MWRD GENERAL NOTES

TYPICAL GENERAL NOTES

1. THE MWRD LOCAL SEWER SYSTEMS SECTION FIELD OFFICE MUST BE NOTIFIED AT LEAST TWO (2) WORKING DAYS PRIOR TO THE COMMENCEMENT OF ANY WORK

- 2. ELEVATION DATUM IS NAVD 88
- 3. NO FLOOR DRAINS
- 4. NO FOOTING DRAINS AND DOWNSPOUTS.

5. ALL SANITARY SEWER PIPE MATERIALS AND JOINTS (AND STORM SEWER PIPE MATERIALS AND JOINTS IN A COMBINED SEWER AREA) SHALL CONFORM TO:

PIPE MATERIAL SPEC.	JOINT SPEC.
VITRIFIED CLAY PIPE VCP C-700 VCP (NO-BEL) C-700	C-425
JOINT COLLAR	C-425 D-1784
CONCRETE PIPE C-14 RCP C-76 ACP C-428	C-443 C-443 D-1869
ABS SEWER PIPE SOLID WALL 6" DIA. SDR 23.5 ABS D-2751	D-2751
ABS COMPOSITE/TRUSS PIPE 8"-15" DIA. ABS D-2680	D-2680
PVC GRAVITY SEWER PIPE 6"-15" DIA. SDR 26 D-3034	D-3212 OR D-2855
18"-27" DIA. F/DY=46 F-679	D-3212 OR D-2855
CISP A-74 DIP A-21.51	C-564 A-21 . 11

6. ALL SANITARY SEWER CONSTRUCTION (AND STORM SEWER CONSTRUCTION IN COMBINED SEWER AREAS), REQUIRES STONE BEDDING WITH STONE 1/4" TO 1" IN SIZE, WITH MINIMUM BEDDING THICKNESS EQUAL TO 1/4 THE OUTSIDE DIAMETER OF THE SEWER PIPE, BUT NOT LESS THAN FOUR (4) INCHES NOR MORE THAN EIGHT (8) INCHES. MATERIAL SHALL BE CA-11 OR CA-13 AND SHALL BE EXTENDED AT LEAST 12" ABOVE THE TOP OF THE PIPE WHEN USING PVC. REFER TO PIPE BEDDING & BACKFILL DETAIL.

7. "BAND SEAL" OR SIMILAR FLEXIBLE-TYPE COUPLINGS SHALL BE USED IN THE CONNECTION OF SEWER PIPES OF DISSIMILAR MATERIALS.

8. WHEN CONNECTING TO AN EXISTING SEWER MAIN BY MEANS OTHER THAT AN EXISTING WYE, TEE, OR AN EXISTING MANHOLE, ONE OF THE FOLLOWING METHODS

1. CIRCULAR SAW-CUT OF SEWER MAIN BY PROPER TOOLS ("SHEWER-TAP" MACHINE OR SIMILAR) AND PROPER INSTALLATION OF HUBWYE SADDLE OR HUB-TEE SADDLE.

2. REMOVE AN ENTIRE SECTION OF PIPE (BREAKING ONLY THE TOP OF ONE BELL) AND REPLACE WITH A WYE OR TEE BRANCH

3. WITH PIPE CUTTER, NEATLY AND ACCURATELY CUT OUT DESIRED LENGTH OF PIPE FOR INSERTION OF PROPER FITTING, USING "BAND SEAL" OR SIMILAR COUPLINGS TO HOLD IT FIRMLY IN PLACE.

THE FOLLOWING MATERIALS ARE ALLOWED ON A QUALIFIED BASIS: (WHEN ONE OF THESE MATERIALS IS USED FOR SEWER CONSTRUCTION, A SPECIAL CONDITION WILL BE ADDED TO THE PERMIT.)

PIPE MATERIAL SPEC. JOINT SPEC.

PVC CORRUGATED WITH A SMOOTH INTERIOR, 4" -18" DIA. F-949

PVC PROFILE GRAVITY SEWER PVC F-794	D-3212 OR D-2855
PVC COMPOSITE/TRUSS PIPE 8"-15" DIA. PVC D-2680	D-3212 OR
TYPE PS-46 PVC GRAVITY SEWER	D-2855
(MUST MEET THE PERFORMANCE REQUIREMENTS OF D-3034, SDR-26)	D-2680 OR D-3212

HIGH DENSITY POLYETHYLENE (HDPE) PLASTIC PIPE POLYETHYLENE (HDPE) SEWER PIPE SHALL CONFORM TO TYPE III, CLASS B (OR BETTER), CATEGORY 5, GRADE P34 AS DEFINED IN ASTM D-1248 AND/OR D-3350 WITH A CELL CLASSIFICATION PE 345434C OR HIGHER, THE D-2855 JOINING METHOD SHALL CONFORM TO ASTM D-2657.

