

# CONSTRUCTION PLANS FOR THE CITY OF MOUNT PLEASANT

## PLANS OF PROPOSED RIVERSIDE CEMETERY EXPANSION

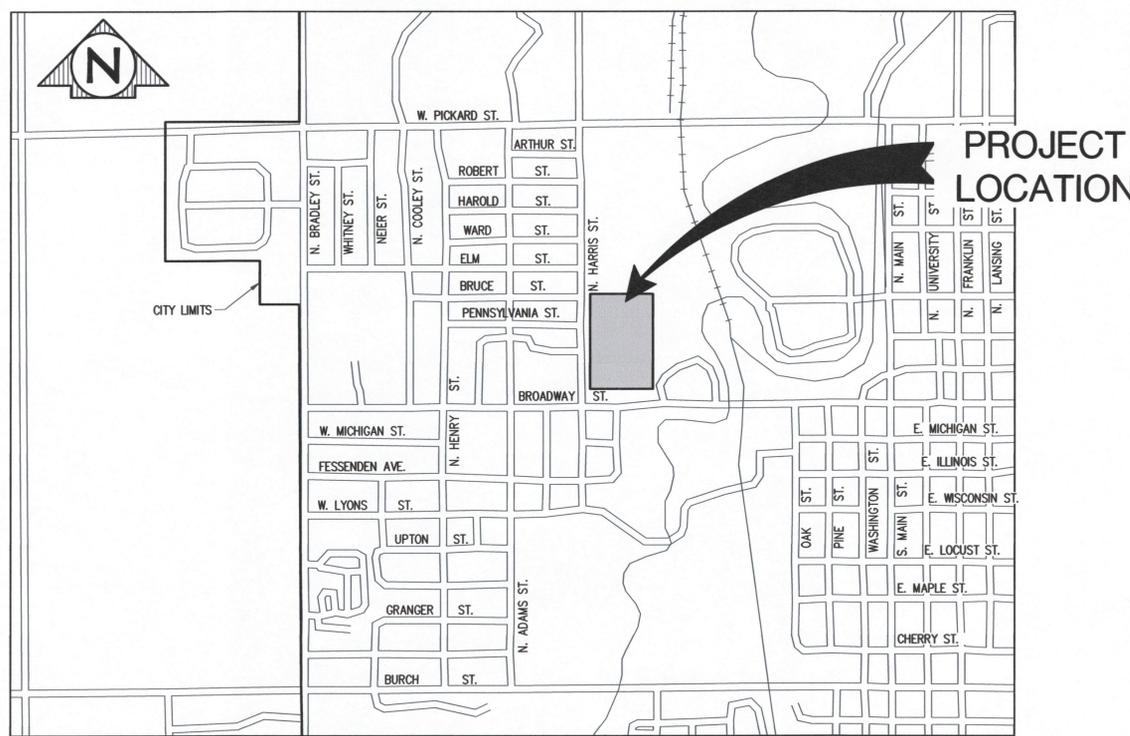
T14N - R4W, SECTION 15 CITY OF MOUNT PLEASANT  
ISABELLA COUNTY, MICHIGAN

PLAN DATE: OCTOBER 2014  
PROJECT MGR: JHR  
REVIEWER: SMC  
SCALE: NONE

**ROWE PROFESSIONAL SERVICES COMPANY**  
O: (989) 772-2138  
F: (989) 773-7757  
www.rowepscc.com

127 S. Main Street  
Mt. Pleasant, MI 48858

**PROJECT DESCRIPTION**  
THIS PROJECT INCLUDES THE EXPANSION OF RIVERSIDE CEMETERY, INCLUDING WATER SERVICES (BY OTHERS), STEEL FENCE POST INSTALLATION (BY OTHERS) AND AGGREGATE ROADWAY FOR THE EXPANDED AREA.



**LOCATION MAP**  
NOT TO SCALE

**OWNER INFORMATION**  
CITY OF MT. PLEASANT  
320 W. BROADWAY STREET  
MT. PLEASANT, MI 48858

**PLAN SUBMITTAL LOG**

| AGENCY  | UTILITY                                | SUBMITTAL DATE |
|---|--|----------------|
| 1. CITY OF MOUNT PLEASANT<br>DIVISION OF PUBLIC WORKS<br>1303 N. FRANKLIN STREET<br>MOUNT PLEASANT, MI 48858<br>(989) 779-5328<br>STACIE TEWARI, P.E. | WATERMAIN, SANITARY<br>AND STORM SEWER | 10/24/2014     |
| 2. CONSUMERS ENERGY CO.<br>2400 WEISS STREET<br>SAGINAW, MI 48602<br>(989) 280-3036<br>MARCIA JANSEN-WILSON   | GAS                                    | 10/24/2014     |
| 3. CONSUMERS ENERGY CO.<br>1325 WRIGHT AVE.<br>ALMA, MI 48801<br>(989) 466-4279<br>RICH KLENDER   | ELECTRIC                               | 10/24/2014     |
| 4. CHARTER COMMUNICATIONS<br>915 E. BROOMFIELD RD.<br>MT. PLEASANT, MI 48858<br>(989) 621-4930<br>SCOTT VANHOOSE                                      | CABLE                                  | 10/24/2014     |
| 5. FRONTIER COMMUNICATIONS<br>345 PINE AVENUE<br>ALMA, MI 48801<br>(989) 463-0392<br>MARK MARSHALL  | TELEPHONE                              | 10/24/2014     |
| 6. WOLVERINE GAS AND OIL<br>8075 CREEKSIDE DRIVE<br>SUITE 210<br>PORTAGE, MI 49024<br>(269) 323-2491 x24<br>EDWIN PETERS                              | GAS AND OIL                            | 10/24/2014     |

