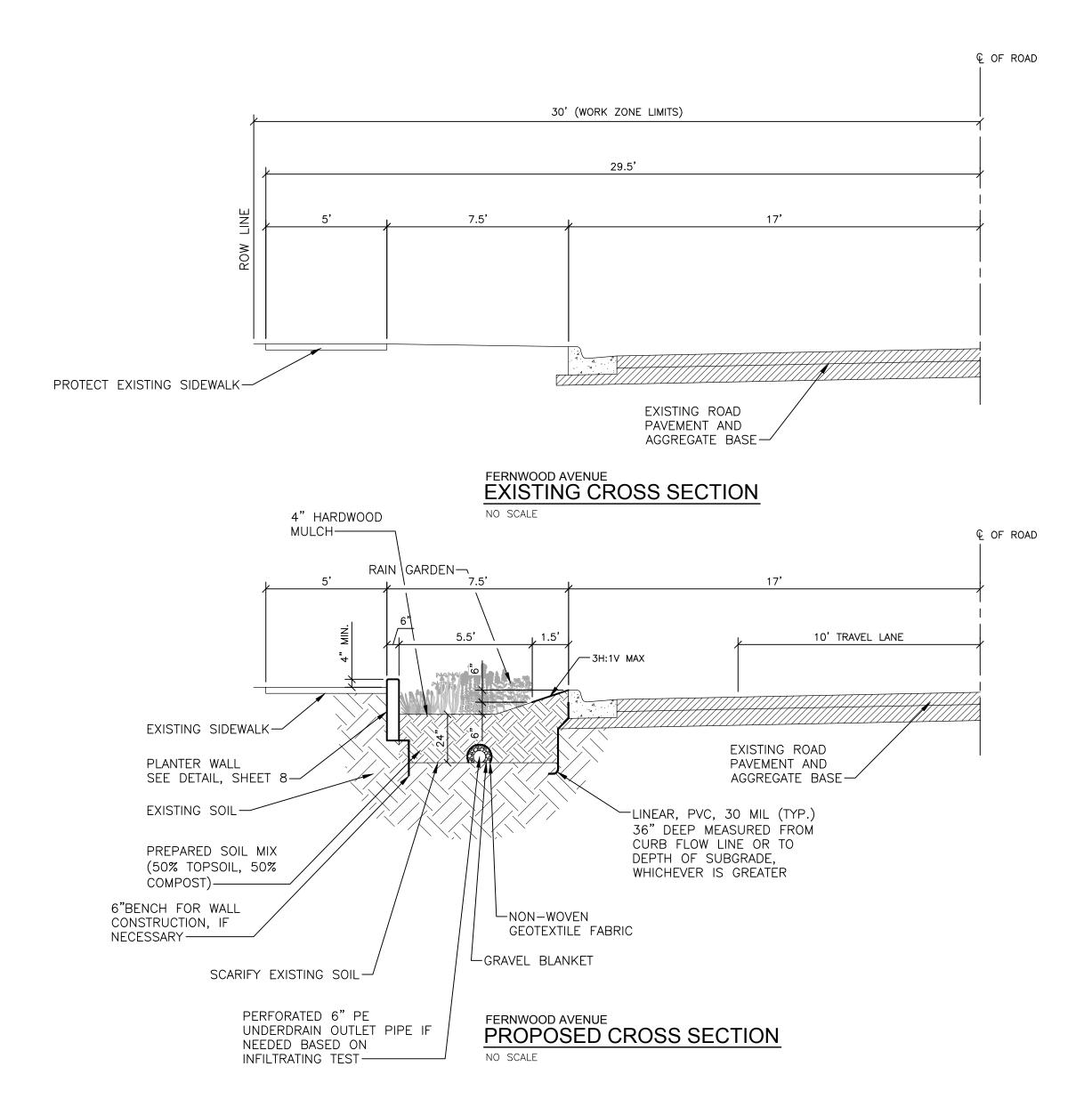


CREEK DRIVE EXISTING CROSS SECTION



	07/06/16 CHP	DATE
	01 FOR MDEQ SUBMITTAL	DESCRIPTION
HURON RIVER WATERSHED COUNCIL 1100 N. MAIN STREET, SUITE 210 rished ANN ARBOR, MI 48104	www.hrwc.org	REV.
N SWIFT RUN River N'Vatershed Council		

