# VINEYARDS DRAIN

Texas Township, Kalamazoo County, Michigan

## INDEX OF SHEETS


**CS - TOPOGRAPHIC SURVEY & REMOVALS**

**C1 - PLAN & PROFILE**
(STA. 0+00 - 6+75)

**C2 - PLAN & PROFILE**
(STA. 10+00 - 15+75)
(STA. 20+00 - 21+00)

**C3 - PLAN & PROFILE**
(STA. 30+00 - 33+00)

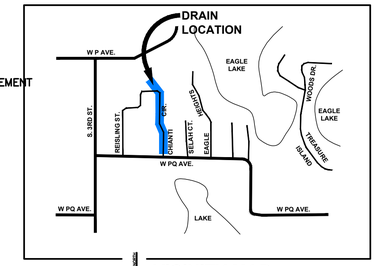
**C4 - DETAILS**


## LEGEND

- WELL
- HIGHWAY
- MONUMENT
- FOUND IRON STAKE
- SET IRON STAKE
- SIGN
- RR SIGN
- GUY POLE
- GUY ANCHOR
- UTILITY POLE
- LIGHT POLE
- POST
- SB#XX SOIL BORING
- U.G. UTILITY MARKER
- MB MAILBOX
- AC AC UNIT
- FIRE HYDRANT
- WATER VALVE
- TR ELECTRIC TRANSFORMER
- G GAS METER
- W WATER METER
- T TELEPHONE RISER
- E ELECTRIC METER
- CATCH BASIN
- ROUND CATCH BASIN
- U UTILITY MANHOLE
- STORM MANHOLE
- S SANITARY MANHOLE
- E ELECTRIC MANHOLE
- T TELEPHONE MANHOLE
- DECIDUOUS TREE
- CONIFEROUS TREE
- WATER UTILITY LINE
- TELEPHONE UTILITY LINE
- ELECTRIC UTILITY LINE
- GAS UTILITY LINE
- STEAM UTILITY LINE
- STORM UTILITY LINE
- SANITARY UTILITY LINE
- FIBER OPTIC UTILITY LINE
- OVERHEAD UTILITY LINE
- MINOR CONTOURS
- MAJOR CONTOURS
- BITUMINOUS VALLEY GUTTER
- (ELEV) EXISTING CONTOURS
- CX SHEET NUMBERS