**SHEET INDEX**

- 1 COVER SHEET
- 2 LEGEND SHEET
- 3 PLAN SHEET WITH DETAILS
- 4 SESC LEGEND SHEET



*Troy R. Grunder*



| REVISIONS |      |             |    |
|-----------|------|-------------|----|
| NO.       | DATE | DESCRIPTION | BY |
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REV: \_\_\_\_\_  
SHT# 1 OF 4  
JOB No: 14M0081

PREPARED FOR  
**CITY OF MT. PLEASANT**  
**RIVERSIDE CEMETERY EXPANSION**  
COVER SHEET

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**STRUCTURE SYMBOLS**

- ▣ EXISTING CATCH BASIN IN CURB LINE
- PROPOSED CATCH BASIN IN CURB LINE
- EXISTING CATCH BASIN IN GREEN SPACE
- PROPOSED CATCH BASIN IN GREEN SPACE
- EXISTING STORM MANHOLE
- PROPOSED STORM MANHOLE
- ▶ PROPOSED CULVERT END SECTION
- ⌋ EXISTING HEADWALL
- ⌋ PROPOSED HEADWALL
- EXISTING WATER SHUTOFF (SERVICE VALVE)
- EXISTING GATE VALVE AND BOX (STOP BOX)
- PROPOSED GATE VALVE AND BOX
- EXISTING GATE VALVE AND WELL
- PROPOSED GATE VALVE AND WELL
- × EXISTING SPRINKLER HEAD
- EXISTING WATER WELL
- ⊕ EXISTING FIRE HYDRANT
- ⊕ PROPOSED FIRE HYDRANT
- ⌋ PROPOSED WATER MAIN FITTINGS
- EXISTING CLEAN OUT
- EXISTING SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER MANHOLE
- ⊗ EXISTING MONITORING WELL

**EXISTING TOPOGRAPHICAL SYMBOLS**

- ⊕ SIGN
- ⊕ STREET SIGN
- ⊕ END OF PIPE
- ⊕ SWAMP OR WETLAND
- ⊕ DECIDUOUS TREE
- ⊕ CONIFEROUS TREE
- ⊕ TREE STUMP
- ⊕ MAIL BOX
- ⊕ SOIL BORING
- ⊕ ROCK
- ⊕ METAL POST
- ⊕ BUMPER BLOCK

**UTILITY SYMBOLS**

- ⊕ UTILITY POLE
- ⊕ GUY ANCHOR CABLE
- ⊕ LIGHT POLE / ORNAMENTAL LIGHT
- ⊕ POWER LIGHT POLE
- TELEPHONE MANHOLE
- ⊕ UNDERGROUND GAS LINE MARKER
- GAS RISER
- GAS VENT
- GAS VALVE
- ⊕ RAILROAD SIGNAL
- ⊕ METAL LIGHT POLE
- OUTLET
- CIRCUIT BREAKER PANEL
- ⊗ ELECTRICAL TRANSFORMER PAD
- ⊗ ELECTRICAL TRANSFORMER RISER
- ⊕ ELECTRIC METER
- TELEPHONE PEDESTAL / RISER
- ⊕ TRAFFIC SIGNAL ON POLE
- PHONE BOTH / PAY PHONE

**SURVEY SYMBOLS**

- ⊕ MONUMENT
- ⊕ BENCHMARK
- ⊕ TRAVERSE POINT
- ⊕ SECTION CORNER
- FOUND SURVEY MONUMENTATION

**MISCELLANEOUS SYMBOLS**

- ⊕ EXISTING STRUCTURE NUMBER
- ⊕ PROPOSED STRUCTURE NUMBER
- ⊕ FLOW DIRECTION
- ⊕ EXISTING RIP-RAP
- ⊕ PROPOSED RIP-RAP

**PLAN VIEW LINE TYPES**

- 12" STM --- EXISTING STORM SEWER
- 12" GWC --- EXISTING CULVERT
- 12" SAN --- EXISTING SANITARY SEWER
- 12" WM --- EXISTING WATER MAIN
- 60' ROW --- EXISTING RIGHT OF WAY
- 60' ROW --- PROPOSED RIGHT OF WAY
- PROPOSED EASEMENT
- EXISTING CENTER LINE DITCH
- PROPOSED DITCH CENTERLINE
- EXISTING CENTER LINE ROADWAY
- PARCEL LINE / LOT LINE
- 0/4" --- EXISTING OVERHEAD UTILITIES
- 1/2" ELEC --- UNDERGROUND ELECTRICAL LINE
- 4" S-WP GAS --- GAS LINE OR PETROLEUM PIPELINE
- 1/2" TEL --- UNDERGROUND TELEPHONE LINE
- 1/2" CATV --- UNDERGROUND CABLE TV LINE
- 1/2" FIBER --- UNDERGROUND FIBER OPTIC
- 11+00 --- PROJECT CONTROL LINE
- TREE LINE
- X --- X --- X --- X --- EXISTING FENCE
- X --- X --- X --- X --- PROPOSED FENCE
- ○ --- ○ --- ○ --- ○ --- EXISTING GUARD RAIL
- ..... PROPOSED SLOPE STAKE LINE