GREEN INFRASTRUCTURE IN CREEK DRIVE TYPICAL CROSS-SECTION AND DETA

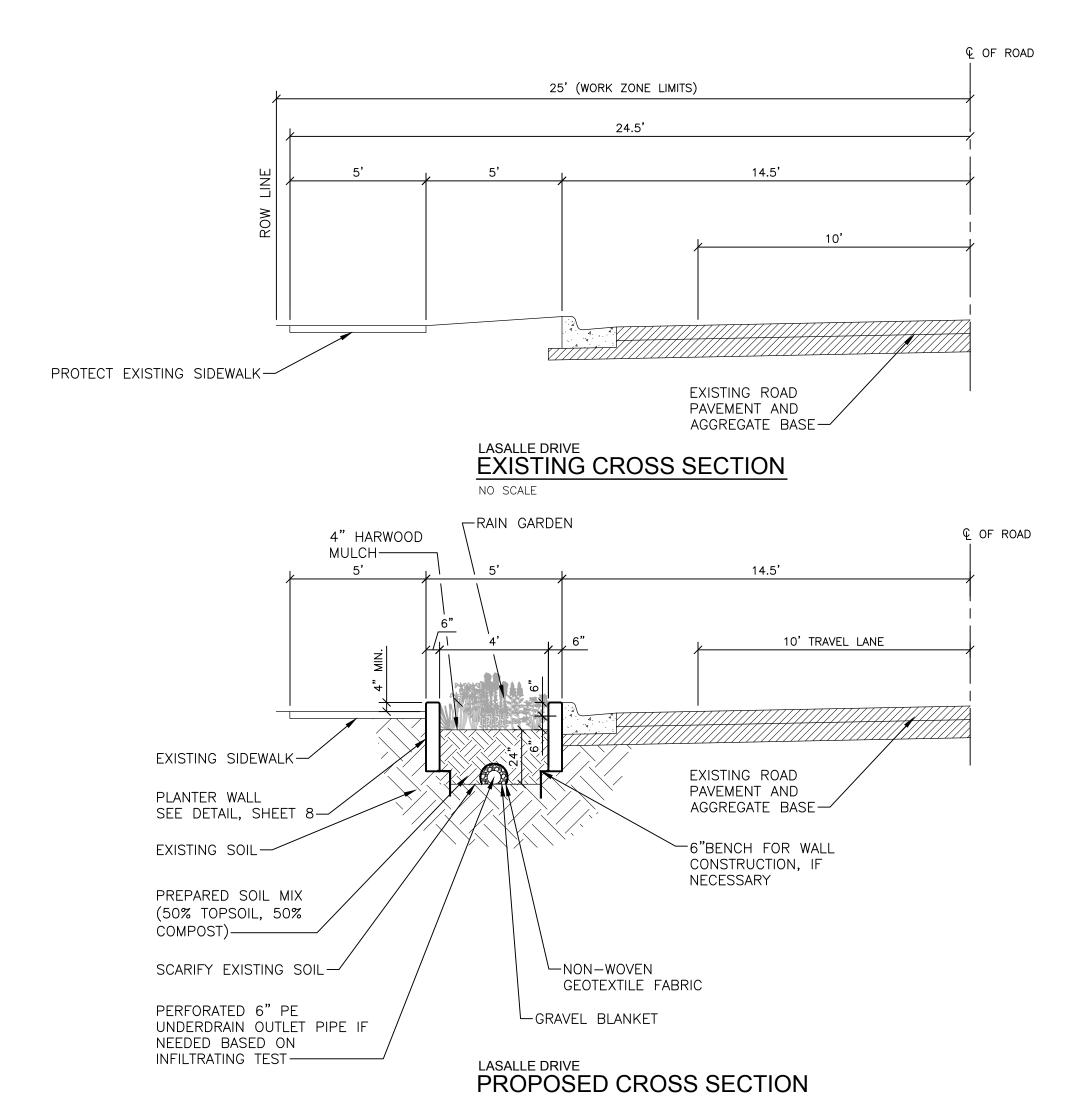


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WATERSHED COU	=	734-769-5123	www.hrwc.org	
uo	er	ıncil		



GREEN INFRASTRUCTURE IN S' FERNWOOD AVENUE TYPICAL CROSS-SECTION AND DETAILS



NO SCALE



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RUCTURE IN SWIFT RUN
LE DRIVE

GREEN INFRASTRUCTURE I

LASALLE DRIVE

TYPICAL CROSS-SECTION AND DET

UMBER: 160177

SCALE NO SCALE

HEET No.

BELVIDERE STREET EXISTING CROSS SECTION NO SCALE

4" HARDWOOD -RAIN GARDEN € OF ROAD MULCH----10' TRAVEL LANE EXISTING SIDEWALK EXISTING ROAD
PAVEMENT AND
AGGREGATE BASE PLANTER WALL SEE DETAIL, SHEET 8— EXISTING SOIL —6"BENCH FOR WALL CONSTRUCTION, IF NECESSARY PREPARED SOIL MIX (50% TOPSOIL, 50% COMPOST) NON-WOVEN
GEOTEXTILE FABRIC SCARIFY EXISTING SOIL