## REMOVAL LEGEND

- CONC REMOVAL
- BIT. REMOVAL
- 1.5" COLD MILL BIT PAVEMENT
- TREE REMOVAL
- SAWCUT



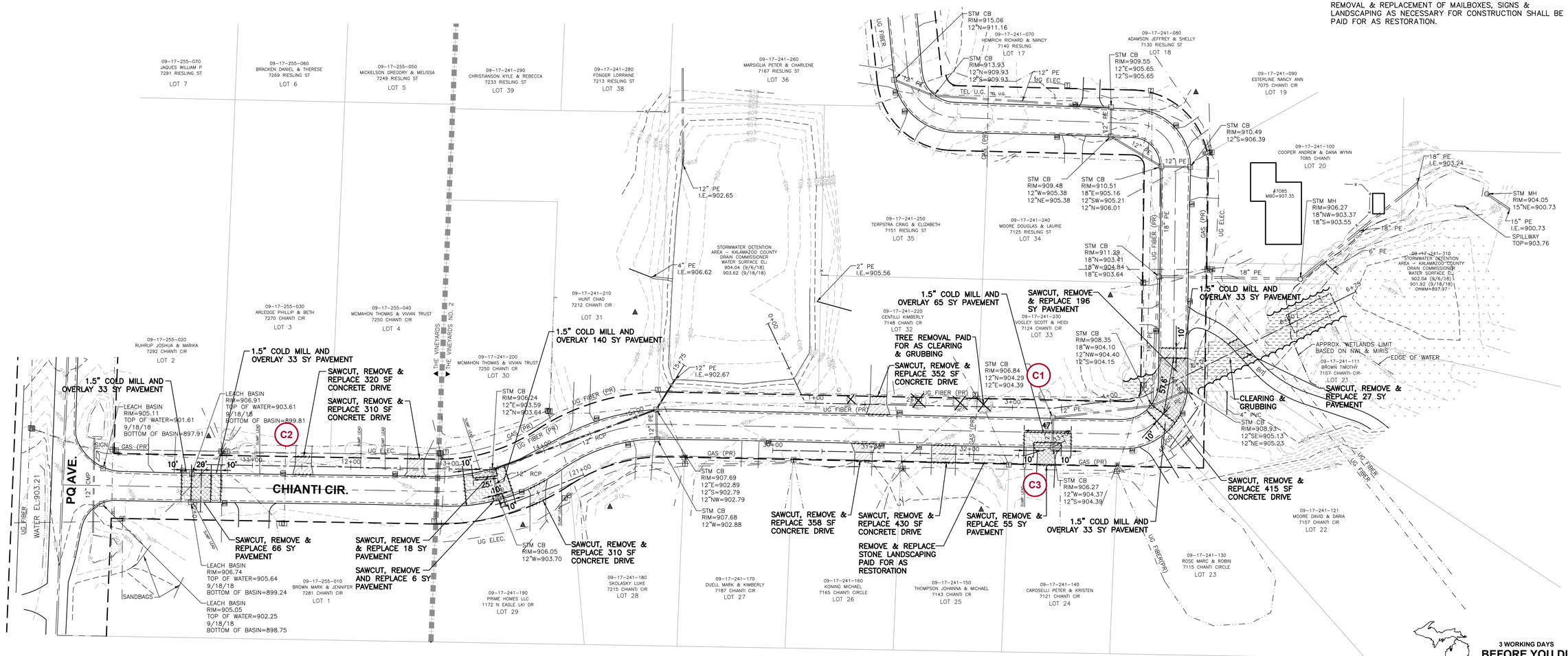

**VICINITY MAP**
NOT TO SCALE

## MISCELLANEOUS QUANTITIES

| | |
|---|---|
| MOBILIZATION (10% MAX.) | 1 LS |
| TRAFFIC CONTROL | 1 LS |
| UTILITY INVESTIGATION & PROTECTION | 1 LS |
| SOIL EROSION & SEDIMENTATION CONTROL | 1 LS |
| DEWATERING | 1 LS |
| IRRIGATION COORDINATION & REPLACEMENT | 1 LS |
| RESTORATION | 1 LS |

## NOTE

REMOVAL & REPLACEMENT OF MAILBOXES, SIGNS & LANDSCAPING AS NECESSARY FOR CONSTRUCTION SHALL BE PAID FOR AS RESTORATION.




**PLAN VIEW**

NORTH

0 50 100
Horizontal Scale in Feet

**3 WORKING DAYS**
**BEFORE YOU DIG**
**CALL MISS DIG**
**1-800-482-7171**

ALL UTILITIES AS SHOWN ARE APPROXIMATE LOCATIONS DERIVED FROM ACTUAL MEASUREMENTS AND AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATION NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THE AREA.


LRE ENGINEERS & SURVEYORS
2121 3 Mile Rd NW
Walker, MI 49544
P: 616.301.7888
www.LREmi.com


| REVISIONS: | | |
|---|---|---|
| NO. | ISSUED FOR: | DATE: |
| 1. | PRELIMINARY REVIEW | 6/27/18 |
| 2. | OAOCC | 6/14/2019 |
| 3. | BIDS & CONSTRUCTION | 1/13/2020 |