9. WHENEVER A SANITARY/COMBINED SEWER CROSSES UNDER A WATERMAIN, THE MINIMUM VERTICAL DISTANCE FROM THE TOP OF THE SEWER TO THE BOTTOM OF THE WATERMAIN SHALL BE 18 INCHES. FURTHERMORE, A MINIMUM HORIZONTAL DISTANCE OF 10 FEET BETWEEN SANITARY/COMBINED SEWERS AND WATERMAINS SHALL BE MAINTAINED UNLESS: THE SEWER IS LAID IN A SEPARATE TRENCH, KEEPING A MINIMUM 18" VERTICAL SEPARATION; OR THE SEWER IS LAID IN THE SAME TRENCH WITH THE WATERMAIN LOCATED AT THE OPPOSITE SIDE ON A BENCH OF UNDISTURBED EARTH, KEEPING A MINIMUM 18" VERTICAL SEPARATION, IF EITHER THE VERTICAL OR HORIZONTAL DISTANCES DESCRIBED ABOVE CAN NOT BE MAINTAINED, OR THE SEWER CROSSES ABOVE THE WATERMAIN, THE SEWER SHALL BE CONSTRUCTED TO WATERMAIN STANDARDS. 9. WHENEVER A SANITARY/COMBINED SEWER CROSSES

10. SEE WATER MAIN/ SEWER HORIZONTAL SEPERATION DETAIL.

11. ALL SANITARY MANHOLES, (AND STORM MANHOLES IN COMBINED SEWER AREAS), SHALL HAVE A MINIMUM INSIDE DIAMETER OF 48 INCHES, AND SHALL BE CAST IN PLACE OR PRE-CAST REINFORCED CONCRETE. REFER TO DETAIL.

UTILITY GENERAL NOTES

- THE CONTRACTOR SHALL SUBSCRIBE TO ALL GOVERNING REGULATIONS AND SHALL ABIDE BY THE REQUIREMENTS OF ALL APPLICABLE PERMITS.
- ALL APPLICABLE PROVISIONS OF THE CURRENT OCCUPATIONAL HEALTH AND SAFETY ACT ARE HEREIN INCORPORATED BY REFERENCE.
- 3. NO BURNING OR INCINERATION OF RUBBISH IS PERMITTED ON THE SITE.
- 4. THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION) AND THE SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS (LATEST EDITION)" PREPARED BY ILLINOIS DEPARTMENT OF TRANSPORTATION (IDDT), HEREIN AFTER REFERRED TO AS THE "STANDARD SPECIFICATIONS AND "STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS", HEREIN AFTER REFERRED TO AS "ISPE STAND SHALL GOVERN THE CONSTRUCTION OF UTILITY IMPROVEMENTS EXCEPT AS "ISPE STANDARDS"
- 5. ALL CONNECTIONS TO EXISTING UTILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REGULATIONS OF THE VILLAGE OF MELROSE PARK AND THE STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS, HERIN AFTER
- 6. THE CONTRACTOR SHALL NOTIFY THE VILLAGE OF MELROSE PARK PUBLIC WORKS (708-531-5330) AT LEAST 48 HOURS BEFORE THE CONNECTION TO VILLAGE OWNED UTILITIES.
- 7. ALL TRENCHES WITHIN 2 FEET OF AN EXISTING OR PROPOSED SIDEWALK, CURB, PAVEMENT OR DRIVEWAY ARE TO BE BACKFILLED WITH TRENCH BACKFILL AND COMPACTED TO 95% MODIFIED PROCTOR DENSITY.
- 8. CONTRACTOR IS RESPONSIBLE FOR LAYOUT, LINE AND GRADE FOR ITEMS INCLUDED IN THE CONTRACT SCOPE OF WORK.