**TOPOGRAPHY**

- 960 --- EXISTING CONTOURS MAJOR
- 958 --- EXISTING CONTOURS MINOR
- 960 --- PROPOSED CONTOUR MAJOR
- 958 --- PROPOSED CONTOURS MINOR

**PARCEL INFORMATION**

401-069 PARCEL/TAX IDENTIFICATION NUMBER  
#5324 ADDRESS/BUSINESS NAME

**PAVEMENT IDENTIFICATION**

- ==== EXISTING CURB AND GUTTER
- ==== PROPOSED CURB AND GUTTER
- ▨ EXISTING GRAVEL
- ▨ PROPOSED AGGREGATE SURFACE

**PROPOSED CALLOUTS**

- |                      |                                  |
|----------------------|----------------------------------|
| <b>TOPO CALLOUTS</b> | <b>PLAN VIEW</b>                 |
| ADJ                  | Ⓜ ADJUST STRUCTURE               |
| ADJ-B/O              | Ⓜ-B/O ADJUST STRUCTURE BY OTHERS |
| REC                  | Ⓜ REC RECONSTRUCT STRUCTURE      |
| REL                  | Ⓜ REL RELOCATE                   |
| REM-B/O              | Ⓜ-B/O REMOVE BY OTHERS           |
| REM                  | Ⓜ REMOVE                         |
| R&R                  | Ⓜ-R&R REMOVE AND REPLACE         |
| SALV                 | Ⓜ SALV SALVAGE                   |
| SAVE                 | Ⓜ P PROTECT                      |
| ABN                  | Ⓜ A ABANDON                      |
|                      | Ⓜ B BULKHEAD                     |
|                      | Ⓜ SR-F SIDEWALK RAMP TYPE        |
|                      | Ⓜ 6 SOIL EROSION CONTROL MEASURE |

**CAUTION SYMBOLS**

- Ⓜ HAZARDOUS FLAMMABLE MATERIAL UNDERGROUND USED WITH UNDERGROUND GAS & OIL LINES
- Ⓜ FIBER OPTIC USED WITH FIBER OPTICS LINES

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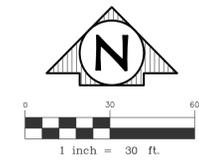
PREPARED FOR  
**CITY OF MT. PLEASANT**  
**RIVERSIDE CEMETERY EXPANSION**

LEGEND SHEET

REV: \_\_\_\_\_  
SHT# 2 OF 4  
JOB No: 14M0081



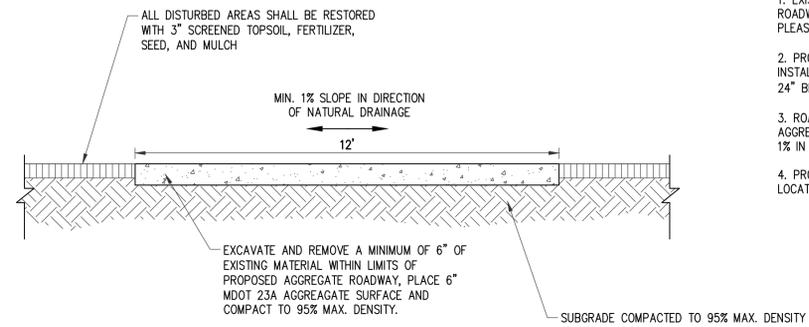
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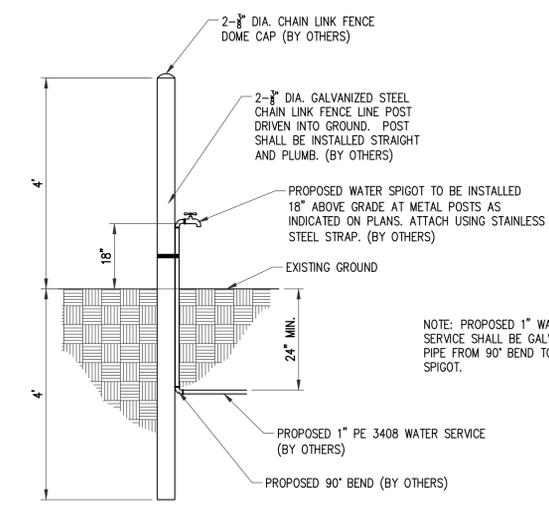
**LEGEND**

-  PROPOSED 23A AGGREGATE ROADWAY
-  PROPOSED SPIGOT LOCATION (BY OTHERS)
-  PROPOSED 1" PE 3408 WATER SERVICE (BY OTHERS)
-  PROPOSED STEEL CHAIN LINK FENCE POST (BY OTHERS)
-  PROPOSED SOIL EROSION MEASURE