CLIENT: KALAMAZOO COUNTY DRAIN COMMISSIONER
201 W. KALAMAZOO AVE, KALAMAZOO, MICHIGAN

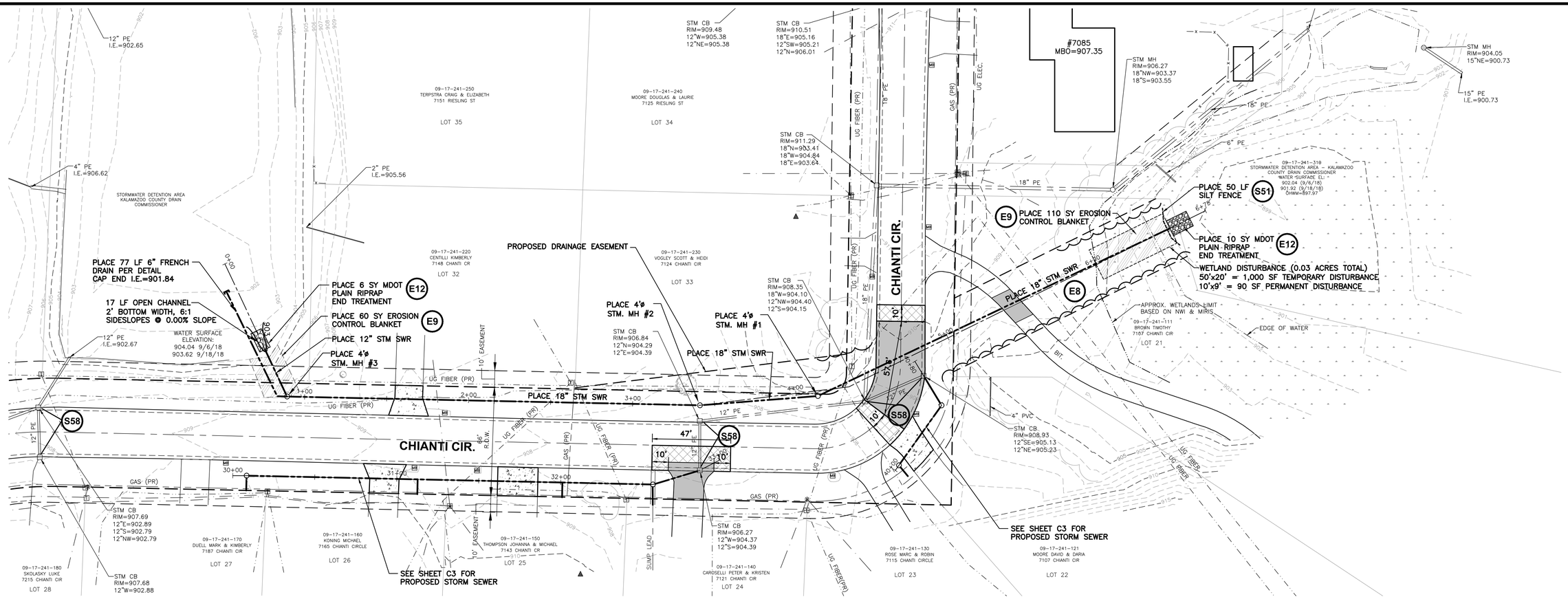
PROJECT: VINEYARDS DRAIN
TEXAS TOWNSHIP, KALAMAZOO COUNTY, MICHIGAN

| PROJECT NUMBER: 18-054 | DATE |
|---|---|
| SURVEYED BY: CVF/ADK | 9/18 |
| DESIGNED BY: KJV | 9/18 |
| DRAFTED BY: RAG | 9/18 |
| QA/QC: KAP | |

SHEET NAME: TOPOGRAPHIC SURVEY & REMOVAL SHEET

SHEET NUMBER: CS

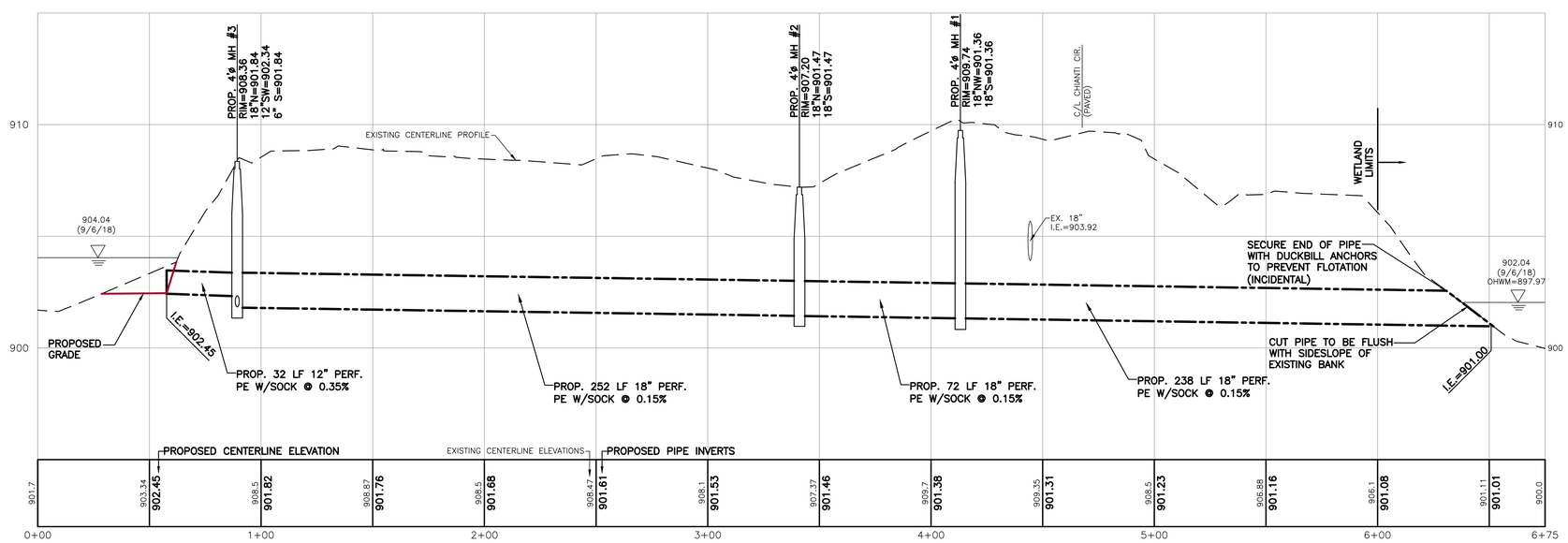
Jan 16, 2020 - T:\Sites W\Projects\18-054 KCDC - Vineyards Drain\C3\dwg\01-Cover Sheet.dwg, WD7a - [brad]1pp




## PLAN VIEW

NORTH

0 30 60
Horizontal Scale in Feet




## CENTERLINE PROFILE

SCALE: HORIZONTAL: 1" = 30'
VERTICAL: 1" = 3'

## NOTES:

1. STORM SEWER TO BE PVC SDR-35 OR ADS N-12 UNLESS CALLED OUT OTHERWISE.

## LEGEND

- PROPOSED CONCRETE DRIVE
- PROPOSED FULL DEPTH STANDARD PAVEMENT
- PROPOSED 1.5" HMA OVERLAY
- PROPOSED EROSION CONTROL BLANKET