PROPOSED CROSS SECTION

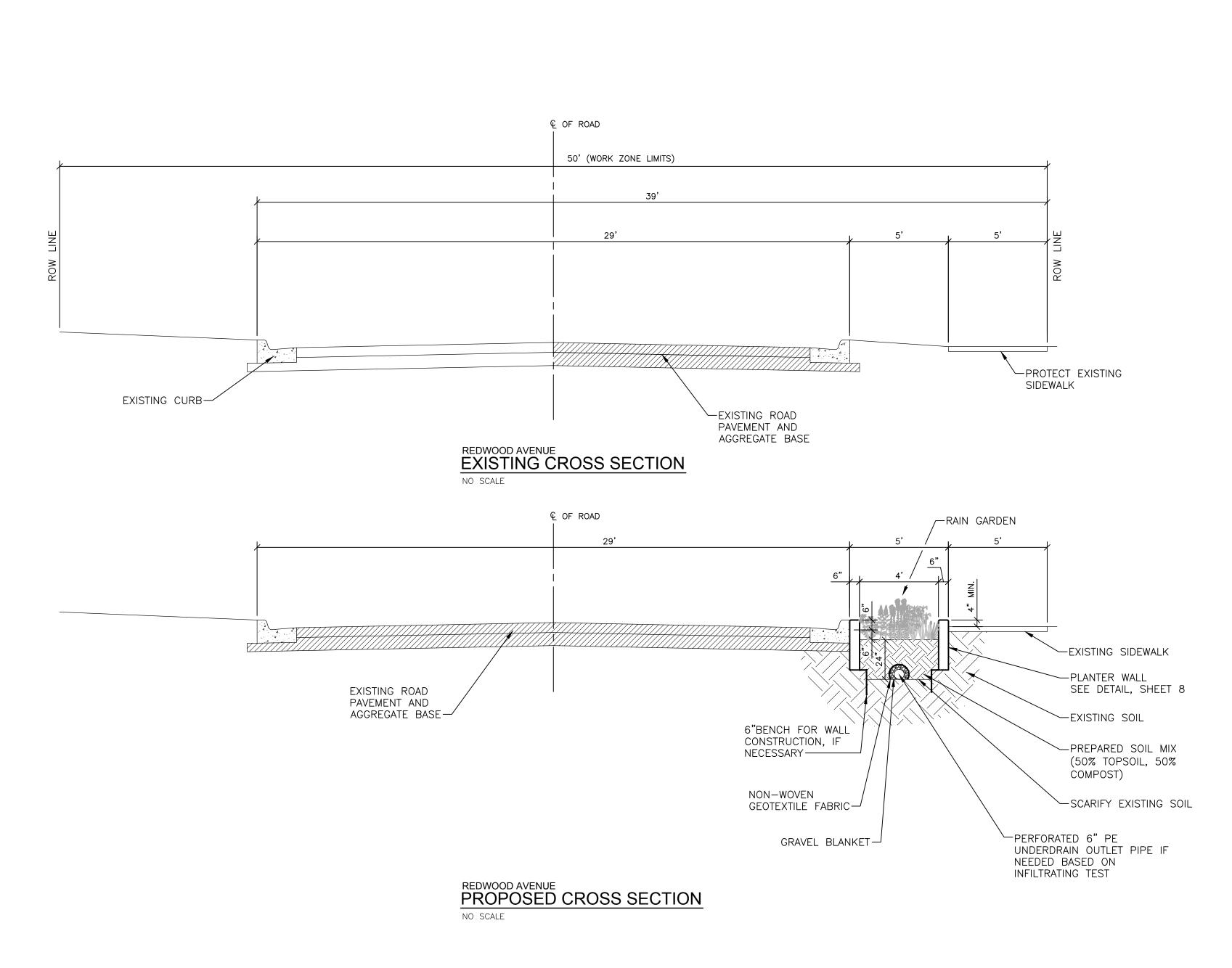
NO SCALE

LGRAVEL BLANKET

PERFORATED 6" PE UNDERDRAIN OUTLET PIPE IF NEEDED BASED ON INFILTRATING TEST

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SIL E 210						
						
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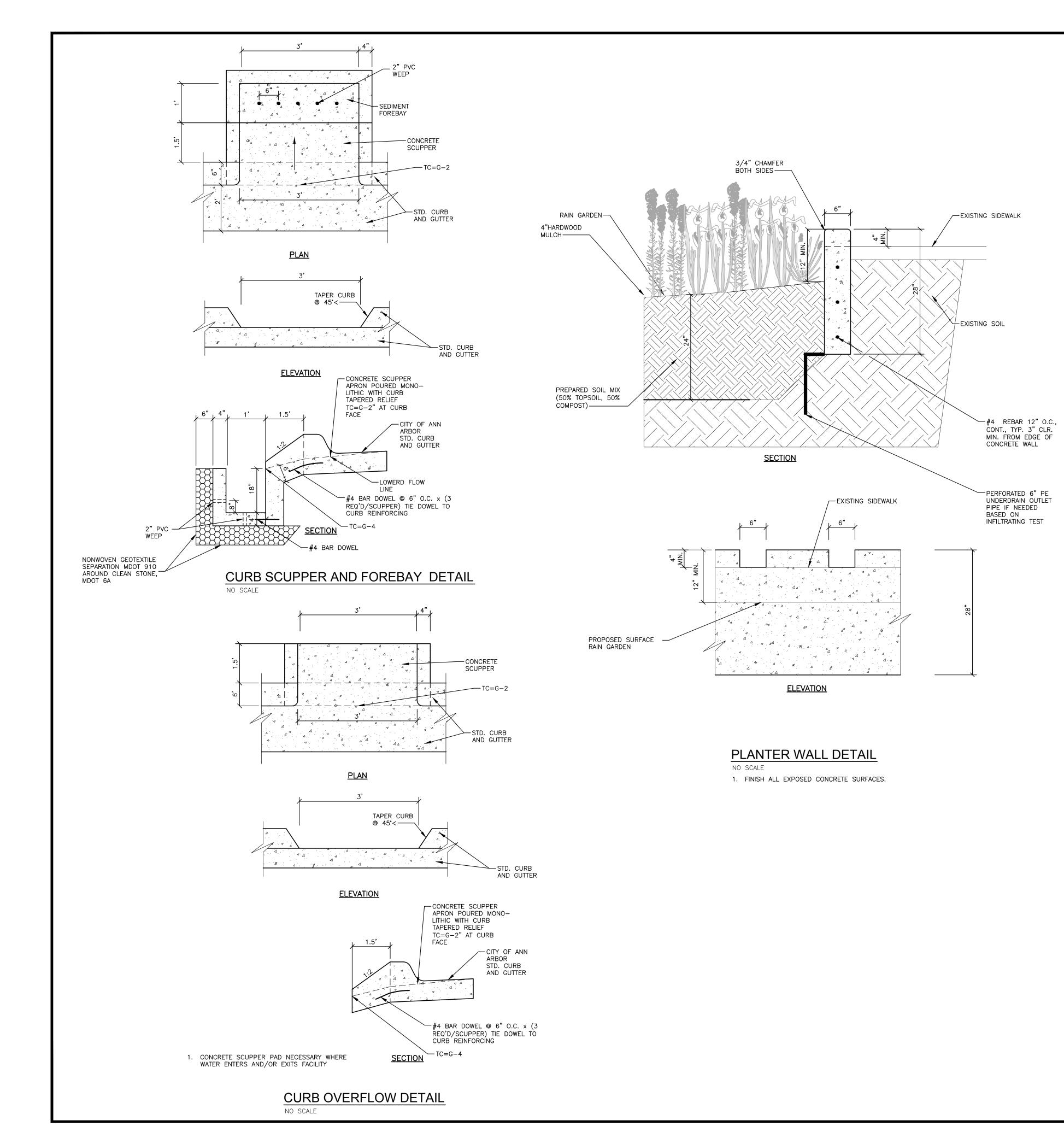




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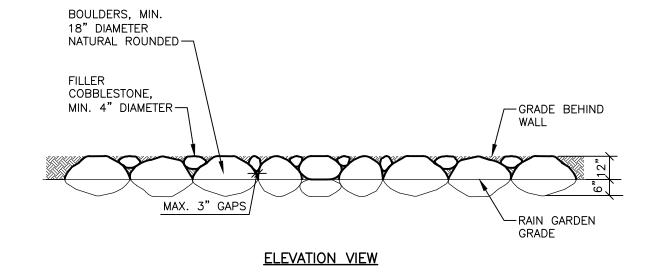