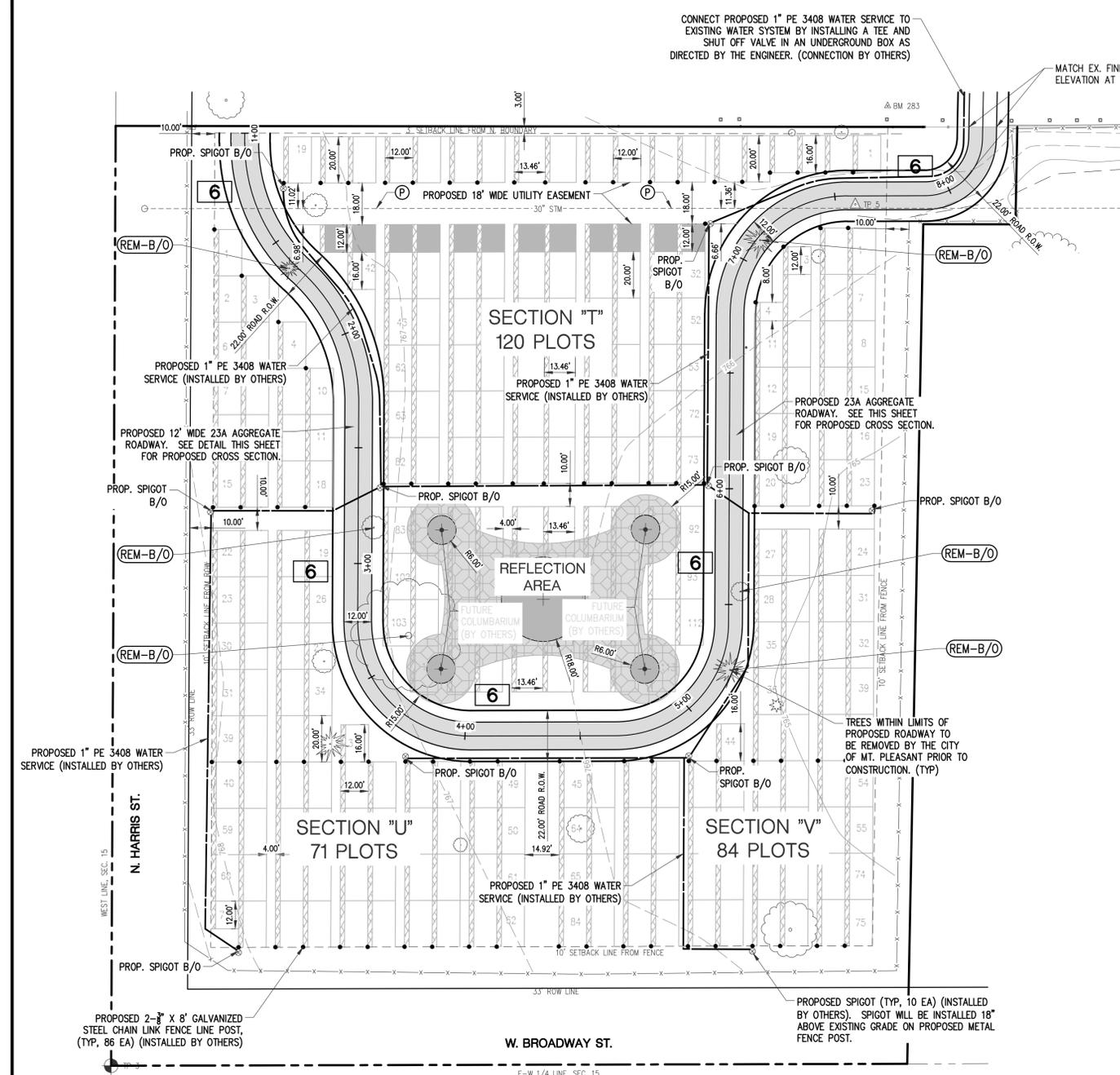
- CONSTRUCTION NOTES:**
- EXISTING TREES WITHIN LIMITS OF PROPOSED AGGREGATE ROADWAY WILL BE REMOVED BY THE CITY OF MOUNT PLEASANT PRIOR TO BEGINNING CONSTRUCTION.
  - PROPOSED 1" POLY PIPE PE 3408 WATER SERVICE WILL BE INSTALLED BY OTHERS. PIPE SHALL BE INSTALLED A MINIMUM 24" BELOW EXISTING GRADE.
  - ROADWAY SHALL BE A MINIMUM OF 6" THICK MDOT 23A AGGREGATE. CONTRACTOR SHALL SLOPE PROPOSED ROADWAY 1% IN DIRECTION OF EXISTING POSITIVE DRAINAGE.
  - PROPOSED FENCE POSTS WILL BE INSTALLED BY OTHERS. LOCATIONS SHALL BE STAKED IN THE FIELD BY ROWE PSC.



**AGGREGATE ROADWAY DETAIL**  
N.T.S.



**FENCE POST DETAIL (NOT IN CONTRACT)**  
N.T.S.



**W. BROADWAY ST.**  
E-W 1/4 LINE, SEC. 15



| REVISIONS |      |             |    |
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| NO.       | DATE | DESCRIPTION | BY |
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REV: \_\_\_\_\_  
SHT# 3 OF 4  
JOB No: 14M0081

PLAN DATE: OCTOBER 2014  
PROJECT MGR: JHR  
REVIEWER: SMC  
SCALE: 1" = 30'