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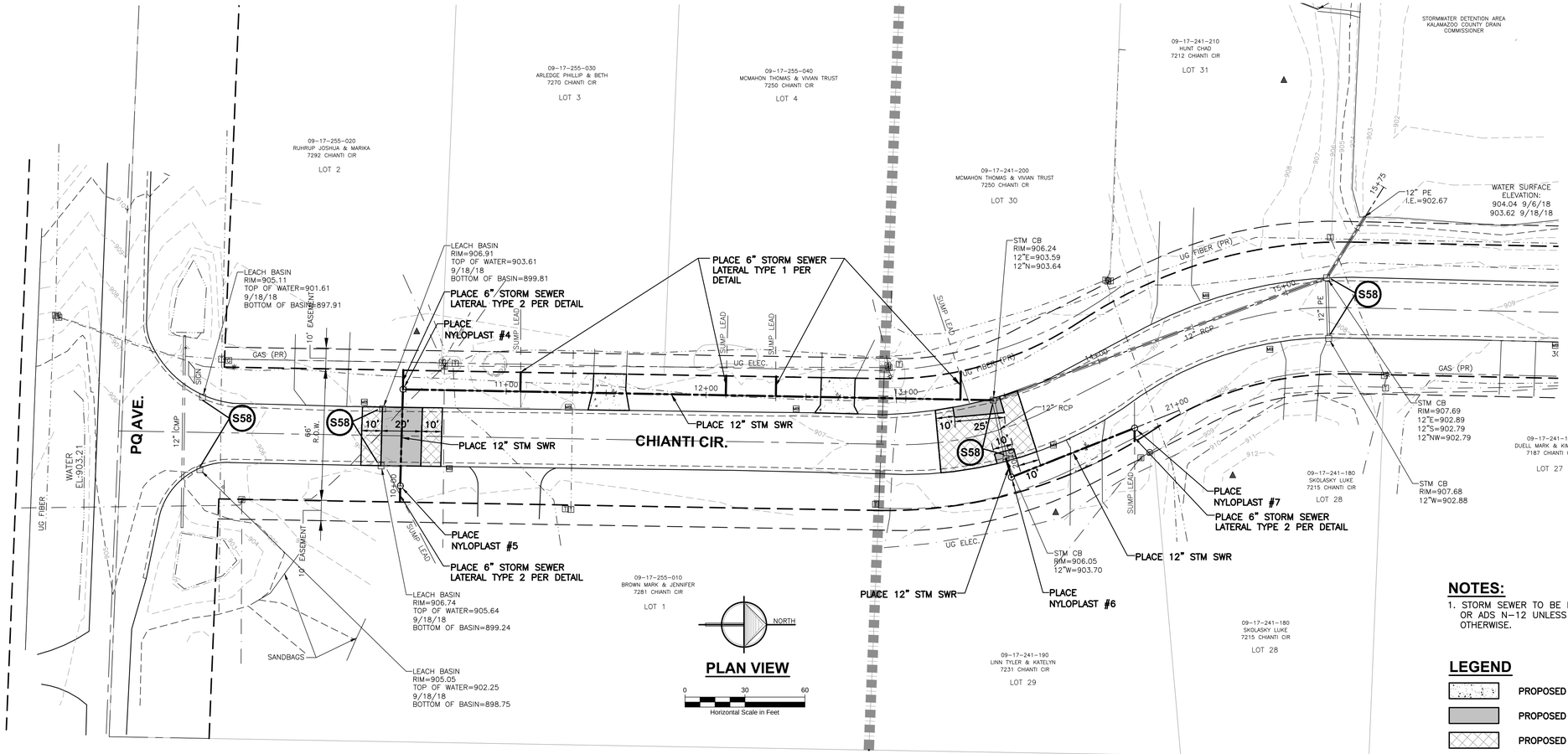
SHEET NAME: PLAN & PROFILE STA: 0+00 - 6+75

SHEET NUMBER: C1

Jan 10, 2020 - 7:53am M:\Projects\18-054 KCDC - Vineyards Drain\LD\dwg\02-Plan and Profile.dwg, 8REFs [brad] [.cpc]