SANITARY SEWER GENERAL NOTES

- WATER MAIN QUALITY PVC SEWER PIPE SHALL CONFORM TO PRESSURE RATING IN ACCORDANCE WITH ASTM D2241, SDR 26. JOINTS SHALL COMPLY WITH ASTM F477 WITH A PRESSURE RATING IN ACCORDANCE WITH ASTM D3139.
- 2. AT MANHOLE JOINTS PROVIDE FLEXIBLE GASKETS (CONFORMING TO ASTM C990) OR RUBBER GASKETS (CONFORMING TO ASTM C443) OR BUTYL ROPE OR OTHER APPROVED EQUIVALENT BITUMINOUS MATERIAL TO ENSURE A WATER TIGHT JOINT.
- 3. AT MANHOLE JOINTS PROVIDE AN EXTERNAL JOINT WRAP SYSTEM CONFORMING TO
- 4. A RUBBER BOOT (CONFORMING TO ASTM C923) SHALL BE INSTALLED AT ALL CONNECTIONS TO MANHOLES.
- 5. EXTERNAL CHIMNEY SEALS CONFORMING TO ASTM C-923 SHALL BE INSTALLED.
- 6. TYPE 1 FRAME & LID BOLTED SHALL BE WATER TIGHT NEENAH R1916-C OR EJIW 1058 OR APPROVED EQUAL.
- 7. THE WORDS "SANITARY" AND "VILLAGE OF MELROSE PARK" SHALL BE CAST INTO LID.
- 8. ALL SANITARY SEWERS SHALL BE AIR TESTED AND MANDREL/DEFLECTION TESTED ACCORDING TO THE REQUIREMENTS OF THE ISPE STANDARDS AND THE VILLAGE OF MELROSE PARK, IL. THE VILLAGE OF MELROSE PARK SHALL BE CONSULTED FOR ADDITIONAL TESTING REQUIREMENTS.
- 9. UPON COMPLETION OF SEWER CONSTRUCTION THE CONTRACTOR SHALL TELEVISE ALL NEWLY CONSTRUCTED SEWERS AND PROVIDE A WRITTEN REPORT AND ONE COLOR VIDEO TAPE OF THE INSPECTION TO THE MUNICIPAL ENGINEER PRIOR TO MUNICIPAL ACCEPTANCE.
- 10. BEFORE FINAL ACCEPTANCE.

 10. BEFORE FINAL ACCEPTANCE, THE SANITARY SEWERS SHALL BE TESTED IN ACCORDANCE WITH SECTION 31-1.12 & 31-1.13 OF THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS". SPECIFICALLY, ALL PIPELINES CONSTRUCTED OF FLEXIBLE MATERIALS SHALL BE SUBJECT TO AIR EXFILTRATION TESTS, TELEVISING TEST, AND DEFLECTION TEST. THE DEFLECTION TEST SHALL BE PERFORMED NO SOONER THAN THIRTY (30) DAYS OF THE BACK FILLING OPERATION AND SHALL CONSIST OF MEASURING THE PIPE FOR VERTICAL RING DEFLECTION. MAXIMUM RING DEFLECTION OF THE PIPELINE UNDER LOAD SHALL BE LIMITED TO FIVE (5) PERCENT OF THE INTERNAL PIPE DIAMETER. ALL PIPE EXCEEDING THIS DEFLECTION SHALL BE CONSIDERED TO HAVE REACHED THE LIMIT OF ITS SERVICEABILITY AND SHALL BE RE-LAID OR REPLACED BY THE SUB-CONTRACTOR. DEFLECTION TESTING SHALL BE ACCOMPLISHED BY PULLING A MANDREL, SPHERE, OR PIN-TYPE "GO / NO-GO" DEVICE, WITH A DIAMETER EQUAL TO NINETY-FIVE (95) PERCENT OF THE UNDEFLECTED INSIDE DIAMETER OF THE FLEXIBLE PIPE, THROUGH THE PIPELINE.
- 11. VACUUM TESTING SHALL BE CARRIED OUT IMMEDIATELY AFTER ASSEMBLY AND PRIOR TO BACK FILLING OF MANHOLES THAT ARE UP TO SEVENTY-TWO (72) INCHES IN DIAMETER. ALL LIFT HOLES SHALL BE PLUGGED WITH A NON-SHRINK GROUT, OR RUBBER PLUG. THE MANHOLE FRAME AND ADJUSTING RINGS AND CHIMNEY SEALS SHALL BE IN PLACE BEFORE TESTING. NO GROUT SHALL BE PLACED IN THE HORIZONTAL JOINTS. ALL PIPES ENTERING THE MANHOLE SHALL BE PLUGGED, TAKING CARE TO SECURELY BRACE THE PLUGS FROM BEING DRAWN INTO THE MANHOLE WITH THE VACUUM TESTING, VACUUM TESTING DRAWN INTO THE MANHOLE FOR LEAKAGE. A VACUUM OF TEN (10) INCHES OF MERCURY SHALL BE PLACED ON THE MANHOLE AND THE TIME MEASURED FOR THE VACUUM TO DROP TO NINE (9) INCHES OF MERCURY. THE VACUUM DROP SHALL NOT EXCEED THE REQUIREMENTS SHOWN IN TABLE 1 OF ASTM C1244-02. IF TESTING FAILS, DEVELOPER SHALL SEAL ALL LEAKS AND RETEST UNTIL ACCEPTABLE. THE TESTING SHALL BE COMPLETED PRIOR TO BACK FILLING (WHENEVER POSSIBLE) SO THAT ANY LEAKS CAN BE FOUND AND FIXED EXTERNALLY, AND TO GIVE THE HORIZONTAL MANHOLE JOINTS AN OPPORTUNITY TO TIGHTEN.