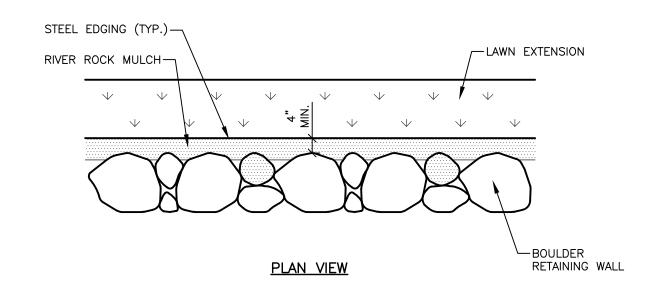
GREEN INFRASTRUCTURE IN S'
REDWOOD AVENUE
TYPICAL CROSS-SECTION AND DETAILS



Key	Botanical Name	Common Name	Quantity	Size	Condition	Remarks/Acceptable Substitutions
AC	Anemone Canadensis	Canada Wildflower		#1	Cont.	
EP	Echinacea Purpurea	Purple Coneflower		#2	Cont.	Other pink cultivars ok; ultimate height must be
IV	Iris Virginica	Blue Flag Iris		#2	Cont.	No substitution allowed
PV	Plaicum Virgatum 'Shenandoah'	Shenadoah Switchgrass		#2	Cont.	Panicum Virgatum 'Rotstrahlbusch'
HH	Hemerocallis 'Hyperion'	Hyperion Daylily		#2	Cont.	Hemerocallis 'Happy Returns'
ER	Euphorbia Rigida	Silver Spurge		#2	Cont.	
SA	Sedum 'Autumn Joy'	Autumn Joy Sedum		#2	Cont.	
NF	Nepeta x Faassenii ' Blue Wonde	Blue Wonder Catmint		#2	Cont.	Caryopteris 'First Choice'
BA	Baptesia Australis	Blue Wile Indigo		#2	Cont.	
НМ	Hibiscus Moscheutos 'Fantasia'	Fantasia Rosemallow		#3	Cont.	Hibiscus Moscheutos 'Robert Fleming'
AC	Anemone Canadensis	Canada Wildflower		#1	Cont.	
						Other pink cultivars ok; ultimate height must be
EP	Echinacea Purpurea	Purple Coneflower		#2	Cont.	below 3'
IV	Iris Virginica	Blue Flag Iris		#2	Cont.	No substitution allowed
PV	Plaicum Virgatum 'Shenandoah'	Shenadoah Switchgrass		#2	Cont.	Panicum Virgatum 'Rotstrahlbusch'
SH	Sporobolus heterolepis	Prairie Dropseed		#2	Cont.	
AT	Asclepias Tuberosa	Butterfly Weed		#2	Cont.	
HM	Hibiscus Moscheutos 'Fantasia'	Fantasia Rosemallow		#3	Cont.	Hibiscus Moscheutos 'Robert Fleming'
PF	Potentilla Fruticosa	Shrubby Cinquefoil		#3	Cont.	
CV	Carex Vulpinoidea	Fox Sedge		Plug	Plug	Fescue sp.
QB	Quercus Bicolor	Swamp White Oak		1.5-2" cal.	B&B	Quercus Macrocarpa, 6' branch height
AR	Nyssa Sylvatica	Black Gum		1.5-2" cal.	B&B	Acer Rubrum, 6' branch height