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PLAN SHEET WITH DETAILS

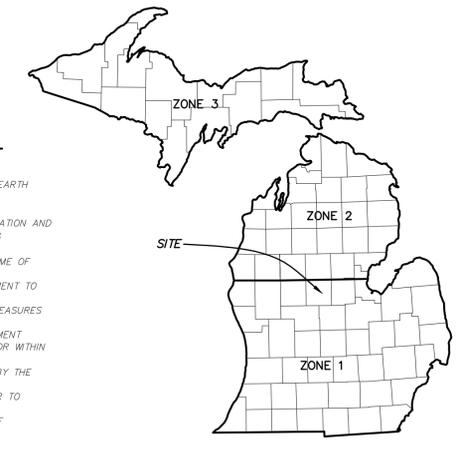
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# MICHIGAN UNIFIED KEYING SYSTEM

## SOIL EROSION SEDIMENTATION CONTROL MEASURES

\* INDICATES APPLICABILITY OF A SPECIFIC CONTROL MEASURE TO ONE OR MORE OF THE SEVEN PROBLEM AREAS

| KEY | DETAIL                            | CHARACTERISTICS   | PROBLEM AREAS |   |   |   |   |   |   | KEY | DETAIL | CHARACTERISTICS             | PROBLEM AREAS  |   |   |   |   |   |   |   |  |
|-----|-----------------------------------|---|---------------|---|---|---|---|---|---|-----|--------|-----------------------------|--|---|---|---|---|---|---|---|--|
|     |                                   |   | A             | B | C | D | E | F | G |     |        |                             | A  | B | C | D | E | F | G |   |  |
| 1   | STRIPPING & STOCKPILING TOPSOIL   | TOPSOIL MAY BE STOCKPILED ABOVE BORROW AREAS TO ACT AS A OVERFLOW STORAGE. SHOULD BE TEMPORARILY SEEDS.   | *             |   |   |   |   | * | * |     | 29     | PIPE DROP                   | REDUCES RUNOFF VELOCITY. REMOVES SEDIMENT AND TURBIDITY. CAN BE DESIGNED TO HANDLE LARGE VOLUMES OF FLOW.  |   |   |   | * |   |   |   |  |
| 2   | SELECTIVE GRADING & SHAPING       | WATER CAN BE DIVERTED TO MINIMIZE EROSION. FLATTER SLOPES CAUSE EROSION PROBLEMS.   | *             |   |   |   |   | * | * | *   | 30     | PIPE SPILLWAY               | REDUCES SEDIMENT AND TURBIDITY FROM RUNOFF. MAY BE PART OF PERMANENT EROSION CONTROL PLAN.   |   |   |   | * |   |   |   |  |
| 3   | GRUBBING OMITTED                  | GRADES EDGE OF GRUBBING, PROVIDES NEW SPRIGS, RETAINS EXISTING ROOT MAT SYSTEM, REDUCES AND FALLS AT NEW FOREST EDGE. DISCONTINUES EQUIPMENT ENTRANCE.                                | *             |   |   |   |   | * | * | *   | 31     | ENERGY DISSIPATER           | SLOWS RUNOFF VELOCITY TO NON-EROSIVE LEVEL. PROMOTES SEDIMENT COLLECTION FROM RUNOFF.  | * |   | * | * |   |   |   |  |
| 4   | VEGETATIVE STABILIZATION          | MAY UTILIZE A VARIETY OF PLANT MATERIAL. STABILIZES SOIL. SLOWS RUNOFF VELOCITY. FILTERS SEDIMENT FROM RUNOFF.  | *             | * | * |   |   | * | * | *   | 32     | LEVEL SPREADER              | CONVERTS COLLECTED CHANNEL OR PIPE FLOW BACK TO SHEET FLOW. AVOIDS CHANNEL COLLAPSES AND CONSTRUCTION OFF PROJECT SITE. SIMPLE TO CONSTRUCT.   |   |   |   | * | * |   |   |  |
| 5   | SEEDING                           | REMOVES AND NEW VEGETATIVE STABILIZES SOIL. MUST MINIMIZE EROSION. PROMOTES RUNOFF TO WETTER SOIL. REDUCING RUNOFF VOLUME SHOULD INCLUDE PREPARED TOPSOIL BED.                        | *             |   | * |   |   | * | * | *   | 33     | SEDIMENTATION TRAP          | MAY BE CONSTRUCTED OF A VARIETY OF MATERIALS. TRAPS SEDIMENT AND REDUCES VELOCITY OF FLOW. CAN BE CLEANED AND EXPANDED AS NEEDED.  |   |   | * | * |   |   |   |  |
| 6   | SEEDING WITH MULCH AND/OR MATTING | PROMOTES ESTABLISHMENT OF VEGETATIVE COVER. EFFECTIVE FOR GRADIENTS WITH LOW VELOCITY. TRAPS SEDIMENT AND REDUCES VELOCITY OF FLOW. SHOULD INCLUDE PREPARED TOPSOIL BED.              | *             |   | * |   |   | * | * | *   | 34     | SEDIMENT BASIN              | TRAPS SEDIMENT. RELIEVES RUNOFF AT NON-EROSIVE RATES. CONTROLS RUNOFF AT SYSTEM OUTLETS. CAN BE VISUAL AMENITIES.  |   |   | * | * | * |   |   |  |
| 7   | HYDRO-SEEDING                     | EFFECTIVE ON LARGE AREAS. MULCH PROTECTS SEEDS TO PROVIDE IMMEDIATE PROTECTION. MULCH SHOULD BE PREPARED TOPSOIL BED.   | *             |   | * |   |   | * | * | *   | 35     | STORM SEWER                 | SYSTEM REMOVES COLLECTED RUNOFF FROM SITE, PARTICULARLY FROM PAVED AREAS. CAN ACCEPT LARGE CONCENTRATIONS OF RUNOFF. CONDUCTS RUNOFF TO MANHOLE, SEWER SYSTEM OR STABILIZED OUTFALL LOCATION. USE CATCH BASIN TO COLLECT SEDIMENT. |   |   |   |   | * |   | * |  |
| 8   | SEEDING                           | PROVIDES IMMEDIATE PROTECTION. CAN BE USED ON STEEP SLOPES WHERE SEED MAY BE DIFFICULT TO ESTABLISH. EASY TO REPAIR. MAY BE REPAIRED IF DAMAGED. SHOULD INCLUDE PREPARED TOPSOIL BED. | *             |   | * |   |   | * | * | *   | 36     | CATCH BASIN, DRAIN INLET    | COLLECTS HIGH VELOCITY CONCENTRATED RUNOFF. MAY USE FILTER CLOTH OVER INLET.   |   |   |   |   | * |   | * |  |