SCALE: N.T.S.

- 12. STEEL CASING SHALL BE 20" WITH 0.375" WALL THICKNESS, GRADE B, CONFORMING TO ASTM A-139.
- 13. SANITARY FLOWS SHALL BE MAINTAINED AT ALL TIMES.

WATERMAIN GENERAL NOTES

- ALL WATER MAINS SHALL BE INSTALLED IN A MANNER MEETING OR EXCEEDING THE REQUIRED STANDARD SPECIFICATIONS CONTAINED IN THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS", THE CURRENT EDITION.
- WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE CLASS 52 (AWWA-C151)
 WITH CEMENT MORTAR LINING AND SEAL COATING (AWWA-C104), THE JOINTS
 SHALL BE MECHANICAL AND RESTRAINING, WATER MAIN FITTINGS SHALL
 BE OF DUCTILE IRON WITH CEMENT MORTAR LINING AND SEAL COATING WITH MECHANICAL JOINTS AND SHALL CONFORM TO AWWA-C111.
- WATER MAIN SHALL BE WRAPPED IN POLYETHYLENE ENCASEMENT (AWWA C105).
- 4. THE WATER MAIN SHALL BE TAPPED, TESTED, AND DISINFECTED WITH MUNICIPAL REPRESENTATIVES PRESENT. HYDROSTATIC TESTING WILL BE DONE IN ACCORDANCE W/AWWA STANDARD: ANSI/AWWA C600-99 SEC.5.2. CHLORINATION/STERILIZATION TESTING SHALL BE IN ACCORDANCE WITH AWWA STANDARD: ANSI/AWWA
- MINIMUM COVER ON ALL WATER MAIN AND SERVICES SHALL BE 5.5 FEET.
- 6. WATER MAIN HORIZONTAL SEPARATION:
 A. WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED DRAIN, STORM SEWER, SANITARY SEWER, OR SEWER
 - SERVICE.

 B. WATER MAINS MAY BE LAID CLOSER THAN 10 FEET FORM A SEWER WHEN:

 1. LOCAL CONDITIONS PREVENT A LATERAL SEPARATION OF 10 FEET.

 2. THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE CROWN OF THE SEWER: &

 3. THE WATER MAIN IS EITHER IN A SEPARATE TRENCH OR IN THE SAME TRENCH ON AN UNDISTURBED SHELF LOCATED TO ONE SIDE OF THE SEWER

 - C. BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF SLIP-ON (ANSI A21.11) JOINT DUCTILE IRON PIPE, OR PVC PIPE MEETING THE REQUIREMENTS OF SECTION 40-2 OF THE ISPE STANDARDS IN ILLINOIS WHEN IT IS IMPOSSIBLE TO MEET (A) OR (B) ABOVE. THE DRAIN OR SEWER SHALL BE TESTED TO THE MAXIMUM EXPECTED SURCHARGE HEAD BEFORE BACK
- 7. WATER MAIN VERTICAL SEPARATION: A. WHERE WATER MAINS CROSS ABOVE A SEWER/DRAIN WITH GREATER THAN 18 INCHES VERTICAL SEPARATION, A FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED OVER THE SEWER TO BE CROSSED, WITH JOINTS EQUIDISTANT FROM
 - CENTERED OVER THE SEWER TO BE CROSSED, WITH JOINTS EUGIDISTANT FROM THE SEWER.

 B. WHERE WATER MAINS CROSS BELOW A SEWER/DRAIN WITH 18 INCHES SEPARATION), OR CROSS ABOVE A SEWER/DRAIN WITH LESS THAN 18 INCHES SEPARATION), ONE OF THE FOLLOWING METHODS TO PROTECT THE WATER MAIN SHALL BE UTILIZED:

 1. CONSTRUCT SEWER/DRAIN OF DUCTILE IRON PIPE (ANSI A21.11 JOINTS), PVC (ASTM D2241, SDR 26), OR RCP WITH O-RING (ASTM D443) JOINTS (FOR STORM SEWER ONLY).