 SEE SHEET 9 FOR TYPICAL RAIN GARDEN PLANTING PLAN





BOULDER WALL DETAIL

NO SCALE

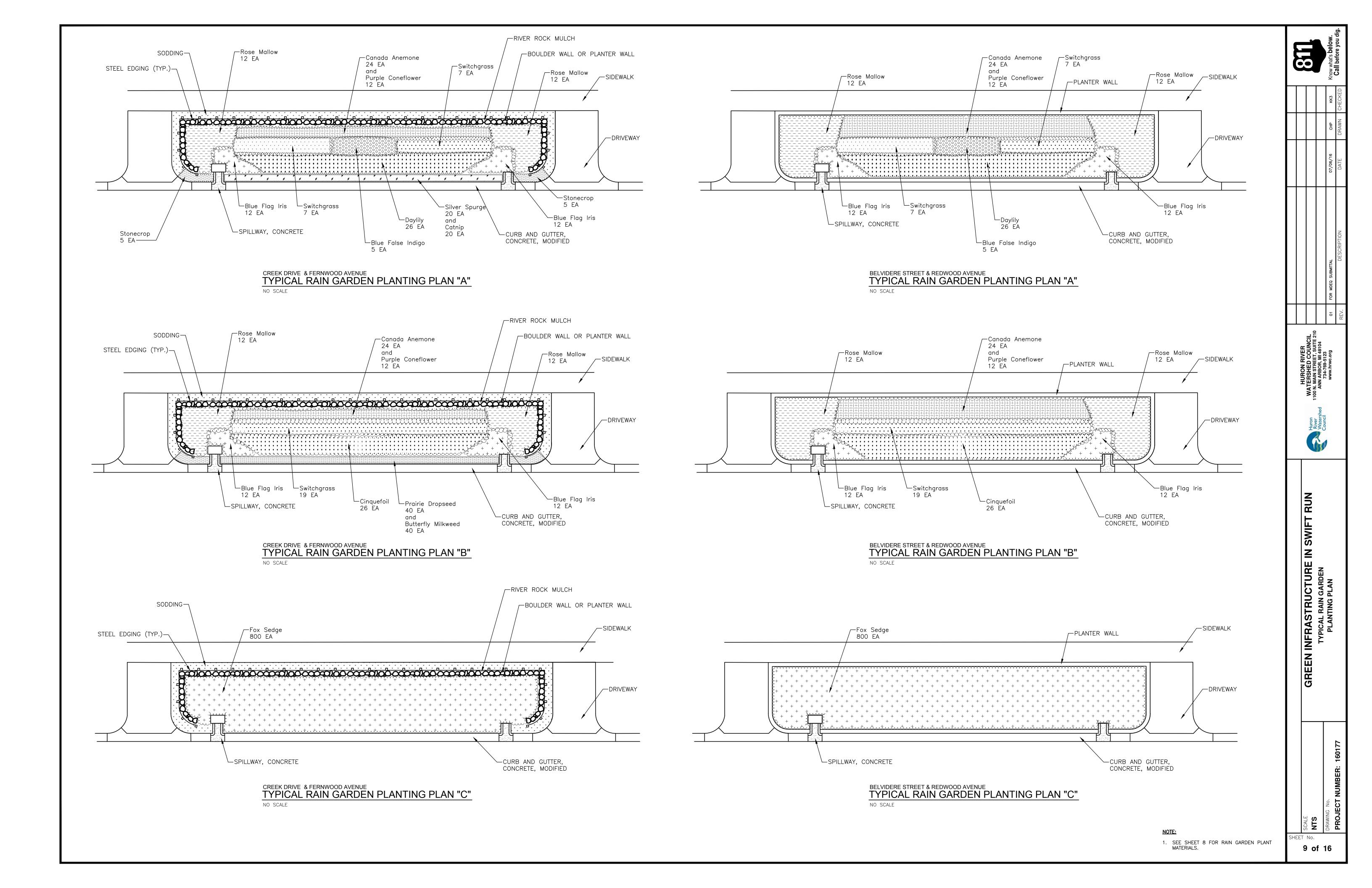