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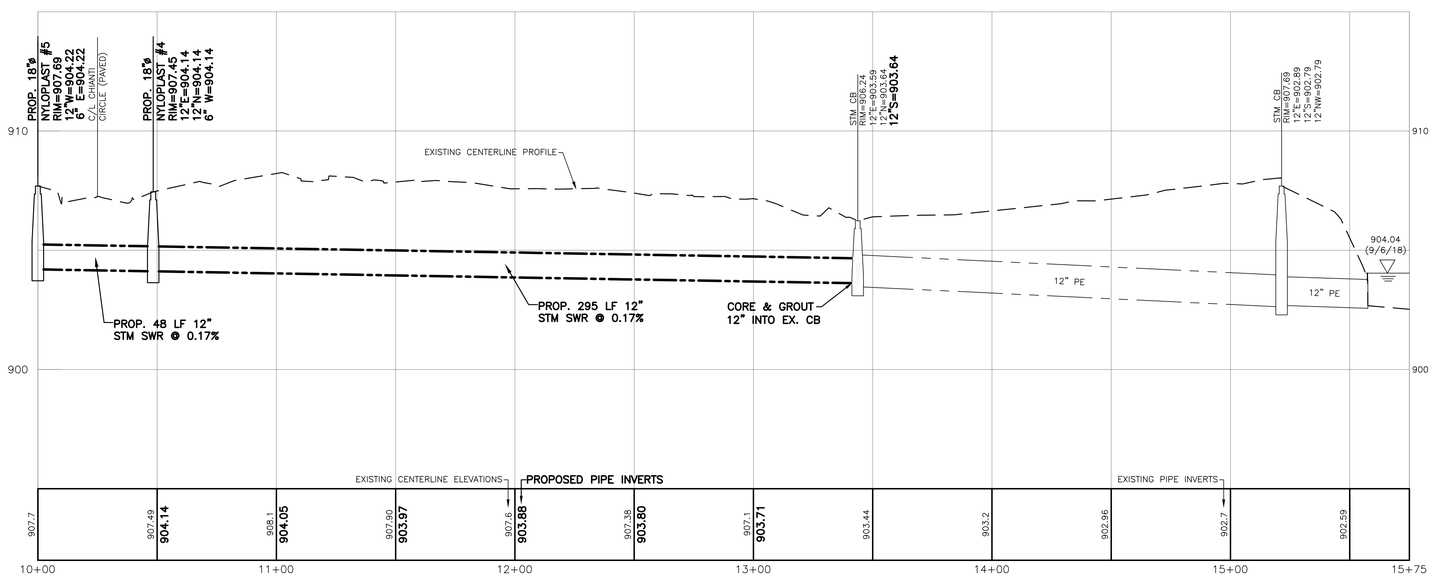


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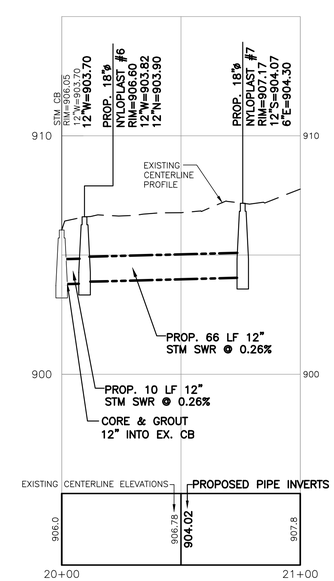


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SHEET NAME: PLAN & PROFILE
STA: 10+00 - 15+75
STA: 20+00 - 21+00

SHEET NUMBER
C2

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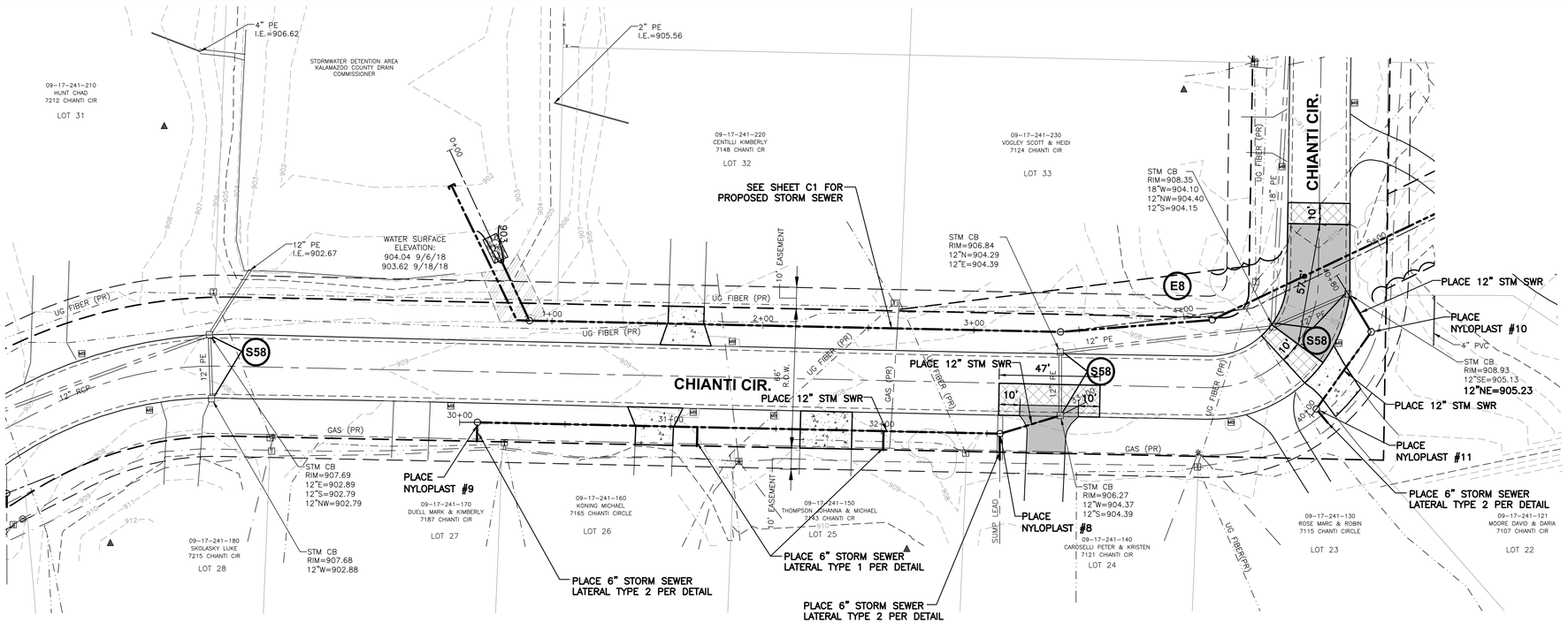