 2. ENCASE THE SEWER IN PVC (ASTM D-2241, SDR 26).

 3. ENCASE THE WATER MAIN IN PVC (ASTM D-2241, SDR 26).

 CONSTRUCTION OF PROTECTION SHALL EXTEND 10 FEET PERPENDICULAR TO THE SEWER ON EACH SIDE OF THE SEWER. THE ENDS OF THE ENCASEMENT SHALL BE SEALED.

 C. WATER MAINS SHALL NOT CROSS BELOW A SEWER/DRAIN WITH LESS THEN 18" VERTICAL SEPARATION.

 D. THE PORTION OF THE TRENCH ABOVE THE INITIAL BACK FILL OF THE LOWER UTILITY SHALL BE FILLED WITH COMPACTED SELECT EXCAVATED MATERIAL (ASTM D-2321, CLASS IV).

 - COMPACTED SELECT EXCAVATED MATERIAL (ASTM D-2321, CLASS IV).
- AT VAULT JOINTS PROVIDE FLEXIBLE GASKETS (CONFORMING TO ASTM C990 OR RUBBER GASKETS (CONFORMING TO ASTM C443) OR BUTYL ROPE OR OTHER APPROVED EQUIVALENT BITUMINOUS MATERIAL TO ENSURE A WATER TIGHT JOINT.
- , AT VAULT JOINTS PROVIDE AN EXTERNAL JOINT WRAP SYSTEM CONFORMING TO
- 10. A RUBBER BOOT (CONFORMING TO ASTM C923) SHALL BE INSTALLED AT ALL PROPOSED CONNECTIONS TO VAULTS. EXISTING CONNECTIONS SHALL BE SEALED WITH CEMENT BRICK AND MORTAR.
- 1. EXTERNAL CHIMNEY SEALS CONFORMING TO ASTM C-923 SHALL BE INSTALLED.
- 12. TYPE 1 FRAME & LID BOLTED SHALL BE WATER TIGHT NEENAH R1916-C OR EJIW 1058 OR APPROVED EQUAL.
- 3. THE WORDS "WATER" AND "VILLAGE OF MELROSE PARK" SHALL BE
- STEEL CASING SHALL BE 20" WITH 0.375" WALL THICKNESS, GRADE B, CONFORMING TO ASTM A-139.
- 15. DUE TO THE FACT THAT A LARGE NUMBER OF WATER USERS WILL BE OUT OF SERVICE DURING THE NECESSARY SHUT-DOWN OF THE WATER MAIN, ALL PROPOSED WORK REQUIRING A SHUT-DOWN MUST BE COMPLETED WITHIN AN EIGHT HOUR SHUT-DOWN PERIOD. THE CONTRACTOR SHALL COORDINATE WITH THE VILLAGE (708-343-5128) TO DETERMINE THE DATE AND TIME FOR THE SHUT-DOWN THAT IS IN THE BEST INTEREST OF THE VILLAGE, AND THE CONTRACTOR MAY BE REQUIRED TO WORK DURING NIGHT OR WEEKEND HOURS TO ACCOMPLISH THIS. THE CONTRACTOR SHALL NOT OPERATE ANY VILLAGE WATER VALVES, BUT SHALL COORDINATE WITH THE VILLAGE TO HAVE WATER DEPARTMENT STAFF AVAILABLE AND READY TO OPERATE THE VALVES FOR THE REQUIRED SHUT-DOWN AND REOPENING OF THE VALVES. PRIOR TO SCHEDULING THE FULL-DURATION SHUT-DOWN, THE CONTRACTOR SHALL COORDINATE AND SCHEDULE A TEST SHUT-DOWN BY THE VILLAGE IN ORDER TO PREDICT AND MAXIMIZE THE STOPPAGE OF FLOW DURING A FULL-DURATION SHUT-DOWN.

Wight

USER NAME = \$USER\$	DESIGNED - KMB	REVISED
	DRAWN - CEY	REVISED
PLOT SCALE = \$SCALE\$	CHECKED - XXX	REVISED
PLOT DATE = 3/3/2011	DATE -	REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

UTILITY GENERAL NOTES SHEET NO. 1 OF 1 SHEETS STA. 96+40 TO STA. 106+68

TOTAL SHEET SHEETS NO. SECTION COUNTY COOK 110 3 3537 3264-T CONTRACT NO. 60H44 ILLINOIS FED. AID PROJECT