Scale no scale

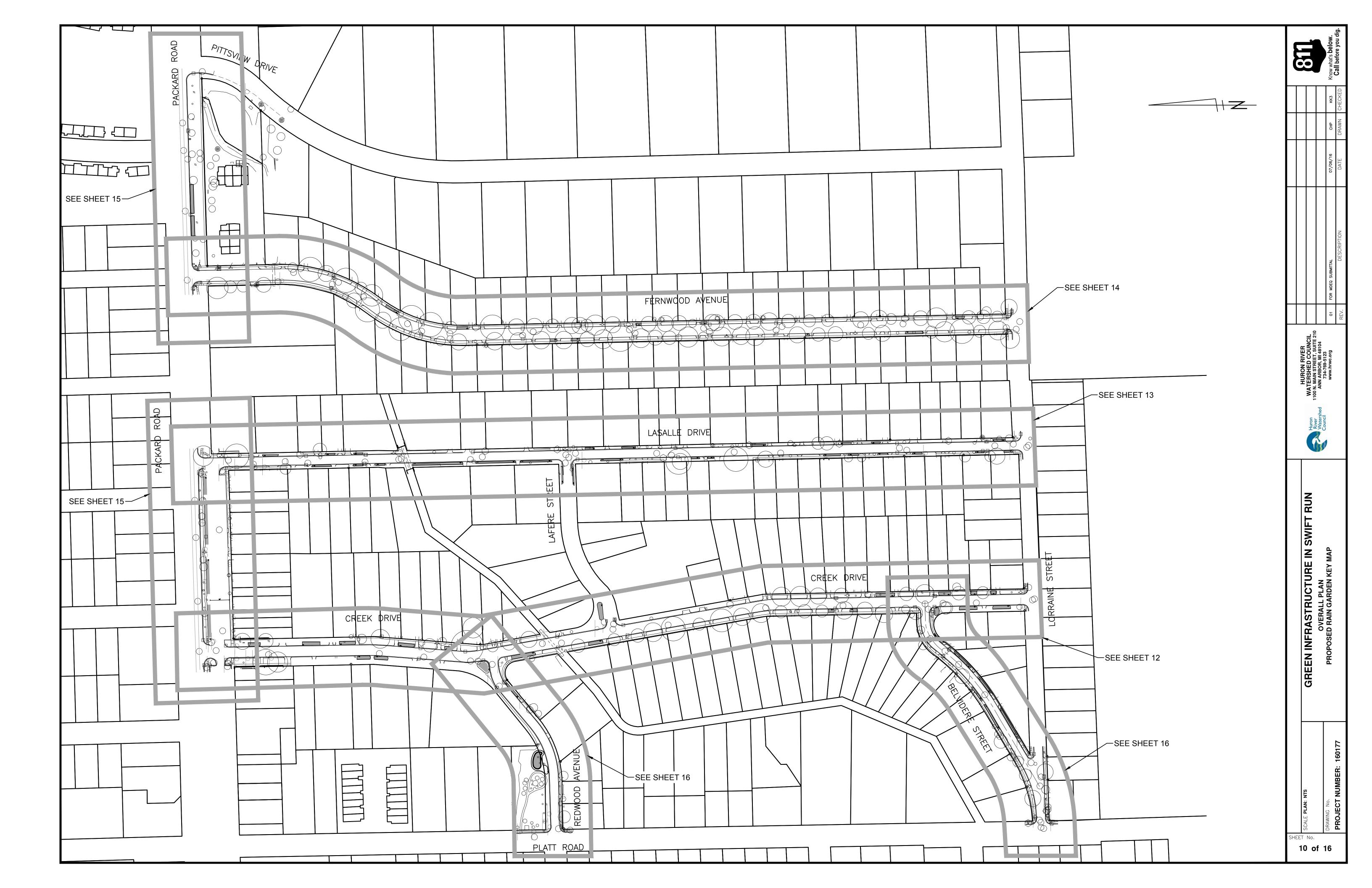
GREE

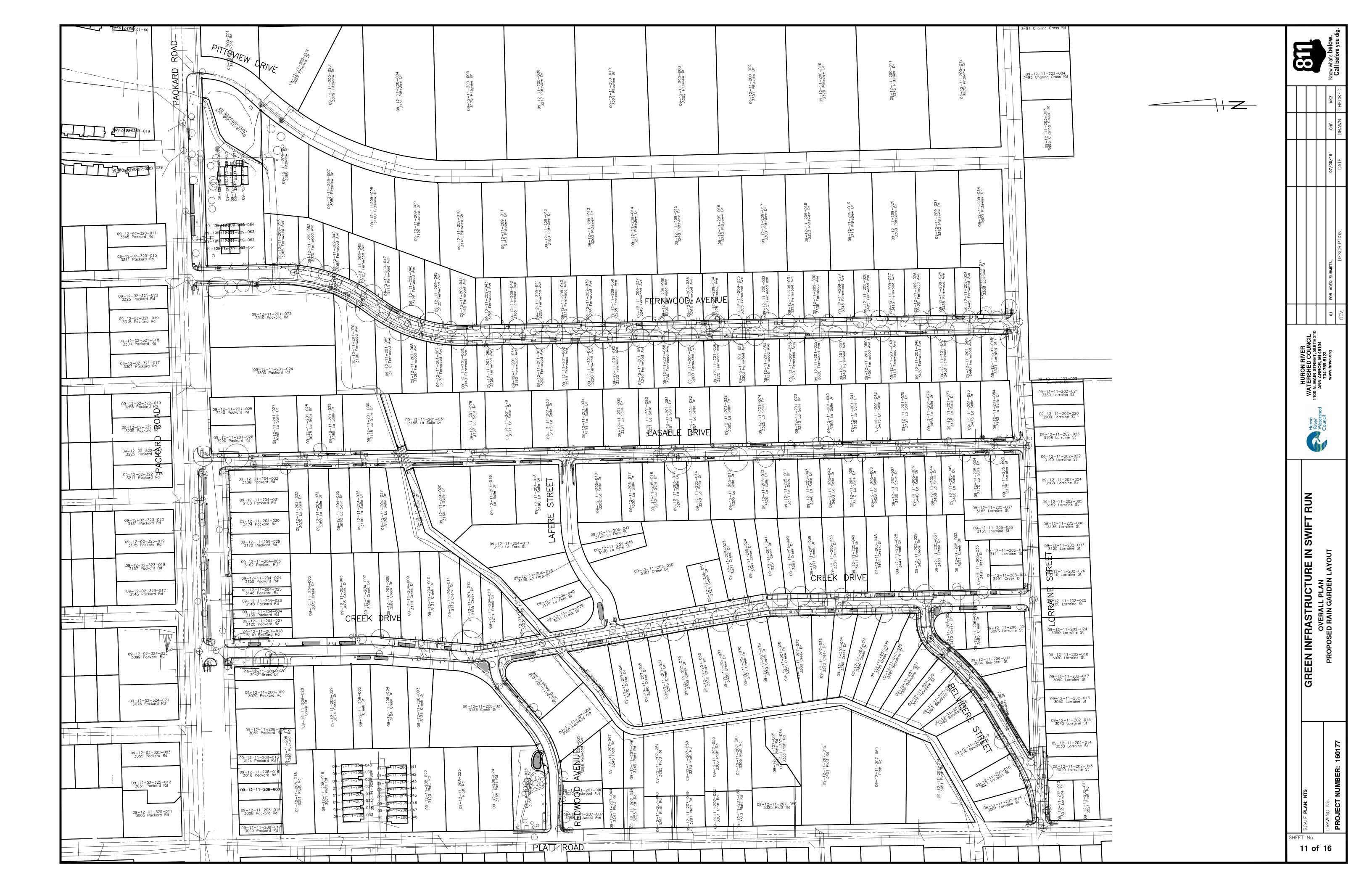
JORAWING No.