## PLAN VIEW

0 30 60
Horizontal Scale in Feet

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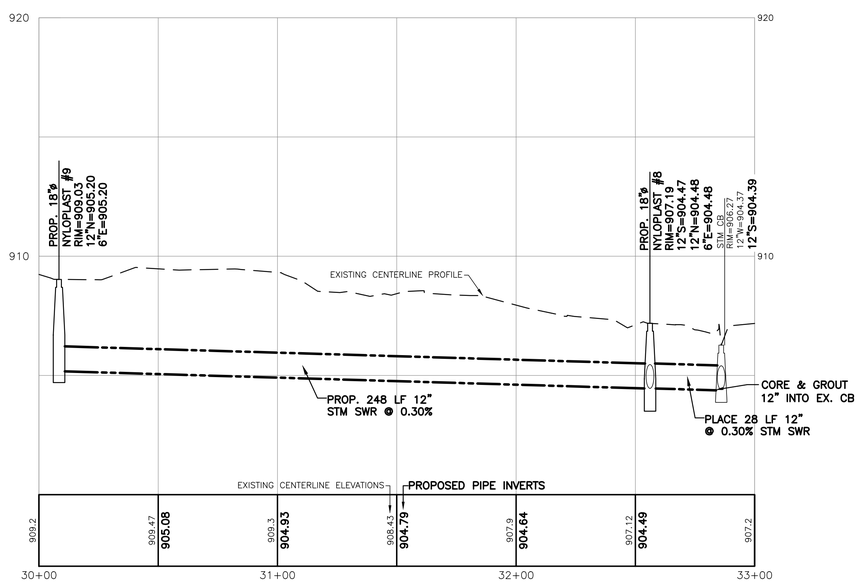


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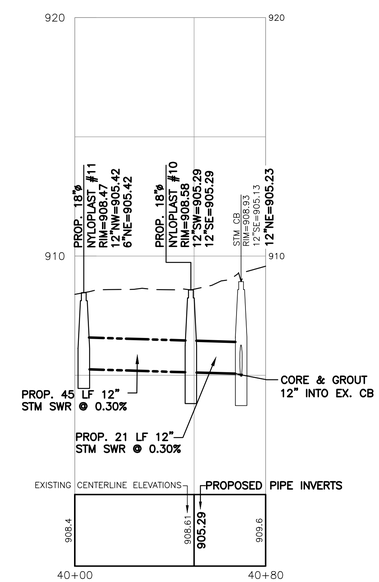


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STA: 30+00 - 33+00

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C3

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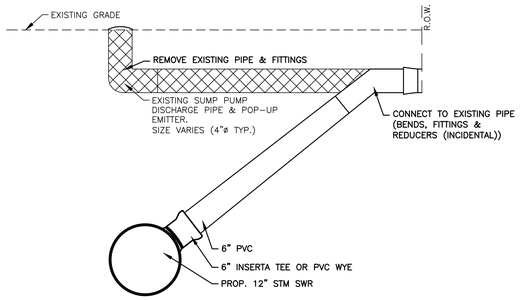
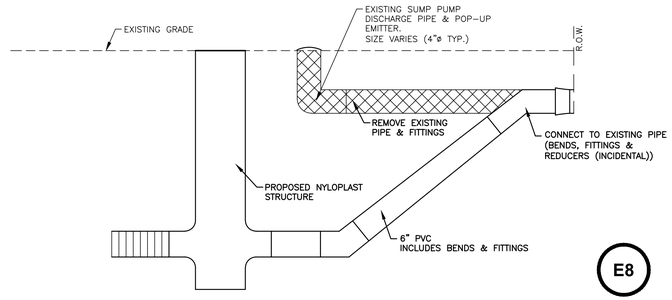