| 9   | VEGETATIVE BUFFER STRIP           | SLOWS RUNOFF VELOCITY. FILTERS SEDIMENT FROM RUNOFF. REDUCES VOLUME OF RUNOFF ON SLOPES.  | *             | * |   |   |   | * |   | *   | 37     | SOD FILTER                  | INTERMEDIATE AND EASY TO CONSTRUCT. PROVIDES IMMEDIATE PROTECTION. PROTECTS AREAS AROUND INLETS FROM EROSION.  |   |   |   |   | * |   |   |  |
| 10  | MULCHING                          | USED ALONG TO PROTECT EXPOSED AREAS FOR SHORT PERIODS. PROTECTS SOIL FROM IMPACT OF FALLING RAIN. PRESERVES SOIL MOISTURE AND PROTECTS GERMINATING SEED FROM TEMPERATURE EXTREMES.    | *             |   |   |   |   | * | * |     | 38     | STRAW BALE FILTER           | INTERMEDIATE AND EASY TO CONSTRUCT. CAN BE LOCATED AS NECESSARY TO COLLECT SEDIMENT. MAY BE USED IN CONSTRUCTION WITH OTHER TYPES OF ADDED STABILITY.  |   |   |   | * | * |   | * |  |
| 11  | ROUGHENED SURFACE                 | REDUCES VELOCITY AND INCREASES INFILTRATION RATES. COLLECTS SEDIMENT. HELPS BINDER, SEED, AND MULCH BETTER THAN SMOOTH SURFACES.  | *             |   |   |   |   | * |   | *   | 39     | ROCK FILTER                 | CAN UTILIZE MATERIAL FOUND ON SITE. EASY TO CONSTRUCT. FILTERS SEDIMENT FROM RUNOFF.   |   |   |   | * | * |   | * |  |
| 12  | COMPACTION                        | HELPS HOLD SOIL IN PLACE, MAKING EXPOSED AREAS LESS VULNERABLE TO EROSION.  | *             |   |   |   |   | * |   |     | 40     | INLET SEDIMENT TRAP         | EASY TO SHAPE. COLLECTS SEDIMENT. MAY BE CLEANED AND EXPANDED AS NEEDED.   |   |   |   | * | * |   |   |  |
| 13  | RIPRAP, RUBBLE, GABIONS           | USED WHERE VEGETATION IS NOT EARLY ESTABLISHED. EFFECTIVE FOR HIGH VELOCITIES OF HIGH CONCENTRATIONS. PROMOTES RUNOFF TO WETTER SOIL. DISPERSES FLOW AT SYSTEM OUTLETS.               | *             | * | * |   |   | * |   | *   | 41     | STONE AND ROCK CROSSING     | MAY BE ROCK OR CLEAN RUBBLE. MINIMIZES STREAM TURBIDITY. HEADROOM MAY ALSO SERVE AS OYEN CHECK OR SEDIMENT TRAP.   |   |   | * |   |   |   | * |  |
| 14  | AGGREGATE COVER                   | STABILIZES SOIL SURFACE, MINIMIZING EROSION. PROMOTES CONSTRUCTION TRAFFIC IN ADVERSE WEATHER. MAY BE USED AS PART OF PERMANENT BASE CONSTRUCTION OF PAVED AREAS.                     |               |   |   |   |   | * |   | *   | 42     | TEMPORARY COVERT            | ELIMINATES STREAM TURBULENCE AND TURBIDITY. PROVIDES UNOBSTRUCTED PASSAGE FOR FISH AND OTHER WATER LIFE. CAPACITY FOR NORMAL FLOW CAN BE PROVIDED WITH STORM WATER FLOWING OVER ROADWAY.   |   |   | * |   |   |   | * |  |
| 15  | PAVING                            | PROTECTS AREAS WHICH CANNOT OTHERWISE BE PROTECTED, BUT INCREASES RUNOFF VOLUME AND VELOCITY. IRREGULAR SURFACE WILL HELP SLOW VELOCITY.  | *             |   |   |   |   | * |   | *   | 43     | COVERT SEDIMENT TRAP        | EASY TO INSTALL AT INLET. KEEPS COVERT CLEAN AND FREE FLOWING. MAY BE CONSTRUCTED OF LUMBER OR LOGS.   |   |   | * |   |   |   | * |  |
| 16  | CURB & GUTTER                     | HELPS HIGH VELOCITY RUNOFF ON PAVED AREAS FROM LEAVING PAVED SURFACES. COLLECTS AND CONDUCTS RUNOFF TO ENCLOSED DRAINAGE SYSTEM OR PREPARED DRAINAGEWAY.                              |               |   |   |   |   | * |   | *   | 44     | COVERT SEDIMENT TRAP        | DEFLECTS CURRENTS AWAY FROM STREAMBANK AREAS.  |   |   | * |   |   |   | * |  |
| 17  | BENCHES                           | REDUCES RUNOFF VELOCITY BY REDUCING EFFECTIVE SLOPE LENGTH. COLLECTS SEDIMENT. PROVIDES ACCESS TO SLOPES FOR SEEDING, MULCHING AND MAINTENANCE.                                       | *             |   |   |   |   | * |   | *   | 45     | TEMP. STREAM CHANNEL CHANGE | NEW CHANNEL, KEEPS NORMAL FLOWS AWAY FROM CONSTRUCTION. REQUIRES STATE PERMIT.   |   |   | * |   |   |   | * |  |