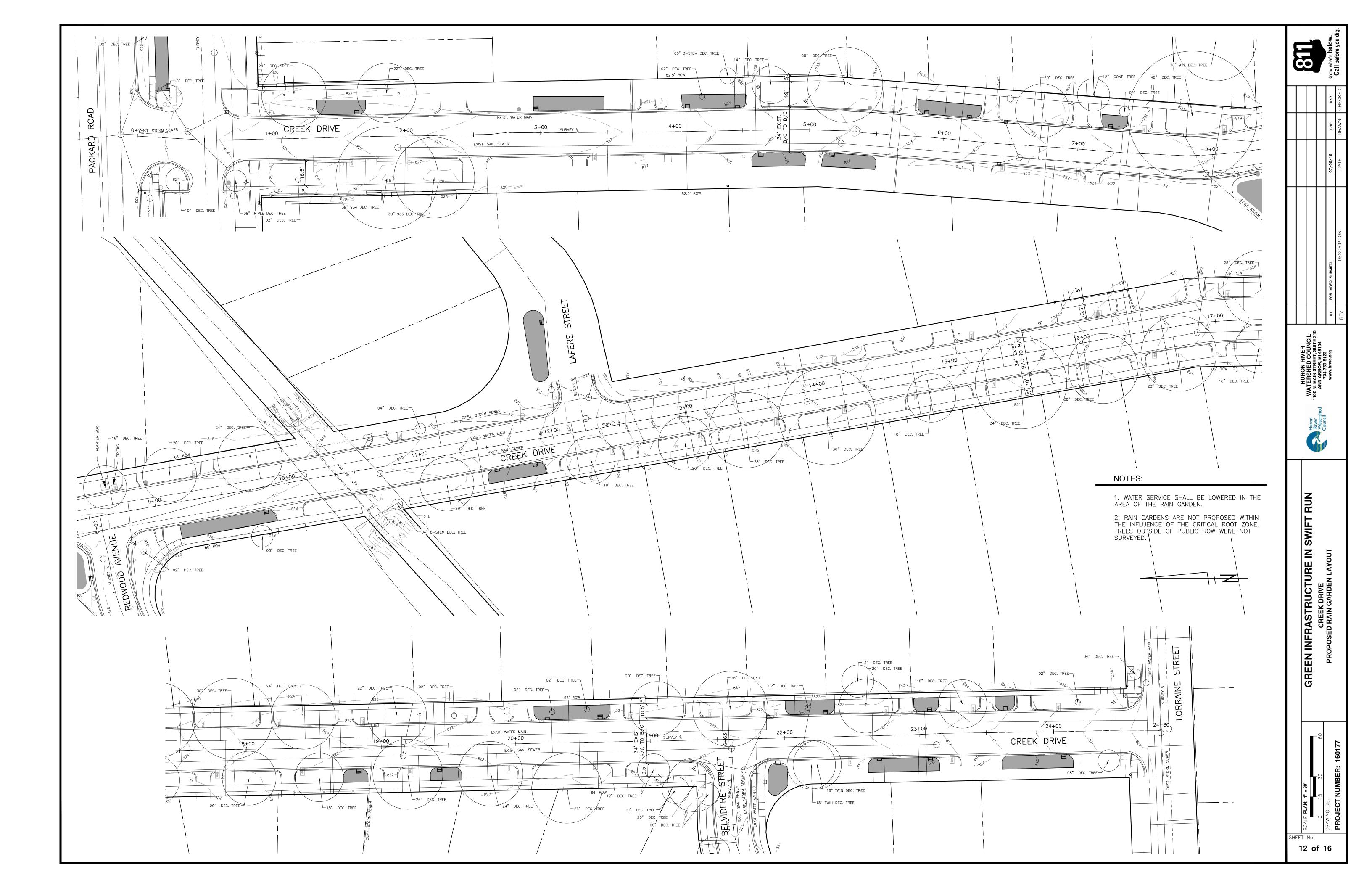
PROJECT NUMBER: 160177

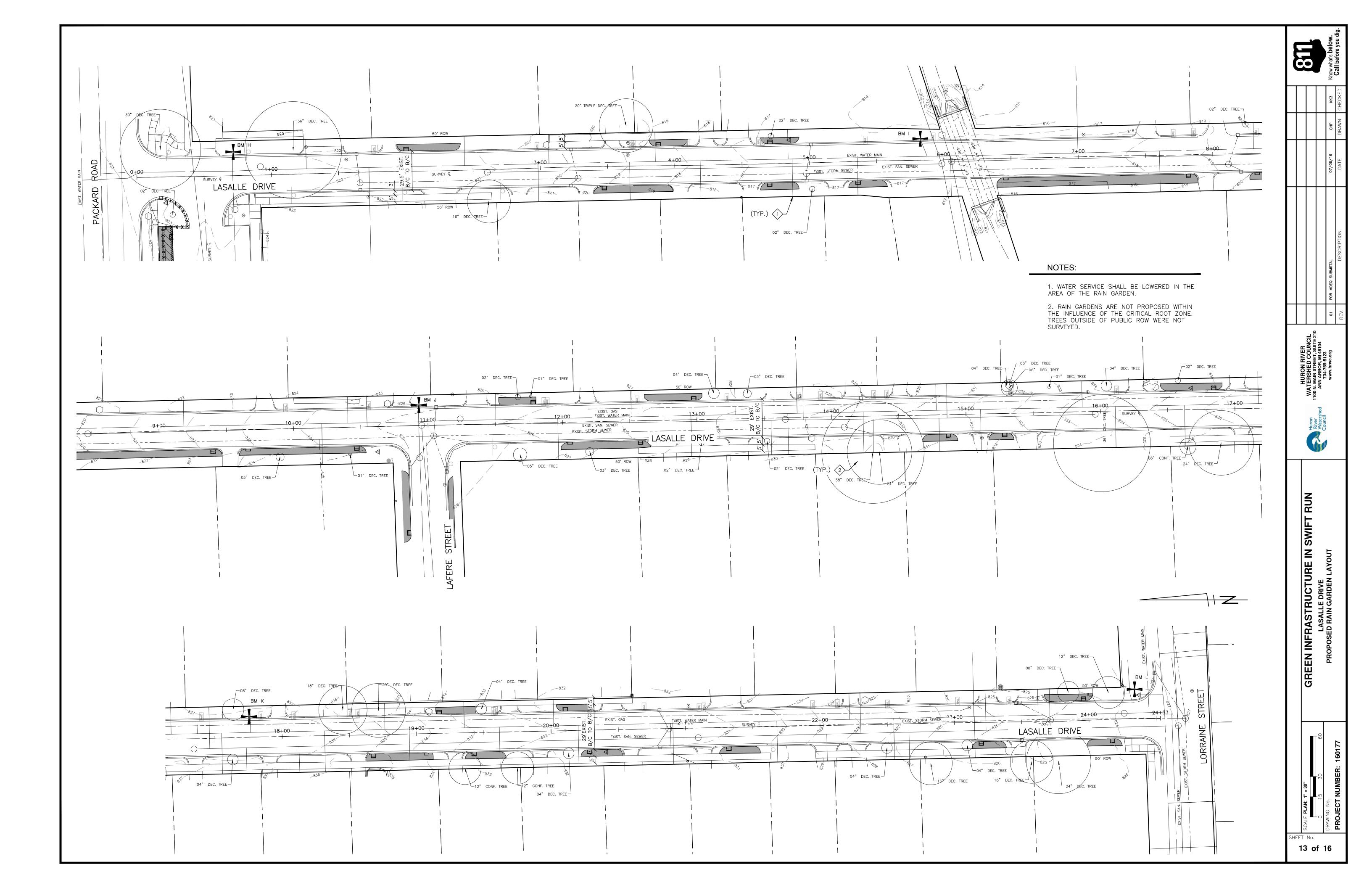
N INFRASTRUCTURE II
BIORETENTION
DETAILS