NOTE: IF NO EXISTING PIPE, PLACE 6" CAP AT R.O.W. LINE 1 FOOT BELOW GRADE WITH STAKE

## TYPE 1 STORM SEWER LATERAL

NOT TO SCALE




NOTE: IF NO EXISTING PIPE, PLACE 6" CAP AT R.O.W. LINE 1 FOOT BELOW GRADE WITH STAKE

## TYPE 2 STORM SEWER LATERAL

NOT TO SCALE

## E8 PERMANENT SEEDING NOTE:

ALL PROPOSED LAWN AREAS AND ALL AREAS DISTURBED BY CONSTRUCTION SHALL RECEIVE A MINIMUM OF 4" OF TOPSOIL AND LAWN SEED MIX AS INDICATED ON PLANS AND AS FOLLOWS:

| PROPORTION | CLASS "A" SEED TYPE |
|---|---|
| 10% | CANNON KENTUCKY BLUEGRASS |
| 10% | GOLDRUSH KENTUCKY BLUEGRASS |
| 20% | RONDE KENTUCKY BLUEGRASS |
| 20% | SR5100 CHEWINGS FESCUE |
| 20% | SR5200 CREEPING RED FESCUE |
| 10% | SR4400 PERENNIAL RYEGRASS |
| 10% | SR4500 PERENNIAL RYEGRASS |

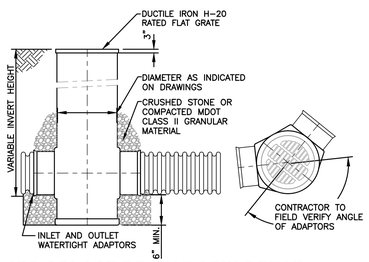
SEEDING RATE SHALL BE 4 TO 6 lbs. PER 1000 SQ. FEET.

## MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET S-E-S-C KEYING SYSTEM

| | | | |
|---|---|---|---|
| E8 | PERMANENT SEEDING | | Stabilization method utilized on sites where earth change has been completed (final grading attained). |
| E9 | MULCH BLANKETS | | On exposed slopes, newly seeded areas, new ditch bottoms, or areas subject to erosion. |
| E12 | RIPRAP | | Use along shorelines, waterways, or where concentrated flows occur. Slows velocity, reduces sediment load, and reduces erosion. |
| S51 | SILT FENCE | | Use adjacent to critical areas, to prevent sediment laden sheet flow from entering these areas. |
| S58 | INLET PROTECTION FABRIC DROP | | Use at stormwater inlets, especially at construction sites. |

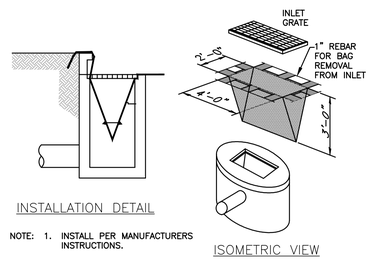
## EROSION & SEDIMENTATION CONTROL NOTES

1. INSTALL SILT FENCE AS SHOWN. MAINTAIN SILT FENCE BY REMOVING SEDIMENT WHEN IT HAS REACHED 1/3 TO 1/2 OF THE HEIGHT OF THE FENCE.
2. CLEAR & GRUB SITE AS NECESSARY AND REMOVE ALL RESULTING MATERIALS FROM THE SITE.
3. REMOVE & STOCKPILE TOPSOIL. INSTALL SILT FENCE AT THE TOE OF THE SLOPE ON THE DOWNSTREAM SIDE AND ADD TEMPORARY SEED MIX TO ESTABLISH VEGETATION.
4. NO SOIL WILL BE ALLOWED TO ACCUMULATE OFF SITE. ANY SOIL TRACKED OFF SITE WILL BE IMMEDIATELY REMOVED.
5. PERMANENT CONTROL MEASURES MUST BE COMPLETED 15 CALENDAR DAYS AFTER THE FINAL EARTH CHANGE IS COMPLETED FOR EACH AREA DISTURBED. THIS INCLUDES BLANKETS, SEEDING, MULCHING & HYDROMULCHING.
6. FOR ALL AREAS TO BE SEEDED, THE MULCH MUST BE APPLIED IMMEDIATELY AFTER SEED APPLICATION.
7. CONTRACTOR SHALL CLEAN AND MAINTAIN THE STORM SEWER INLETS AND PIPES DURING THE COURSE OF CONSTRUCTION AND SHALL CLEAN THE SYSTEM OF ALL DEBRIS UPON COMPLETION AND STABILIZATION OF THE PROJECT.
8. REMOVE TEMPORARY CONTROLS SUCH AS SILT FENCE, INLET PROTECTION AND NETTING ONCE VEGETATION IS ESTABLISHED AND THE SITE HAS BEEN STABALIZED.




## NYLOPLAST DRAIN BASIN DETAIL

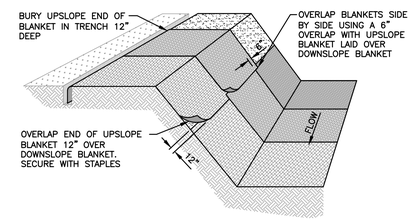
NOT TO SCALE




NOTE: 1. INSTALL PER MANUFACTURERS INSTRUCTIONS.