| 18  | DIVERSION BERM                    | DIVERTS WATER FROM VULNERABLE AREAS. COLLECTS AND DIVERTS WATER TO PREPARED DRAINAGEWAYS. MAY BE PLACED AS PART OF NORMAL CONSTRUCTION OPERATION.                                     | *             |   |   |   |   | * | * | *   | 46     | SHEET PILING                | PROTECTS PROBLEME BANK AREAS FROM STREAM CURRENTS DURING CONSTRUCTION. MINIMAL DISRUPTION WHEN REMOVED.  |   |   | * |   |   |   | * |  |
| 19  | DIVERSION DITCH                   | COLLECTS AND DIVERTS WATER TO REDUCE EROSION POTENTIAL. MAY BE INCORPORATED IN PERMANENT PROJECT DRAINAGE SYSTEMS.  | *             |   |   |   |   | * | * | *   | 47     | COFFERDAM                   | WORK CAN BE CONTINUED DURING MOST UNFAVORABLE STREAM CONDITIONS. CLEAN WATER CAN BE PUMPED DIRECTLY BACK INTO STREAM.  |   |   | * |   |   |   | * |  |
| 20  | BERM & DITCH                      | DIVERTS WATER TO A PREPARED DRAINAGEWAY. MAY BE USED AT INTERVALS ACROSS SLOPE FACE TO REDUCE EFFECTIVE SLOPE LENGTH.   | *             |   |   |   |   | * | * | *   | 48     | CONSTRUCTION DAM            | PERMITS WORK TO CONTINUE DURING NORMAL STREAM STAGES. CONTROLLED FLOWING CAN BE ACCOMPLISHED DURING PERIODS OF INACTIVITY.   |   |   | * |   |   |   | * |  |
| 21  | FILTER BERM                       | CONSTRUCTED OF GRAVEL OR STONE. INTERCEPTS AND DIVERTS RUNOFF TO STABILIZED AREAS OR PREPARED DRAINAGE SYSTEMS. SLOWS RUNOFF AND COLLECTS SEDIMENT.                                   | *             | * |   |   |   | * |   | *   | 49     | CHECK DAMS                  | REDUCES FLOW VELOCITY. CAUSES SEDIMENT. CAN BE CONSTRUCTED OF LOGS, STRIKE, H&C, ROCK, LUMBER, MASONRY, OR SAND BAGS.  |   |   | * | * |   |   | * |  |
| 22  | BRUSH FILTER                      | USES SLASH AND LOGS FROM CLEARING OPERATIONS. CAN BE COINED AND SEEDS RATHER THAN REMOVED. LUMBERAGE NEED FOR BURNING OR REMOVAL OF MATERIAL FROM SITE.                               |               |   |   |   |   | * |   | *   | 50     | WEIR                        | CONTROLS SEDIMENTATION IN LARGE STREAMS. CAUSES MINIMAL TURBIDITY.   |   |   | * | * |   |   | * |  |
| 23  | BASE CHANNEL                      | LEAST EROSION FORM OF DRAINAGEWAY. MAY BE USED ONLY WHERE GRADIENT IS VERY LOW AND WITH SOILS OF MINIMUM EROSION POTENTIAL.   |               |   | * |   |   |   |   | *   | 51     | RETAINING WALL              | REDUCES GRADIENT WHERE SLOPES ARE EXTREMELY STEEP. PERMITS ESTABLISHMENT OF EXISTING VEGETATION, KEEPING SOIL STABLE IN CRITICAL AREAS. MINIMIZES MAINTENANCE.   |   |   | * |   |   |   | * |  |
| 24  | GRASSED WATERWAY                  | WHEN MORE STABLE FORM OF DRAINAGEWAY THAN BASE CHANNEL. GRASS TENDS TO SLOW RUNOFF AND FILTER OUT SEDIMENT. USED WHERE BASE CHANNEL WOULD BE CROSSED.                                 |               |   | * |   |   |   |   | *   | 52     | SEEPAGE CONTROL             | PREVENTS PAVING AND SOIL SURFAZE ON CUT SLOPES.  |   |   | * |   |   |   | * |  |
| 25  | SLOPE DRAIN (SURFACE PIPE)        | PREVENTS EROSION ON SLOPES WHEN RUNOFF CANNOT BE DIVERTED TO EDGE OF SLOPE AREA. USUALLY PERMANENT. CAN BE CONSTRUCTED OR EXTENDED AS GRADING PROGRESSES.                             | *             |   |   |   |   |   |   | *   | 53     | WINDBREAK                   | MINIMIZES WIND EROSION. MAY BE SHOWN FENCE.  |   |   | * |   |   |   | * |  |
| 26  | SLOPE DRAIN (PIPE OUTLET)         | PREVENTS EROSION ON SLOPES WHEN RUNOFF CANNOT BE DIVERTED TO EDGE OF SLOPE AREA. USUALLY PERMANENT. CAN BE CONSTRUCTED OR EXTENDED AS GRADING PROGRESSES.                             | *             |   |   |   |   |   |   | *   | 54     | SILT FENCE                  | USES GEOTEXTILE FABRIC AND POSTS OR POLES. EASY TO CONSTRUCT AND LOCATE AS NECESSARY.  |   |   | * |   |   |   | * |  |
| 27  | SLOPE DRAIN (SUBSURFACE PIPE)     | PREVENTS EROSION ON SLOPES WHEN RUNOFF CANNOT BE DIVERTED TO EDGE OF SLOPE AREA. USUALLY PERMANENT. CAN BE CONSTRUCTED AS GRADING PROGRESSES.   | *             |   |   |   |   |   |   | *   |        |                             |  |   |   |   |   |   |   |   |  |
| 28  | DROP SPILLWAY                     | SLOWS VELOCITY OF FLOW, REDUCING EROSION CAPACITY.  |               | * | * |   |   |   |   | *   |        |                             |  |   |   |   |   |   |   |   |  |