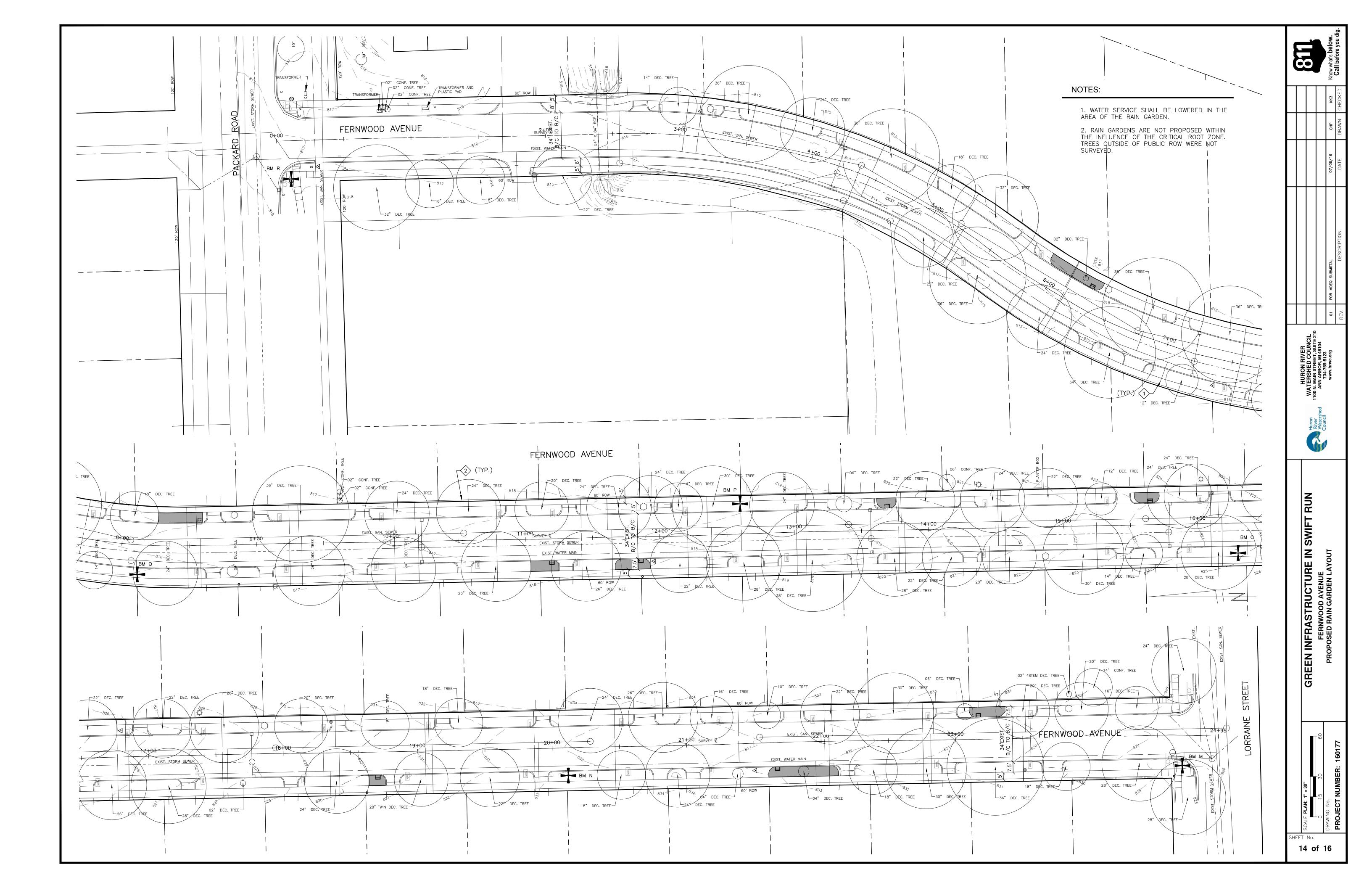


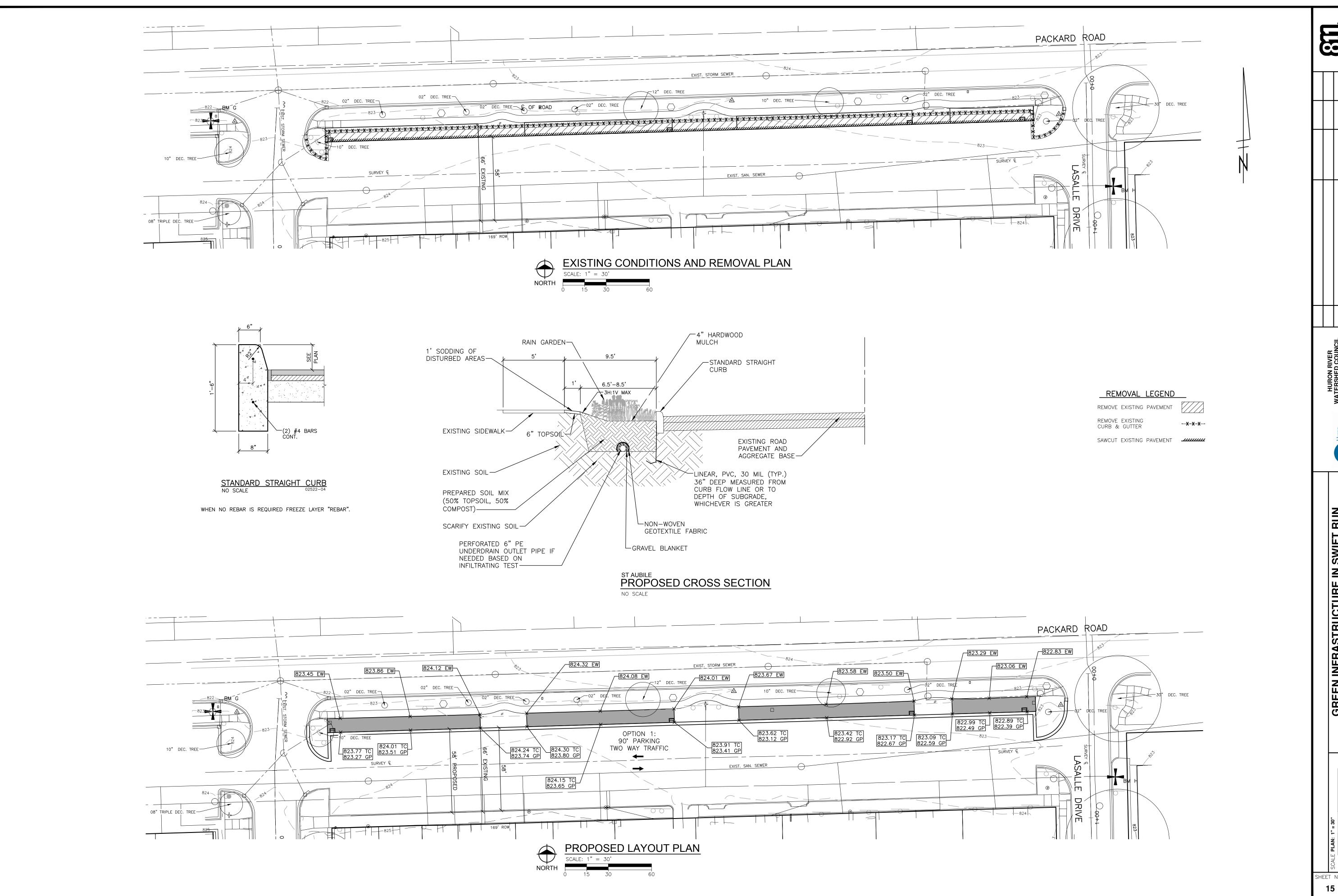












Know what's below.

FOR MDEQ SUBMITTAL 07/06/16 CHP KK3

DESCRIPTION DATE DRAWN CHECKED

HURON RIVER
WATERSHED COUNCIL
1100 N. MAIN STREET, SUITE 210
ANN ARBOR, MI 48104
734-769-5123
www.hrwc.org



CTURE IN SWIFT RUN
OAD
NDEN LAYOUT

GREEN INFRASTRUCTURE IN
PACKARD ROAD
PROPOSED RAIN GARDEN LAYOUT

SHEET No. **15 of 16**