## S58 INLET PROTECTION - FABRIC DROP

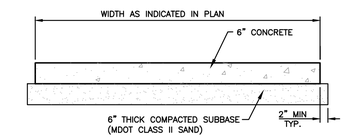
NOT TO SCALE




NOTES:
1. PLACE NAG SC-150 MULCH BLANKET PARALLEL TO FLOW AND ANCHOR SECURELY.
2. STAPLES INSTALLED/SECURED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

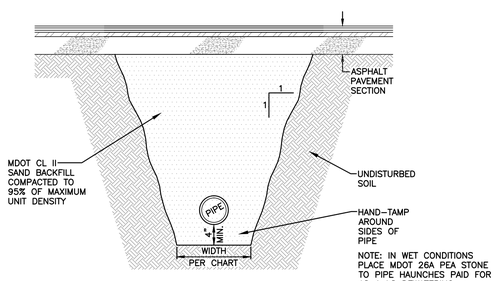
## E9 EROSION CONTROL BLANKET DETAIL

NOT TO SCALE



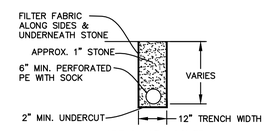

## HEAVY DUTY CONCRETE WALK

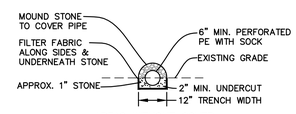
NOT TO SCALE




## TYPICAL TRENCH DETAIL
### UNDER ASPHALT SURFACES ONLY

NOT TO SCALE




## FRENCH DRAIN DETAIL

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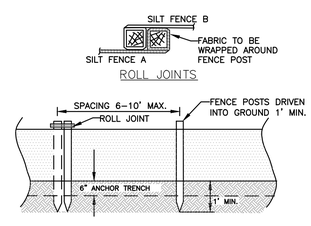
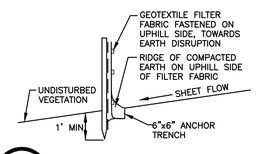



## S51 SILT FENCE DETAIL

NOT TO SCALE

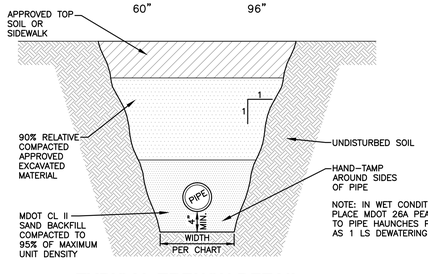



## PRECAST CONCRETE STORM MANHOLE

NOT TO SCALE

MINIMUM TRENCH WIDTH FOR N-12 PLASTIC PIPE (PER ADS STANDARD DRAWING STD-101)

| PIPE DIAMETER | TRENCH WIDTH |
|---|---|
| 4" | 21" |
| 6" | 23" |
| 8" | 26" |
| 10" | 28" |
| 12" | 30" |
| 15" | 34" |
| 18" | 39" |
| 24" | 48" |
| 30" | 56" |
| 36" | 64" |
| 42" | 72" |
| 48" | 80" |
| 60" | 96" |




## TYPICAL TRENCH DETAIL

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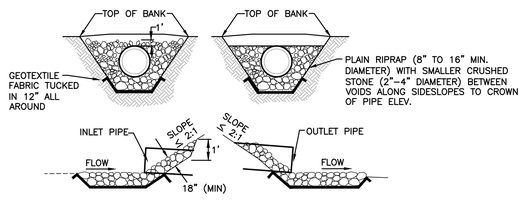


UPSTREAM DOWNSTREAM

## E12 RIPRAP END TREATMENT DETAIL

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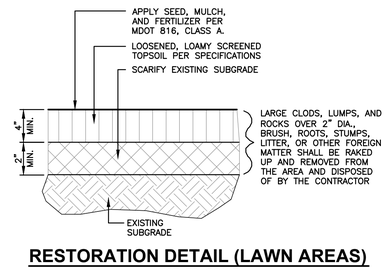
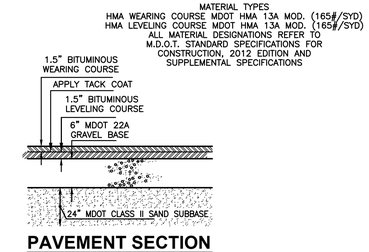



## RESTORATION DETAIL (LAWN AREAS)

NOT TO SCALE




## PAVEMENT SECTION

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| SURVEYED BY: CVF/ADK | DATE 9/18 |
| DESIGNED BY: KJV | 9/18 |
| DRAFTED BY: RAG | 9/18 |
| CAQC: KAP | 9/18 |

SHEET NAME: DETAILS

SHEET NUMBER: C4

Jan 10, 2020 – 7:54am M:\Projects\18-054 KCDC - Vineyards Drain\LD\dwg\03-Detail Sheet.dwg, XREFs: Dxrdr