### SOIL EROSION & SEDIMENTATION CONTROL

- THE CITY WILL SUBMIT A DETAILED EROSION CONTROL PLAN AND OBTAIN A SOIL EROSION & SEDIMENTATION CONTROL PERMIT PRIOR TO ANY EARTH CHANGES IF NECESSARY.
- CONSTRUCTION OPERATION SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING AND/OR GRADING OPERATIONS.
- BORROW AND FILL DISPOSAL AREAS WILL BE SELECTED AND APPROVED AT TIME OF PLAN REVIEW.
- SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.
- CLEANUP WILL BE DONE IN A MANNER TO INSURE THAT EROSION CONTROL MEASURES ARE NOT DISTURBED.
- THE PROJECT WILL CONTINUALLY BE INSPECTED FOR SOIL EROSION AND SEDIMENT CONTROL COMPLIANCE. DEFICIENCIES WILL BE CORRECTED BY THE CONTRACTOR WITHIN 24 HOURS.
- TEMPORARY EROSION CONTROL MEASURES SHALL BE COMPLETELY REMOVED BY THE CONTRACTOR UPON ESTABLISHMENT OF PERMANENT CONTROL MEASURES.
- ALL TEMPORARY SOIL EROSION CONTROL MEASURES MUST BE REMOVED PRIOR TO ACCEPTANCE OF PROJECT.
- VEGETATION MUST BE ACCEPTABLY ESTABLISHED PRIOR TO FINAL RELEASE OF RETAINAGE.

### PERMANENT SEEDING GUIDE

|                             | APR | MAY | JUN | JUL | AUG | SEP | OCT | ZONE 1 |
|-----------------------------|-----|-----|-----|-----|-----|-----|-----|--------|
| IRRIGATED AND/OR MULCH      |     |     |     |     |     |     |     |        |
| WITHOUT IRRIGATION OR MULCH |     |     |     |     |     |     |     |        |

### TEMPORARY SEEDING GUIDE

| TYPE OF SEED                            | ZONE 1 |     |     |     |     |     |     |
|---|--------|-----|-----|-----|-----|-----|-----|
|   | APR    | MAY | JUN | JUL | AUG | SEP | OCT |
| SPRING OATS/BARLEY OR DOMESTIC RYEGRASS |        |     |     |     |     |     |     |
| SUDANGRASS                              |        |     |     |     |     |     |     |
| RYE OR PERENNIAL RYE                    |        |     |     |     |     |     |     |
| WHEAT                                   |        |     |     |     |     |     |     |

### CONSTRUCTION SEQUENCE

- IMPLEMENTATION OF TEMPORARY EROSION CONTROL MEASURES; SELECTIVE GRADING, DIVERSIONS AS REQUIRED IN FIELD, PROTECTION OF STORM SEWER FACILITIES.
- EXCAVATION AND STOCKPILING OF SOIL.
- PERIODIC MAINTENANCE OF AFFECTED EROSION CONTROL MEASURES.
- PERMANENT MEASURES; FINAL GRADING, SEEDING AND MULCHING.



| REVISIONS |      |             |    |
|-----------|------|-------------|----|
| NO.       | DATE | DESCRIPTION | BY |
|           |      |             |    |
|           |      |             |    |

REV: \_\_\_\_\_

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JOB No: 14M0081

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PREPARED FOR  
**CITY OF MT. PLEASANT**  
**RIVERSIDE CEMETERY EXPANSION**  
 SESC LEGEND SHEET

PLAN DATE: OCTOBER 2014  
 PROJECT MGR: JHR  
 REVIEWER: SMC  
 SCALE: NONE

PLOTED: 1/5/2015 4:33 PM  
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